REVIEW OF THE STATUS AND CONSERVATION ACTIONS FOR CMS CONCERTED ACTION SPECIES

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A contribution to UNEP - The United Nations Environment Programme

Introduction

The present report provides rapid reviews of the conservation status and conservation actions undertaken for the 43 CMS Concerted Action Species (Res. Conf. 7.1). Information has been chiefly compiled from sources integrated through the CMS Information Management System (CMS IMS). These include internet sites and databases of specialised agencies, as well as data available from the CMS Party Reports Database, and at UNEP-WCMC.

These reviews do not intend to provide a comprehensive account of each taxon in question, instead they were produced with the following objectives in mind:

* To provide a concise overview of the conservation status for each species both at the global level as well as for, when known, each country in the distribution range of the taxon. Information on population trends is also included when available.
* To provide a concise overview of the conservation actions reported by Parties to CMS, as well as of the conservation actions known to be in place at each country in the distribution range of the taxon.
* To assess the amount of information available within, and through, the CMS IMS, and to identify other relevant sources of online specialist information which could be interconnected through the CMS IMS for future reference.

Following the CMS style, Parties to CMS are listed in capitals. Note that when a range State includes overseas territories, these are listed in the 'Range States' section at the top but this information is not repeated in the country-by-country listing, unless the only part of the range state in which the species is reported is a single overseas territory.

Information on the conservation actions were divided into two categories: those reported to the CMS and all other actions. The first category included information taken from the most recent CMS Party Reports (2002), from the list of CMS-sponsored projects obtained from the CMS Secretariat, and from any mention of CMS-funded/related project found in the literature. All conservation actions which are currently being conducted or have been conducted in the past were considered, but planned/future actions were excluded. Conservation action is taken to include scientific research, censuses, conferences and symposiums taking place in a country, the production of a national action plan, and legislation protecting the species.

Information on legislation is not comprehensive but was included when found. The presence of a species in a protected area was not considered a conservation action, but the establishment of a protected area for the particular species was.

In this instance, protected areas were considered to include legally-gazetted protected areas (e.g. sanctuaries, no-hunting areas, nature reserves, nature parks, national parks, Biosphere Reserves, Ramsar sites, etc.), as well as areas managed under LIFE projects.

Table I provides a synoptic report of the results obtained from this exercise, including the status of each species and the extent to which conservation action is being undertaken. The columns in the table are the following:

CMS Listed Range States:

The list of States in the distribution range of the taxon, according to the CMS Range List (June 2003). All range States were reviewed, including those marked as (Ex), (Ex?) and (?).When the European Union (EU) is listed as a range state by CMS, this is not included in the count but all the individual EU countries that are listed in brackets are counted.

All Range States:

The number of range states including range states found from non-CMS sources, such as the Species Data Base (UNEP-WCMC), BirdLife International, IUCN/SSC publications, and other publication and web-sites. If a range state is included, which CMS does not currently list, a citation is provided.

CMS Parties Reporting Action:

This number represents the fraction of CMS Parties (which are range States of the taxon in question), which report conservation actions being undertaken for the taxon. This includes any actions reported in National Reports to CMS as well as in other CMS publications.

Range States Reporting Action:

This number represents the fraction of all range States (including those range States not included in the CMS range list) in which conservation action was identified to be taking place, whether reported to CMS or not. It should be noted that throughout the course of this review, conservation actions were found to be taking place (e.g. reported by an NGO or scientists) in a CMS Party, but that are not reported to CMS. Those cases are also included in this column.

Range States in Which Species Occurs in P.A.:

The fraction of all range states (including those range States not included in the CMS range list) in which the species occurs in a protected area. If a species has been reintroduced to a protected area, then this is still counted.

This review also identified a couple of issues concerning the CMS Range list, namely: (a) the need to update it in order to recognise countries in the distribution range more comprehensively, and (b) the need to revise and possibly remove those countries in the list in which the species is reported to be extinct.

Table 1. Summary of CMS Concerted Action Species: Status, Conservation Action and Presence of Species in Protected Areas (P.A.).

Species	IUCN Status	Apparent trend	CMS range States	All range States	CMS Parties reporting action	Range States reporting action	Range States in which species occurs in P.A.
A. BIRDS							
Acrocephalus paludicola	VU	↓[1]	31	53	9/27	10/53	7/53
Anser erythropus	VU	↓	47	60	3/30	7/60	10/60
Aythya nyroca	LR/nt	↓	99	107	6/64	14/107	4/107
Chlamydotis undulata	LR/nt	↓	8	8	2/7	2/8	0/8
Chloephaga rubidiceps	-	↓	3	3	2/3	2/3	0/3
Eurynorhynchus pygmeus	VU	↓	13	16	0/2	1/16	4/16
Falco naumanni	VU	↓	100	118	7/51	9/118	6/118
Grus leucogeranus	CR	↓[2]	10	13	0/4	3/13	2/13
Hirundo atrocaerulea	VU	↓	13	13	1/5	2/13	3/13
Numenius tenuirostris	CR	↓	43	55	2/24	3/55	1/55
Otis tarda	VU	↓	43	60	4/26	4/60	1/60
Oxyura leucocephala	EN	↓[3]	40	52	4/25	8/52	8/52
Phoenicopterus andinus	VU	↓	5	5	1/4	3/5	1/5
Phoenicopterus jamesi	LR/nt	→[4]	5	5	1/4	3/5	2/5
Platalea minor	EN	→?[5]	6	11	0/1	3/11	4/11
Sarothrura ayresi	EN	↓	5	5	0/4	1/5	1/5
Spheniscus humboldti	VU	↓	2	4	2/2	3/4	2/4
Sterna bernsteini	CR D	↓	5	7	0/1	1/7	2/7

Species	IUCN Status	Apparent trend	CMS range States	All range States	CMS Parties reporting action	Range States reporting action	Range States in which species occurs in P.A.
B. MARINE MAMMALS							
Balaenoptera borealis	EN	↗	28	37	0/13	1/37	0/37
Balaenoptera musculus	EN	↗[6]	124	130	3/46	3/130	0/130
Balaenoptera physalus	EN	↓	37	53	0/19	0/53	0/53
Eubalaena australis	LR/cd	↗	11	17	0/8	0/17	0/17
Lontra felina	EN	↓?	3	3	1/2	2/3	1/3
Megaptera novaeangliae	VU	↗[7]	127	131	5/45	6/131	1/131
Monachus monachus	CR	↓	21	27	2/17	3/27	0/27
Physeter macrocephalus	VU	↗[8]	37	49	0/20	1/49	0/49
Pontoporia blainvillei	DD	?	3	3	0/2	2/3	0/3

Species	IUCN Status	Apparent trend	CMS range States	All range States	CMS Parties reporting action	Range States reporting action	Range States in which species occurs in P.A.
C. MARINE TURTLES							
Caretta caretta	EN	↓[9]	122	129	7/48	44/129	9/129
Chelonia mydas	EN	↓[10]	134	136	10/44	41/136	8/136
Dermochelys coriacea	CR	↓	130	135	17/50	50/135	9/135
Eretmochelys imbricata	CR	↓	116	121	11/36	32/121	5/121
Lepidochelys kempii	CR	↗	13	18	0/6	5/18	0/18
Lepidochelys olivacea	CR	↓	94	96	4/31	22/96	7/96
Natator depressus	DD	?	3	3	0/1	0/3	1/3

Species	IUCN Status	Apparent trend	CMS range States	All range States	CMS Parties reporting action	Range States reporting action	Range States in which species occurs in P.A.
D. TERRESTRIAL MAMMALS							
Addax nasomaculatus	EN	↓	10	12	4/8	7/12	4/12
Gazella dama	VU	↓	12	13	1/12	7/13	6/13
Gazella dorcas	EN	↓	17	22	2/12	9/22	13/22
Gazella leptoceros	EN	↓	10	10	2/8	3/10	4/10
Gorilla gorilla beringei	EN	→[11]	3	3	0/2	3/3	3/3
Hippocamelus bisulcus	EN	↓	2	2	2/2	2/2	2/2
Oryx dammah	EN	↓[12]	13	14	3/11	5/14	4/14
Uncia uncia	CR	↓	12	13	0/5	7/13	3/13

Species	IUCN Status	Apparent trend	CMS range States	All range States	CMS Parties reporting action	Range States reporting action	Range States in which species occurs in P.A.
E. OTHER TAXA							
Lontra provocax	EW	↓	2	2	1/2	2/2	0/2

1. Although recent surveys have discovered previously unknown populations.
2. No information on global trends were found but there have been declines in several range states and this species is expected to undergo an extremely rapid decline in the near future, primarily as a result of the destruction and degradation of wetlands in its passage and wintering grounds (BirdLife International, 2000).
3. There have been increases at certain wintering sites and in the Spanish population but these do not compensate for the large declines in Turkey and in other eastern populations.
4. According to IUCN (2003) the population is stable. It is thought, however, that the population probably declined rapidly during the 20th century but has started to increase again, presumably owing to the success of conservation programmes (BirdLife International, 2003).

5. The population is decreasing according to IUCN (2003) but according to BirdLife International (2001), the population appears currently stable or even increasing. The known population has also increased but this may reflect increased observer effort or displacement of birds from degraded sites rather than an reflecting an actual increase.
6. There has been an estimated decline of at least 50% in worldwide total abundance over the last 60-75 years (Reeves *et al.,* 2003) but a number of stocks seem to be recovering.
7. Many populations appear to be recovering but there is also some evidence that the population in the combined northern oceans (Arctic Sea, Black sea, Atlantic Ocean, Indian Ocean, Mediterranean, Pacific) declined between 1970 and 1990.
8. There has been a historical decline but according to Obley (1994), the population appears to be increasing.
9. No information on global trend but there appears to be declines in a number of range states, although a slight increase has been reported in Costa Rica.
10. In a few areas, strong conservation measures have led to a recovery in the species.
11. Stable but possibly with a slight increase.
12. Decreasing in the wild but there may be an increase in captivity and this species is being reintroduced.

RAPID REVIEW OF CONCERTED ACTION SPECIES

ANNEX A: BIRDS

CONTENTS

REVIEW OF CONCERTED ACTION SPECIES

AVES: MUSCICAPIDAE

SPECIES: *Acrocephalus paludicola* (Vieillot, 1817)

SYNONYMS: -

COMMON NAME: Aquatic Warbler (English); Phragmite aquatique (French); Carricerín Cejudo (Spanish)

RANGE STATES: BELARUS; Bosnia and Herzegovina; BULGARIA; CROATIA; CZECH REPUBLIC; EUROPEAN COMMUNITY (Austria, BELGIUM, DENMARK, FRANCE, GERMANY, ITALY, LUXEMBOURG, NETHERLANDS, PORTUGAL, SPAIN, UNITED KINGDOM); HUNGARY; LATVIA; LITHUANIA; MALI; MAURITANIA; MOLDOVA, REPUBLIC OF; MOROCCO; POLAND; ROMANIA; Russian Federation; SENEGAL; Serbia and Montenegro; SLOVENIA; SWITZERLAND; UKRAINE; UZBEKISTAN

RED LIST RATING: VU A1c+2c (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

The Aquatic Warbler is a marshland specialist which breeds across a highly fragmented range, in lowland marsh habitats (mostly sedge fen mires). The breeding distribution is fragmented because of habitat constraints (Heredia, 1995). Birds from Poland and eastern Germany migrate on a westerly heading along the Baltic coast in Poland and eastern Germany, then along the North Sea coast of western Germany, Netherlands, Belgium and sometimes England, thereafter heading south along the French and Iberian Atlantic coast (Schulze-Hagen, 1993). The winter quarters lie in West Africa south of the Sahara, and include wetlands and floodplains of Mauritania, Mali, Ghana and Senegal but little more is known about the species during winter (Heredia, 1995).

The Aquatic Warbler has suffered a very severe decline in western Europe due to habitat loss (Heredia, 1995). The species became extinct in western Europe during the twentieth century and has declined dramatically in central Europe. It formerly bred in France, Belgium, Netherlands, former West Germany, former Czechoslovakia, former Yugoslavia, Austria and Italy (Cramp, 1992).

According to BirdLife International (2003), the global population estimate is 27,000-42,000 but it is declining and the estimated range of this species is 53,000km^2. Recent surveys have discovered previously unknown populations of this species (two-thirds of the known population has been discovered since 1995 (BirdLife International, 2000)), resulting in a substantially increased population estimate from that made in 1994. Since 1970, it is likely to have declined significantly as a result of destruction of 80-90% of its habitat in the river systems of upper Pripyat, Yaselda and Biebrza/Narew. These systems hold approximately 75% of the European population (BirdLife International, 2003).

The most important threats are loss of breeding habitat owing to drainage for agriculture and peat extraction, damming of floodplains, unfavourable water management and the canalisation of rivers. Habitat degradation is widespread where traditional fen management has ceased allowing succession to unsuitable overgrown reedbed, scrub or woodland. Uncontrolled fires in spring and summer pose a direct threat to birds and nests, and can burn

out the upper peat layer of fens. In the wintering grounds, drought, wetland drainage, intensive grazing, succession to scrub, desertification and salinisation of irrigated soils are all potential threats (BirdLife International, 2003).

Differences in knowledge also occur from west to east across the breeding range. While occurrence and numbers are quite well known in Germany, Poland, Hungary and, to a lesser extent, the Baltic states, we know almost nothing about these same aspects in Belarus, Ukraine or Russia (Heredia, 1995). CMS is supporting the development of a Memorandum of Understanding and an Action Plan.

Algeria (v)*:
Status: Occurrence reported by Ledant *et al.* (1981).

CMS actions: Not a Party to CMS.
Other actions:
Austria:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELARUS:
Status: Breeding reported (BirdLife International, 2003). The number of singing males reported is 7,300-13,000 (BirdLife International, 2003). The population is recorded as stable or declining. Drainage of vast areas of marshes and wetlands has substantially reduced the amount of habitat available. A survey of the primaeval Dekoe bog suggests a popluation of 1,500-3,000 males in 5,000ha. which are currently unprotected (Heredia, 1995). Legally protected (BirdLife International, 2003).

CMS actions: None reported.

Other action: Key breeding sites are within protected areas, there are monitoring programmes and studies on halting succession have been conducted (BirdLife International, 2003). Three State Reserves have been established: the Berezinsky Biosphere Reserve, the Pripyat Biological and Landscape Reserve and Belovezhskaya Pushcha State National Park (Vyazovich, 1993).
BELGIUM:
Status:
CMS actions: None reported.
Other action:
Bosnia and Herzegovina:
Status:
CMS actions: Not a Party to CMS.
Other action:
BULGARIA:
Status: Regularly found during migration, mainly along the Black Sea coast. Numbers not studied (Bulgaria National Report, 2002).

CMS actions: Ringing activities conducted irregularly by the Bulgarian Academy of Sciences (Bulgaria National Report, 2002).

Other actions:
CROATIA:
Status:
CMS actions: None reported.
Other action:

CYPRUS (v)*:

Status: Occurrence reported (Flint and Stewart, 1989).

CMS actions: None reported.

Other action:

CZECH REPUBLIC:

Status: The Czech Republic hosts migrating populations only. Regularly migrating (Czech Republic National Report, 2002).

CMS actions: None reported.

Other action:

DENMARK:

Status: A very rare visitor (Denmark National Report, 2002).

CMS actions: None reported.

Other action:

EGYPT (v)*:

Status: Occurrence reported (Goodman and Meininger, 1981).

CMS actions: None reported.

Other action:

Estonia (v)*:

Status: Occurrence reported (Veromann and Leibak, 1994).

CMS actions: Not a Party to CMS.

Other action:

FINLAND (v)*:

Status: Occurrence reported (Solonen, 1985).

CMS actions: None reported.

Other action:

FRANCE:

Status: Large reedbeds on the coast (Channel, Atlantic and Mediterranean) or inland are regularly used during migration. The species is more numerous during the Autumn passage than in Spring. The number of birds ringed has remained fairly stable despite an increase in the ringing effort (EURING ACRO PROJECT). The number varies between 110 to 200 individuals caught each year (Heredia, 1995).

CMS actions: None reported.

Other action:

GERMANY:

Status: Breeding reported (BirdLife International, 2003). The number of singing males reported is 40-50 and the population is thought to have declined by 21-50% between 1970 and 1990 (BirdLife International, 2003). The population is the westernmost and smallest of all the European countries. In 1992 there were only two isolated sites, both in the north-east corner of Germany close to the Polish border: near Greifswald and in the polders of the Odra river near Schwedt and Friedrichsthal. The two sites are separated by c.100km and numbers have been stable in recent years. Both populations are considered to be satellites of the nearby Polish breeding area, and to be unviable without it. One of the sites is within the Lower Odra Valley National Park and the other within the Freesendorfer Wiesen Nature Reserve. There are also small and fluctuating numbers of outlying pairs which are not protected (Schulze-

Hagen and Wawrzyniak, 1993). The Aquatic Warbler is classed as Endangered in the German Red Data Book (Heredia, 1995).

CMS actions: None reported.

Other action: The Aquatic Warbler is legally protEcted (Heredia, 1995) and key breeding sites are within protected areas (BirdLife International, 2003).

GHANA (v)*:

Status: Occurrence reported (Hedenström *et al.*, 1990).

CMS actions: None reported.

Other action:

GREECE (v)*:

Status: Occurrence reported (Handrinos and Akriotis, 1997).

CMS actions: None reported.

Other action:

HUNGARY:

Status: The number of singing males reported is 600 and the population is thought to have increased by over 50% between 1970 and 1990 (BirdLife International, 2003). The only breeding population is in the Hortobágy National Park, where it is increasing slightly (Kovács, 1991). There may be further small populations still to be discovered in Hortobágy (Heredia, 1995). It is rare on passage in other regions of the country (Hungary National Report, 2002). It is listed as Endangered in the Hungarian Red Data Book (Heredia, 1995).

CMS actions: Monitoring is co-ordinated by the Hortobágyi National Park Directorate. The majority of the population breeds within the boundaries of protected areas; those breeding grounds that are yet unprotected are subject to future protection. The Hungarian population will all be included in Natura 2000 as Special Protection Area (Hungary National Report, 2002).

Other actions: The species is strictly protected under the Hungarian law for the conservation of nature (Heredia, 1995). Key breeding sites are within protected areas and there are monitoring programmes (BirdLife International, 2003). A monitoring scheme has been in effect for 15 years, longer than in any other country (Heredia, 1995).

Iran*:

Status: Occurrence reported (Scott *et al.*, 1975).

CMS actions: Not a Party to CMS.

Other actions:

IRELAND (v)*:

Status: Occurrence reported (Hutchinson, 1989).

CMS actions: None reported.

Other actions:

ISRAEL (v)*:

Status: Occurrence reported (Shirihai, 1996).

CMS actions: None reported.

Other actions:

ITALY:

Status:

CMS actions: Actions to increase the presence of *Acrocephalus paludicola* are included in a LIFE project on the protection of priority bird species in the Po Valley (Anon., 2002).

Other actions:

JORDAN (v)*:

Status: Occurrence reported (Andrews, 1995).

CMS actions: None reported.

Other actions:

Kazakhstan (v)*:

Status: Occurrence reported (Gavrilov, 2000).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA:

Status: Breeding reported (Heredia, 1995). Ten to fifty breeding pairs have been reported (BirdLife International, 2003). It has been recorded as a breeder at four coastal wetland sites: Lake Pape and adjoining marshland, Lake Liepaja, Bog Sarnate/Uzava and Lake Kanieris (Viksne, 1994). The species is listed as Rare in the Latvian Red Data Book Kanieris and is specially protected (Viksne, 1994).

CMS actions: Lake Liepajas is a specially protected nature area (Latvia National Report, 2002).

Other actions:

LITHUANIA:

Status: The number of singing males reported is 250-400 and the population is thought to have declined by over 50% between 1970 and 1990 (BirdLife International, 2003). There are two known breeding localities, the Nemunas delta and Zuvintas Nature Reserve Cutting of vegetation in the breeding season has been identified as a problem for Aquatic Warblers (Heredia, 1995). In Zuvintas Nature Reserve sedge meadows are no longer cut for hay, thus reducing the amount of suitable habitat (Pranaitis, 1993). The Red Data Book classifies the species as Insufficiently Known (Paltanavicius, 1992).

CMS actions: None reported.

Other actions: Part of the Nemunas has been protected as a Nature Reserve (EUCC, 1993).

LUXEMBOURG:

Status:

CMS actions: None reported.

Other actions:

F.Y.R. Macedoina (v)*:

Status: Occurrence reported (Matvejev and Vasic, 1973).

CMS actions: Not a Party to CMS.

Other actions:

MALI:

Status:

CMS actions: There is a Joint Mission (May 2002) by DNCN - ONCFS and Wetlands International for the annual counting of migratory waterbirds and for the training of officers in the identification of birds and wetlands in the region of

Mopti. In addition, conservation projects and programmes for species of migratory birds in the wetlands will be implemented (Mali National Report, 2002).

Other actions:

MALTA (v)*:

Status Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

MAURITANIA:

Status:

CMS actions: None reported.

Other actions:

MOLDOVA:

Status:

CMS actions: None reported.

Other actions:

MOROCCO:

Status:

CMS actions: None reported.

Other actions:

NETHERLANDS:

Status:

CMS actions: None reported.

Other actions:

NORWAY (v)*:

Status: Occurrence reported (Ree and Gjershaug, 1994).

CMS actions: None reported.

Other actions:

Oman (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

POLAND:

Status: The number of singing males reported is 2,900-3,000 and the population is thought to have declined by over 50% between 1970 and 1990 (BirdLife International, 2003). Currently there are problems of loss of breeding habitat at some Polish sites, with drainage affecting small areas at Chelm, Biebrza and Narew valley, and larger proportion of Kramsk (Konin) and Mazuria (Heredia, 1995). Breeding habitat changes related to plant succession is an important factor in Poland (Biebrza and to some extent on the Odra river) (Heredia, 1995).

There are three main populations: Biebrza, Chelm and the Odra estuary (Heredia, 1995). Biebrza is the most important breeding area, with an estimated 3,000–3,500 singing males (Heredia, 1995). At Chelm, the total estimate is 200-400 singing males and the highest density is 4–6 males/ha; there could be further birds breeding in neighbouring areas (Heredia, 1995). At the Odra estuary the number of recorded singing males is 383 but the estimated total is c. 400. There maybe more populations still unknown.

There are 10 subsites holding Aquatic Warblers which are at present unprotected. Nearby is Wolinski National Park which could be extended to cover two islands of the Swina mouth (Heredia, 1995). In the north-east lake

district (Mazury) there is a further known breeding site with 10 singing males, but there might be a more important population yet to be discovered. The Aquatic Warbler and is listed in the Polish Red Data Book as Endangered (Glowacinski, 1992).

CMS actions: Poland is preparing to sign the Memorandum of Understanding on the Conservation and Management of the Aquatic Warbler in the near future. The

Polish Society for the Protection of Birds has started to prepare a National Action Plan for the Aquatic Warbler (Poland National Report, 2002).

Other actions: The Aquatic Warbler is protected under the Nature Conservation Law of 1991(Glowacinski, 1992). Key breeding sites are within protected areas, habitat is actively managed and there are monitoring programmes (BirdLife International, 2003). A National Park has recently been established at Biebrza and a Wroclaw University research project on the Aquatic Warbler has been going on for several years (Heredia, 1995). A management plan has been produced for Chelm by OTOP. Two specific management actions have been done: cutting of scrub to create more open habitat and promote colonisation by the Aquatic Warbler (by OTOP); and cutting of trees to clear the habitat (by the Lublin Forest Authority) (Heredia, 1995). There is a proposal to declare a Landscape Park in the Inter Odra region, the first step for a future National Park to the south of Szczecin. OTOP has established a private reserve in the island of Karsiborska Kepa (Hederia, 1995).

PORTUGAL:

Status: Every year up to four individuals are ringed during the autumn migration at Santo André lagoon (southern Portugal). The species is also being sighted in central Portugal (Paul do Taipal and Paul de Arzila) (Portugal National Report, 2002).

CMS actions: A ringing program is being conducted (Portugal National Report, 2002).

Other actions:

ROMANIA:

Status:

CMS actions: None reported.

Other action:

Russian Federation:

Status: Breeding reported (BirdLife International, 2003). The number of singing males reported is 10-500 in European Russia and possibly 2,000-11,000 in western Siberia (BirdLife International, 2003). The species is rare and of erratic occurrence in the European part of Russia, except in the Kaliningrad region where there is a stable population (Heredia, 1995). In a preliminary inventory of Important Bird Areas it is recorded only in the floodplains of the upper Mologa and Osen' rivers (Tver region) which is a partly unprotected Nature Monument. The Aquatic Warbler is not included in the Red Data Book of 1985 but it is proposed for inclusion, as Vulnerable, in the new edition (Heredia, 1995).

CMS actions: Not a Party to CMS.

Other action:

SENEGAL:

Status: This species is encountered in the north of the country, particularly in the National Bird Park of Djoudj (Senegal National Report, 2002).

CMS actions: Monitoring, protection and restoration of the habitat together with annual counting work are planned (Senegal National Report, 2002).

Other actions:
Serbia and Montenegro:
Status:

CMS actions: Not a Party to CMS.
Other action:
SLOVAKIA*:
Status: Occurrence reported (Trnka *et al.,* 1995).

CMS actions: There is an effort to monitor the occurrence of the species on appropriate localities especially in the Eastern Slovakia and to prove the regular/irregular migration and probably breeding of the species on these sites. However, due to a small number of specimens only occasionally registered in the country, no special efforts on monitoring and/or habitat protection activities have been implemented (Slovakia National Report, 2002).

Other actions:
SLOVENIA:
Status:

CMS actions: None reported.
Other action:
SPAIN:
Status:

CMS actions: None reported.
Other action:
SWEDEN*:
Status: Occurrence reported (Risberg, 1990).

CMS actions: None reported.
Other action:
SWITZERLAND:
Status: Rare migrant, which has been in constant decline since the 1960s due to the loss of habitats in breeding sites (Switzerland National Report, 2002).

CMS actions: No planned action because the species is too small (Switzerland National Report, 2002).

Other actions:
TUNISIA*:
Status: Occurrence reported (Thomsen and Jacobsen, 1979).

CMS actions: None reported.
Other action:
Turkey*:
Status: Occurrence reported (Kirwan *et al.,* 1998).

CMS actions: Not a Party to CMS.
Other action:
UKRAINE:

Status: The number of singing males reported is 2,400-3,400 (BirdLife International, 2003). An estimated 10–15 pairs breed along the Desna river (Sumy and Chernigov regions) and a population could exist in the Pripyat marshes near the border with Belarus (Heredia, 1995). There is very little information about the species in eastern Ukraine (Heredia, 1995). It is included in Red Data Book of Ukraine.

CMS actions: None reported.
Other actions:

UNITED KINGDOM:

Status: Southern Britain lies within the migration route, and the species is recorded almost exclusively in autumn, chiefly in southern England. Numbers were apparently maintained to at least 1985, despite the population decline (Cramp, 1992). Not included in the U.K. Red Data Book (Batten *et al.,* 1990).

CMS actions: None reported.

Other actions: A national action plan is already in preparation by RSPB and English Nature (Heredia, 1995).

UZBEKISTAN:

Status:
CMS actions: None reported.
Other actions:

Additional information -
Western Sahara (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

Actions: None reported.

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Anser erythropus* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Lesser White-fronted Goose (English); Oie naine (French); Ánsar careto chico; Ansar Chico (Spanish);

RANGE STATES: ALBANIA; Armenia; Azerbaijan; BELARUS; Bosnia and Herzegovina; BULGARIA; China; CROATIA; CZECH REPUBLIC; EGYPT; Estonia; EUROPEAN COMMUNITY (Austria, BELGIUM, DENMARK, FINLAND, FRANCE, GERMANY, GREECE, LUXEMBOURG (?), NETHERLANDS, SWEDEN); GEORGIA; HUNGARY; INDIA; Iran (Islamic Republic of); Iraq; Japan; JORDAN; Kazakhstan; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; LATVIA; LITHUANIA; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; NORWAY; PAKISTAN; POLAND; Russian Federation; Serbia and Montenegro; SLOVAKIA; SWITZERLAND; TAJIKISTAN; Turkey; Turkmenistan; UKRAINE; UZBEKISTAN

RED LIST RATING: VU A1acd+2bcd (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

At least two, possibly three different populations have been distinguished. Based on phylogenetic analyses, the Fennoscandian population has been identified as clearly distinct from the western main population and also from the eastern flyway population (Ruokonen and Lumme, 1999). The Lesser White-fronted Goose is globally threatened (BirdLife International, 2000). Its total population size declined over the last 50 years from about 100,000 and is currently estimated as between 25,000 and 30,000 (Lorentsen *et al.,* 1999) or more recently 22,000–27,000 individuals (Wetlands International, 2002). The Fennoscandian population suffered a dramatic decrease in breeding range and population size since the mid-20th century and this is continuing, at least at some staging areas in Fennoscandia, during recent decades (Norderhaug and Norderhaug, 1984).

In Europe, the lesser white-fronted goose is classified as a vulnerable species (Anon., 2002). The size of the European Lesser White-fronted Goose population is apparently less than 500 pairs (probably even lower), and the rate of the population decline must have been at least 'moderate' (i.e. at least 20% decline in at least one third of the population) between 1970-1990 (UNEP-WCMC, 2003).

Exploitation by man is the most severe threat throughout the region and affecting all flyways. Most severe is the hunting practised in Russia, China and Kazakhstan, the countries which are responsible for the well being of the large majority of the global population. More than 95% of the Lesser White-fronted Goose population is being affected, if we take into account the Fennoscandian birds, some of which migrate east to Kanin, and others as far east as Taimyr (Tolvanen *et al.*, 1998). Other major threats include habitat loss and degradation due to agriculture and infrastructure development, as well as human disturbance (IUCN, 2003).

The Fennoscandian Lesser White-fronted Goose conservation project, led by WWF Finland and the Norwegian Ornithological Society has been the main initiator and promoter of various

research activities throughout the range of the species. With a range of activities ranging from monitoring on breeding, staging and wintering sites, to genetic analyses, the group has covered almost the entire range of scientific research on the species. The Finnish WWF established a working group for this species in 1983. Its work has included interviewing reindeer herders and hikers visiting breeding areas, monitoring, conducting surveys in Lapland, and conducting research on the biology of the species. In 1997-1999, the Finnish Lesser White-fronted Goose Life-Nature project of the European Union was implemented to determine breeding, migration time, staging and wintering sites by satellite tracking, and improved conservation in these areas (UNEP-WCMC, 2003).

ALBANIA:

Status: Lamani and Puzanov (1962) reported that the species was very common in the 1940s but very rare by the 1960s. There have been no subsequent observations (Anon., 2003a).

CMS actions: None reported.

Other actions:

Armenia:

Status: A rare winter visitor and passage migrant (Adamian and Klem, 1997). Before 1900 it was very common but it is now rare with numbers ranging from one to 50 recorded from 1984 to 1995 (Aarvak *et al.*, 1997).

CMS actions: Not a Party to CMS.

Other actions:

Austria:

Status: Irregular passage migrant with only two records from 1980-1990 (Ranner *et al.*, 1995). Six were recorded on 7-8 November 1999 at Larye Lake (van den Bergh, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Azerbaijan:

Status: A winter visitor recorded from the coast, Kizil Agach and the Kura River lowlands (Lorentsen *et al.*, 1999; Shelton, 2001). A total of 1,085 individuals were counted in a survey conducted in 1996 and it was suggested that the wintering population varied between 1,500 and 7,000 (Aarvak *et al.*, 1996; Paynter, 1996). About 25,000 birds were reported in 1978, 1980 and 1982/83 but the numbers steadily declined in subsequent winters (Morozov and Poyarkov, 1997; Tkachenko, 1997).

CMS actions: Not a Party to CMS.

Other actions:

BELARUS:

Status: Kozulin and Mongin (1996) recorded about 250 individuals migrating through the Pripyat' River flood-plain in spring 1995.

CMS actions: None reported.

Other actions:

BELGIUM:

Status: There are almost annual observations of single birds, most of them belonging to Swedish reintroduction programmes, with the unusually high number of 30 individuals during 1996-1997 (De Smet *et al.*, 1999).

CMS actions: None reported.

Other actions:

Bosnia and Herzegovina:

Status: A rare winter visitor (Matvejev and Vasic, 1973).

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: Wintering species, mainly found in feeding groups, occurring in mixed flocks with White-fronted geese and Red-breasted geese. These species are difficult to distinguish which causes inaccuracies when comparing population data. Wintering population estimated at one to 50 birds (Bulgaria National Report, 2002). The species regularly stages and possibly winters in traditional geese wintering sites near the Black Sea coast. Nankinov (1993) reported about 1,000 Lesser White-fronted Geese wintering in the Danube flood plain; however, a survey in 1996 located only eight to ten individuals and estimated the total number in the country as 30-40 (Aarvak *et al.*, 1996). Petkov *et al.* (1999) estimated the total number to be around 100 birds. The species is legally protected, yet the extensive hunting pressure on all geese in the area particularly threatens it (Petkov *et al.* 1999).

CMS actions: Regular monitoring (two counts per month) made at most important wintering sites by BSPB (Bulgaria National Report, 2002).

Other actions: A special awareness-raising campaign has been launched to inform hunters about the threatened status of the species and how to distinguish the Lesser White-fronted Goose from the Greater White-fronted Goose (Kostadinova *et al.*, 1999). The major certain staging area, Shabla Lake, has recently been designated as a protected area. A penalty, soon to be increased from US$2.30 to US$460, is imposed for shooting a Lesser White-fronted Goose (UNEP-WCMC, 2003).

China:

Status: A passage migrant and winter visitor to eastern China, recorded in Heilongjiang, Jilin, Liaoning, Sichuan, Shandong, Henan, Anhui, Jiangsu, Zhejiang, Fujian, Jiangxi, Hunan and Guangxi. Significant counts have been made on passage at Xinghai Hu in Heilongjiang, and in winter near Qingdao in Shandong, near the Yellow River in Henan, at Shujiu Hu in Anhui, at Yancheng in Jiangsu, at Poyang Hu in Jiangxi and at Dong Dongting Hu in Hunan (BirdLife International, 2001). Occurrence reported in Taiwan (UNEP-WCMC, 2004).

During the 1930s the Lesser White-fronted Goose was considered to be the most abundant goose wintering on the Yangtze River but information on trends in abundance since then is difficult to interpret because of suspected identification problems (Aarvak *et al.*, 1997). The total numbers in the country were estimated as 1,000-10,000 by Perennou *et al.* (1994) However, in February 1997, 13,700 individuals were counted at Poyang lake (Aarvak *et al.*, 1997); in February 1999 a survey counted 11,800-16,800 individuals at East Dongting Lake (Markkola *et al.,* 2000) and in April 1999 a total of 16,500 birds were counted there (Lei, 2000).

The most severe threat to the Eastern flyway population is the change of the major wintering sites in China. The major wintering populations at East Dongting Lake and other lakes in the Yangtze valley are threatened by the construction of the Three Gorges Dam, which will change the seasonal flow of water in the Yangtze River and could significantly affect the wetlands downstream of the dam (Iwabuchi *et al.*, 1997; Lei, 2000). Suitable habitat in the main wintering area in China has been decreased by 50% over the last 50 years (Lei, 2000). The threat by hunting in the major wintering area in China is substantial. Shooting, netting and poisoning of waterfowl are common practices

in the wintering areas. In the East Dongting lake area (even inside the East Dongting Lake Nature Reserve) the geese are poisoned with Funandan, (Lei, 2000; Markkola *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

CROATIA:

Status: A rare and irregular winter visitor (Kralj, 1997).

CMS actions: None reported. The Croatia country report to CMS (2002), does not consider the country as part of the species's range.

Other actions:

CYPRUS*:

Status: A small group of three adult Lesser White-fronted Geese was seen at the Akhna Dam in the east of the island at the end of November 2003 (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions:

CZECH REPUBLIC:

Status: Host to migrating populations only (Czech Republic National Report, 2002). Rare and irregular migrating individuals stop over in the lakes of southern Moravia (UNEP-WCMC, 2003). Wintering was recorded in that area several times at the end of the 1950s and the beginning of the 1960s (Kren, 2000).

CMS actions: None reported.

Other actions: The Lesser White-fronted Goose has been taken out of the list of species that can be hunted (Czech Republic National Report, 2002).

DENMARK:

Status: A very rare visitor (Denmark National Report, 2002). A rare migrant with 30 individuals recorded before 1950 and 55 from 1950 to 1998 (Rasmussen, 1999).

CMS actions: None reported.

Other actions:

EGYPT:

Status: Vagrant (Goodman and Meininger, 1989). Scott and Rose (1996) noted that it was formerly a rare winter visitor in very small numbers, but that there had been no recent records.

CMS actions: None reported. The Egypt country report to CMS (2002), does not consider Egypt as part of the species's range.

Other actions:

Estonia:

Status: Until the 1960s the species occurred regularly in small numbers, with a maximum of 346 individuals but there were no confirmed records in the 1970s. Subsequently it has become a rare passage migrant, but there were unusually high numbers in 1997-1999 with nine on 11 October and 44 on 12 October 1997 at Tali, Pärnu district. A spring staging area was revealed in western Estonia at the end of the 1990s, with at least 32 birds seen during 26 April to 15 May 1998 at Haeska, Matsalu Nature Reserve, Lääne district (Aarvak *et al.*, 1999; Tolvanen, 1999). In 1999 at least 43 were counted at Haeska between 24 April and 8 May (Tolvanen *et al.*, 2000b) In 2000, 35 birds were recorded (Pynnönen

and Tolvanen 2001), and in the years 2001-2003 about 15 individuals were counted annually (UNEP-WCMC, 2003). Colour ring readings have proved that these birds belong to the Fennoscandian breeding population (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions:

FINLAND:

Status: Important staging areas have been located on the west coast in the vicinity of the city of Turku and the town of Pori in south-west Finland, and on the northern coast of the Bothnian Bay near the town of Oulu. This area, including the isle of Hailuoto and the Bay of Liminganlahti, is the only area still regularly used (Timonen, 1999; Timonen, 2000). The sites in Hailuoto and others in the Bothnian Bay totalled about 20 to 30 birds in 2000 (Markkola, 2001). The sites are protected but autumn hunting in some of the sites continues to be a potential threat for the declining population. The species is listed in the Red Data Book for East Fennoscandia (Markkola *et al.*, 1998a).

CMS actions: None reported.

Other actions: Staging areas near Oulu are protected, but autumn hunting in part of these sites is still allowed. Coastal meadows are managed for the Lesser White-fronted Geese (grazing and mowing). Timonen and Niemelä (1999) refer to a management plan being developed for the coastal meadows of Säärenperä, 50km south-west of Oulu. Practically all potential breeding areas situated in the protected wilderness areas managed by the Forest and Park Service (UNEP-WCMC, 2003).

FRANCE:

Status: A rare vagrant with only four records from 1981-1993 (Dubois and Comité d'Homologation National, 1984, 1986, 1987, 1990).

CMS actions: None reported.

Other actions:

GEORGIA:

Status: A rare passage migrant, with 26 records since 1972, comprising 104 individuals at 12 localities, and it is recommended for inclusion in the second edition of the Georgian Red Data Book (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions:

GERMANY:

Status: The species regularly passes through in small numbers. More than 20 records have been registered in 1998, eight of them from Brandenburg, most likely including birds of the Fennoscandian population (Deutsche Seltenheitskommission, 2002). The others might be part of the reintroduction programme or escaped birds. Birds tagged with satellite radio transmitters have been recorded in East Germany and could be located in Mecklenburg-Vorpommern and Brandenburg in the autumn migration. These birds, located by satellite tracking, are part of the Fennoscandian population migrating through Central and Eastern Europe (Lorentsen *et al.* 1998, Aarvak and Øien 2003). In Lower Saxony, Nordrhein-Westfalen and in Schleswig-Holstein birds from the reintroduction programme from Sweden have been increasingly recorded together with Greater White-fronted Geese. A total of 29 individuals were recorded in mid-November 1999 (van den Bergh, 2000). The geese are not protected and are heavily hunted in the daytime feeding areas in crops adjacent to important staging areas in Mecklenburg Vorpommern (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: The species is fully protected in Germany but Greater White-fronted Geese are still hunted in places and in some instances both species are mixed, as has happened in East Germany (Lorentsen *et al.*, 1998). Currently a programme is envisaged to alter the flyway of Swedish reintroduced geese to wintering places in the Lower Rhine Delta, but these plans still require the endorsement of the Swedish Naturvårdsverket. The important staging areas in Mecklenburg Vorpommern are protected as nature reserves and listed as Ramsar sites (UNEP-WCMC, 2003).

GREECE:

Status: Greece hosts very important wintering sites for the Fennoscandian population. Most geese winter in Lake Kerkini and in the Evros Delta area, on the border with Turkey. In recent years, most reports are from Thrace, mainly the Evros delta, but also from Ismaris and Lake Kerkini. The greatest number ever recorded in Greece was at the Evros delta in 1963 (1,630 individuals) (Handrinos, 1991; Handrinos and Goutner, 1990; Handrinos and Akriotis, 1997).

In 1974 a total of 487 birds was recorded and in the period 1980-1990 the records have fluctuated between 30 and 150 individuals (Aarvak *et al.*, 1996, 1997). More recently, in the winter of 1998-1999, the maximum was a total of 71 individuals at Lake Kerkini, Lake Ismaris and the Evros delta (Lorentsen *et al.*, 1998). Illegal hunting near the species's feeding sites is a problem, particularly intense at lake Ismaris, but also in other areas in Greece where the Lesser White-fronted Geese feed outside of the protected zones (Bourdakis and Varetzidou, 2000).

CMS actions: Project LIFE00NAT/GR/7198 is aimed at the conservation and management of the Drana lagoon in the Evros delta is significant as it concerns one of Europe's most important wetland areas, strategically located at the heart of an important migration route for *Anser erythropus* (Anon., 2002). The three most important sites, Evros delta, Kerkini Lake and Lake Mitrikou, are Ramsar sites and EU Special Protection Areas (RCB, 1990). Since 1993, hunting of all goose species has been banned, and this has probably led to the recent establishment of a small wintering population. Greece has established a species action plan (UNEP-WCMC, 2003).

Other actions:

HUNGARY:

Status: Hungary is only a staging ground during autumn and spring migration of the species. A total of 50-100 individuals are seen each year with a slightly declining number in the Hortobágy, and a slightly increasing number in the north-western part. The latter increase is, at least in part, due to more frequent surveys (Hungary National report, 2002). The population in the Hortobagy Puszta National Park, a traditional staging area for the Fennoscandian population declined constantly over recent years from about 100,000 in the beginning of the 1950s (Sterbetz, 1982) to 400-500 in the mid 1980s (Aarvak *et al.*, 1996), to less than 100 individuals in the late 1990s, and about 100 in 2000 (Tar, 2001). The largest number to occur in recent years was 240, in October 1992 (Gorman, 1996).

CMS actions: Regular waterbird censuses are becoming more frequent. Most of the staging grounds are situated in protected areas. During autumn migration artificial shallow flooding of a fishpond is specially conducted for staging Lesser Whitefronts on the Hortobágy (Hungary National Report, 2002).

Other actions: The major autumn staging areas in Hungary are protected, including a general shooting ban on waterfowl. Goose hunting is no longer permitted at Ramsar sites, and this may be the cause of the recent increase in wintering and staging numbers of the Lesser White-fronted Goose. Special protection of the species included the inundation of the traditional roosting areas since 1997, the production of information material mainly addressed to hunters and field research, including monitoring of the population (Aarvak *et al.*, 1997; Tar, 2001).

INDIA:

Status: Vagrant with about 11 records 1859-1968 (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

I.R. Iran:

Status: In the early 1970s, between 4,500 and 7,500 birds wintered in Iran, mainly in the Miankaleh protected region, but these disappeared suddenly in the late 1970s and, since then, only small flocks have been observed in the country (Scott and Rose, 1996). Regular large flooding events in the area, due to the rising of the water level in the Caspian Sea, as well as hardening winters, may be leading to a redistribution of the wintering population in this country and in Azerbaijan (Lorentsen *et al.*, 1999).

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status: Formerly widespread and numerous in the area, currently the species is only present in small numbers or as a vagrant (Evans, 1994).

CMS actions: Not a Party to CMS.

Other actions:

IRELAND (v)*:

Status: One record (Hutchinson, 1989).

CMS actions: None reported. The Ireland country report to CMS (2002), does not consider Ireland as part of the species's range.

Other actions:

ISRAEL*:

Status: Vagrant with four records between1927-1994 (Shirihai, 1996).

CMS actions: None reported.

Other actions:

ITALY*:

Status: Irregular winter visitor and passage migrant (Brichetti and Massa, 1998).

CMS actions: None reported.

Other actions:

Japan:

Status: This species was a regular winter visitor until the nineteenth century but currently it is only a rare (but almost annual) visitor, usually with flocks of Greater White-fronted Geese (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN:

Status: The only record is of two or three individuals seen from November 1993 to February 1994 at Aqaba (Andrews *et al.*, 1999).

CMS actions: None reported. The Jordan country report to CMS (2002) does not consider the country as part of the species's range.

Other actions:

Kazakhstan:

Status: At the end of the 19th and the early part of the 20th centuries the species occurred throughout the western, central and northern parts of the country. During spring migration it was abundant in the Ural River valley, between Uyil and Or' rivers, in the Irgyz and Turgay rivers and on lakes between the Ishim and Tobol rivers. In the autumn it was widely dispersed, occurring in the Irtysh river valley, lakes in central and western Kazakhstan, and on the north coast of the Caspian Sea between the Ural River and the Volga River deltas. A dramatic decrease in numbers was noted by 1970 although no special research was conducted (UNEP-WCMC, 2003).

Currently, the main areas where the species occurs in large numbers during migration, especially in autumn, are Kustanay Oblast, Akmola Oblast and some areas in the northern part of the country. Considerable numbers also stage in the middle reaches of the Ural River in autumn and spring, and on small lakes near Aktyubinsk in autumn (UNEP-WCMC, 2003).

In autumn the following totals were counted, 1997: 10,413, 1998: 6,389, 1999: 6,910 (Yerokhov *et al.*, 2000), although Tolvanen *et al.* (1999a) give an estimated count of 7,300 for 1998 and Tolvanen *et al.* (2000a) give an estimated count of 3,880 for 1999. In 1996 a total of 7,900 were counted in Kustanay Oblast (Aarvak *et al.*, 1996; Tolvanen and Pynnönen, 1998). In May 1997 a total of 2,000 birds were recorded in Kustanay Oblast (Markkola *et al.*, 1998b) and in September-October 2000 about 1,830 individuals were counted there.

Illegal hunting and disturbance through hunting pressure remain serious threats (Tolvanen *et al.*, 2000a). It is suspects that hunting pressure in Kazakhstan and other countries along the flyway to Central Asia to be responsible for the decline in range and population of the species (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: A network of protected areas has been proposed by WWF, but no national conservation measures have so far been put in place at the most important sites (Bragina, 2000).

D.P.R. Korea:

Status: Listed as occurring by CMS (2003) but Tomek (1999) stated that it had not been recorded there.

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status: A very rare winter visitor with six records between 1917 and 1997 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status: Vagrant (Cramp, 1997).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA:

Status: Rare but regular migrant, which has decreased in numbers during last years. Breeding has never been recorded in Latvia. Single individuals seen on migration. A flock of 90 was seen in 1958 and, more recently, a flock of 43 was seen in 1996 (Aarvak *et al.*, 1997).

CMS actions: None reported.

Other actions: It is a specially protected species in Latvia (Aarvak *et al.*, 1997; Latvia National report, 2002).

LITHUANIA:

Status: There is little information on migrating geese from Lithuania, but it is assumed that the Fennoscandian population passes through in spring and also on autumn passage. Svazas (1996) and Svazas *et al.* (1997) reported that until the 1960s flocks of up to 800 Lesser White-fronted Geese were seen in coastal areas, especially at Kurshiu Lagoon and Nemunas River Delta. Subsequently, it was characterised as a very rare and irregular migrant with only single birds or small flocks recorded. However, recent findings indicate that it is still an uncommon but fairly frequent migrant in the west of the country.

A staging flock of 200-230 birds was reported in the Nemunas Delta artea in October 1995 and small staging flocks were recorded in several coastal sites in autumn 1996 and 1997 (Stoncius and Markkola, 2000). Since July 2000 the species has been listed in the Red Data Book of the country (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: It is protected from hunting (UNEP-WCMC, 2003).

LUXEMBOURG (?):

Status: Listed as possibly occurring by CMS (2003) but no other references for its occurrence have been traced.

CMS actions: None reported.

Other actions:

F.Y.R. MACEDONIA:

Status: Listed as occurring by Anon. (2003b).

CMS actions: None reported.

Other actions:

REPUBLIC OF MOLDOVA*:

Status: A rare passage migrant, recorded on the Lower Prut Lakes (45°42'N 28°11'E) (UNEP-WCMC, 2003) and the Lower Dniester (Bejenaru *et al.*, 2003).

CMS actions: None reported. The Moldova country report to CMS (2002) does not consider that the country is a range state for the species.

Other actions:

MONGOLIA*:

Status: It is very likely that the Lesser White-fronted Goose passes regularly through Mongolia during migration between their Russian breeding and Chinese wintering grounds. The species was first recorded in Mongolia in September

2000, when a small flock was seen in Dornod (UNEP-WCMC, 2003).

CMS actions: None reported.
Other actions:

Myanmar (v)*:
Status: Vagrant, known by a single record (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

NETHERLANDS:
Status: Lesser White-fronted Geese regularly visit the wintering grounds in the Netherlands, mixed with Greater White-fronted Geese. They winter annually in Zuid Holland and Zeeland (Lorentsen *et al.*, 1999) and belong to the reintroduction programme in Sweden. In the winter of 1998/1999, 75 geese from the Swedish re-introduction programme were observed wintering in the Netherlands (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: All geese have been protected from hunting throughout the year from 2000 onwards (de Waard, 1999). The main wintering areas are protected as nature reserves (UNEP-WCMC, 2003).

NORWAY:
Status: Four staging areas are known. Two of these used to be used by the very small population in Nordland County but none has been seen there since the 1980s, until one pair was observed in spring 2003. The remaining, important staging areas are in Finnmark County: a traditional one at the Valdak marshes in the Porsangen Fjord, where between 56 and 84 birds have been recorded in spring in the years 1993-2000, with the maximum in 1998 (Aarvak and Øien, 1999a, 2000, 2001); and a "new" one, Skjåholmen in Varangerfjord (Lorentsen *et al.*, 1999; Ruokolainen *et al.*, 1999). Small numbers have been found staging in the Varangerfjord area and eastern Finnmark, ranging from 50 in 1995 to only 3 in 1999 (Tolvanen, 2000). The species is listed in the Red Data Book for East Fennoscandia (Markkola *et al.*, 1998).

CMS actions: None reported.

Other actions: Pre-nesting staging areas in the Porsanger Fjord, northern Norway, are protected; breeding areas are partly within national parks but the most important sites remain unprotected. However, not all of the remaining breeding area is yet protected, and adequate management has not been set in place to prevent disturbances. Norway established a species action plan in 1996 (UNEP-WCMC, 2003).

Oman (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004). One individual was recorded between 18 November 1993 and 10 January 1994 (Anon., 1997)

CMS actions: Not a Party to CMS.
Other actions:

PAKISTAN:
Status: Vagrant with ten records 1871-1967 (BirdLife International, 2001).

CMS actions: None reported.
Other actions:

POLAND:

Status: Migrating population only. Rarely (irregularly) migrating species (Poland National report, 2002). Very scarce migrant, possibly less frequent recently (Tomialojc, 1990). As part of the flyway of the migrating Fennoscandian population Poland hosts a few Lesser White-fronted Geese on passage. Some of the satellite tagged geese in 1995 have been tracked flying over Poland. One bird tagged in 1997 spent the winter in Poland and East Germany (Øien and Aarvak, 2001, Aarvak and Øien, 2003), but little information from other observations is available. Hunting of geese is still common practice (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: Winter waterfowl accounting is being organized by Society for Protection of Birds in Slovakia (SOVS). The species is protected only *pro forma* (UNEP-WCMC, 2003).

ROMANIA*:

Status: Occurrence reported (Cataneaunu, 1978). An unknown number of Lesser White-fronted Geese, associated with Greater White-fronted Geese, annually pass through Romania in the Dobrogja area in the south-east. The highest number recorded was 1,000 in 1989 (Munteanu *et al.*, 1991). A census in December 1996 failed to locate any Lesser White-fronted Geese (Aarvak *et al.*, 1997). The birds that pass through are part of the flocks that remain in eastern Bulgaria in the winter, and the percentage of Lesser White-fronted Geese is supposed to be similar to that in Bulgaria. Since Greater White-fronted Geese are intensively hunted it is likely that Lesser White-fronted Geese are also shot annually. It is classified as rare according to the Red List issued by Biosphere Reserve Danube Delta 2000 (Romania National Report, 2002)

CMS actions: None reported.

Other actions:

Russian Federation:

Status: A staging area on the Kanin Peninsula was rediscovered in 1994, and comprises about 50km² of annually flooded marshland between the mouths of the Mesna and Torna Rivers on the western coast of the Kanin Peninsula (68°01'N 44°20'E). Satellite telemetry and marking programmes suggest that this may be the gathering place for the whole Fennoscandian breeding population (Lorentsen *et al.*, 1998), i.e. 100-200 individuals, depending on the yearly variation in breeding success (Aarvak *et al.*, 1996).

A network of waterbodies within the Kuma-Manych Basin are used as stopover sites both in spring and autumn, with a maximum of 600 birds recorded in autumn (Vinogradov, 1990; Nankinov, 1992). In the Nizheneye Dvuobye, within the borders of the Shuryshkarski District of the Tyumen Region, the birds use the flooded meadows, floodplains and scrub along the Ob River during autumn. Many thousand individuals were recorded there 30 years ago but no counts have made since then. In southern Transuralia birds use wetlands in south Tchelyabinsk region during spring migration with a maximum of 500-800 recorded (Korovin, 1997; Zakharov and Migun, 1997; Gordienko, 2001). Some staging areas are also known from the eastern shores of the Sea of Azov. (Lorentsen *et al.*, 1999).

Artiukhov (2003) noted that the Lesser White-fronted Goose comprised 0.5% of all geese numbers migrating through the Bryansk Oblast in spring, but there had been no records in autumn since about 1980. Belkovsky and Fomin (1998) recorded the species on Bering Island in 1997 and 1998. Bulgakov and Grishanov (2000) recorded 100 Lesser White-fronted Geese migrating through the Kaliningrad Oblast in spring 2000. Gerasimov and Gerasimov (1997, 1998)

recorded this species at various sites in Kamchatka in the 1970s and 1980s, including up to 400 in spring 1981 and 1983.

Mischenko *et al.* (2003) recorded individuals in spring in four years (1987-2002) on the Faustovo floodplain, Moscow Oblast and Volkov *et al.* (1997) recorded a total of 218 individuals during surveys in 1984-1989 and 1991-1997. Nechaev (1996) noted that the species was a rare migrant in Sakhalin Island. Semenov (1998) recorded the species only once during surveys in 1997 and 1998 in the upper reaches of the Taz River, west Siberia. The species is listed in the Russian Red Data Book (RSFSR, 1983) and in the Red Data Book of Yakutia.

CMS actions: Not a Party to CMS.

Other actions: Part of the central breeding area in Taimyr is within the Taimyr State Reserve. In 1997 one year after the crucial finding of the stop-over site on the Kanin Peninsula, the area was designated as a protected area. The spring hunting season on the species has been banned in Yakutia since 1995 (A. G. Degtyarev and V. I. Perfilev, *in litt.*1997). However, this measure is not as effective as intended due to the lack of control in most of these remote areas (UNEP-WCMC, 2003).

In Russia, the Goose and Swan Study Group of Eastern Europe and North Asia has undertaken several research studies to explore the conservation status of the Lesser White-fronted Goose in northern Russia. In particular Bolshezemelskaya Tundra, South Yamal, Taimyr and Yakutia have been the focus of the group in the last five years. Monitoring of the Bolshezemelskaya Tundra and Yamal population will continue for four further years. One important staging areas in the Putorana Mountains monitoring is secured for three further years. The Russian Goose Group designed a GIS connected database to store all records of the Lesser White-fronted Goose (UNEP-WCMC, 2003).

Serbia and Montenegro:

Status: A rare winter visitor and passage migrant (Matvejev and Vasic, 1973).

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA:

Status: Occurrence of the species in Slovakia is evaluated as rare, uncommon. There are older records from the Danubian Lowland (1960s). In Eastern Slovakia it is also rare, recorded only several times inside the National Nature Reserve Senne-fishponds and its surroundings (1970s-1980s). The species is a rare visitor (vagrant), recorded in Slovakia only before 1990s (Slovakia National Report, 2002). Irregular passage migrant (Trnka *et al.*, 1995).

CMS actions: None reported.

Other actions:

SPAIN*:

Status: Surprisingly, single groups of up to nine birds have frequently been seen visiting the Guadalquivir Delta. The reserves where Lesser White-fronted Geese have been observed recently are all protected and the geese are not hunted (Persson, 2000). According to H. Persson (*in litt.*) the area appears suitable for reintroducing Lesser White-fronted Geese, as in the Netherlands, but this has not been recommended due to the high hunting activity reported in neighbouring France.

CMS actions: None reported. The Spain country report to CMS (2002) does not consider the country to be part of the range of the species.

Other actions:

SWEDEN:

Status: In spring the Swedish native breeding population used to arrive from the Finnish side of the Gulf of Bothnia. There are several observations showing that flocks, after crossing the Gulf, used the green fields along the Swedish coast as staging sites until the breeding grounds were sufficiently free of ice and snow (Lorentsen *et al.*, 1999).

CMS actions: None reported.

Other actions: Former breeding areas are partly within national parks. A reintroduction programme is currently under reconsideration. The main focus in Sweden remains on the reintroduction of Lesser White-fronted Goose into the wild through using Barnacle Geese as foster parents. The project has had some success as the birds have been regularly returning to the places of their release. But recently the project became increasingly under scientific dispute, when genetic analyses demonstrated the distinct genome of the Fennoscandian population and the danger of mixing the last of the wild populations with a different genetic set (UNEP-WCMC, 2003).

SWITZERLAND:

Status: Vagrant, not reported since 1851 (Winkler, 1987).

CMS actions: No planned action because the species is too small (Switzerland National Report, 2002).

Other actions:

SYRIA*:

Status: Vagrant: three records (Baumgart, 1995).

CMS actions: None reported.

Other actions:

TAJIKISTAN:

Status:

CMS actions: None reported.

Other actions:

Turkey:

Status: Only two reported records, both in 1993 (Kirwan and Martins, 2000), but birds wintering on the Greek side of the Evros Delta may well visit the Turkish side at times. Aarvak *et al.* (1997) reported a flock of 63 Lesser White-fronted Geese coming from the south-east (i.e. the Turkish side) and landing on the Greek side of the delta.

CMS actions: Not a Party to CMS.

Other actions:

Turkmenistan:

Status: The species stages through in small numbers but is regarded as nearly extinct (Vasiliev and Gauzer, 2001a). Scott and Rose (1996) mapped two minor wintering sites (< 1% of flyway population) on the Iranian border but no further details have been traced. In March 1999, about 400 individuals were recorded in the International Waterbird Census (Markkola, 2000).

CMS actions: Not a Party to CMS.

Other actions: A national action plan has been produced (Vasiliev and Gauzer, 2001b).

UKRAINE:

Status: Lesser White-fronted Geese have been increasingly observed with the increasing numbers of roosting geese in the Crimea. Total numbers have exceeded 1,000 birds, often in mixed flocks with Red-breasted Geese. The species is highly threatened by poaching and illegal hunting, due to the novelty of its presence in the area, and to the lack of management experience (Ardamatskaya, 1996; Kondratyev *et al.*, 2000; Rudenko *et al.*, 2000; Grinchenko, 2001). Zhmud (1996) mentioned one individual that was collected in the Ukrainian part of the Danube Delta in 1983 and speculated that it was possible that single individuals might winter in the region with Greater White-fronted Geese.

CMS actions: None reported.
Other actions:

UNITED KINGDOM (v)*:

Status: Vagrant, with 47 recorded up to 1957 and 89 recorded from 1958 to 2000 (BOU, 1992; Rogers and the Rarities Committee, 2001).

CMS actions: None reported.
Other actions:

United States (v)*:

Status: Reported as vagrant (AOU, 1983; 1988).

CMS actions: Not a Party to CMS.
Other actions:

UZBEKISTAN:

Status: It has been shown through satellite tracking that birds migrate along the shores of Lake Aral. Some birds might pass through Uzbekistan more regularly. A recent report on waterbirds in the country (Kreuzberg-Mukhina and Markkola, 2000; Kreuzberg-Mukhina and Lanovenko, 2003) revealed important wintering sites close to the Afghan and Tajikistan border areas.

From hunting bags, the numbers are estimated to be around 2,000 to 4,000. In the southern Aral region and at the lakes Dengizkul and Aydarkul there is a migrating and wintering population of 200 to 2,000 individuals (Red Data Book Uzbekistan, 2003), in southern Uzbekistan near Bukhara, Kashkadarya and Surkhandarya a new wintering site for geese has recently been found with a total of 144 Lesser White-fronted Geese in the winter of 2001, none in 2002, and 63 in 2003 (UNEP-WCMC, 2003). The species is included in the National Red Data Book of threatened species as Vulnerable. The staging areas in the southern Aral in Uzbekistan lake depression have been widely destroyed, subject to severe changes in the water regime (UNEP-WCMC, 2003).

CMS actions: None reported.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Aythya nyroca* (Güldenstädt, 1770)

SYNONYMS: *Nyroca nyroca*

COMMON NAME: Ferruginous Duck; Ferruginous Pochard; White-eyed Pochard (English); Fuligule nyroca (French); Porrón Pardo (Spanish)

RANGE STATES: Afghanistan; ALBANIA; Algeria; Armenia; Azerbaijan; Bahrain; Bangladesh; BELARUS; BENIN; Bhutan; Bosnia and Herzegovina; BULGARIA; BURKINA FASO; CAMEROON; Central African Republic; CHAD; China; CONGO, DEMOCRATIC REPUBLIC OF THE; CROATIA; CYPRUS; CZECH REPUBLIC; Djibouti; EGYPT; Eritrea; Estonia; Ethiopia; EUROPEAN COMMUNITY (Austria, BELGIUM, DENMARK, FRANCE, GERMANY, GREECE, ITALY, LUXEMBOURG, NETHERLANDS, PORTUGAL, SPAIN, SWEDEN, UNITED KINGDOM); GAMBIA; GEORGIA; GHANA; GUINEA; GUINEA-BISSAU; HUNGARY; INDIA; Iran (Islamic Republic of); Iraq; ISRAEL; JORDAN; Kazakhstan; KENYA; Kuwait; Kyrgyzstan; LATVIA; Lebanon; LIBYAN ARAB JAMAHIRIYA; LIECHTENSTEIN; LITHUANIA; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; MALI; MALTA; MAURITANIA; MOLDOVA, REPUBLIC OF; MONACO; MONGOLIA; MOROCCO; Myanmar; Nepal; NIGER; NIGERIA; Oman; PAKISTAN; POLAND; Qatar; ROMANIA; Russian Federation; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Sierra Leone; SLOVAKIA; SLOVENIA; SOMALIA; Sudan; SWITZERLAND; SYRIAN ARAB REPUBLIC; TAJIKISTAN; Thailand; TOGO; TUNISIA; Turkey; Turkmenistan; UGANDA; UKRAINE; United Arab Emirates; UZBEKISTAN; Viet Nam; Yemen

RED LIST RATING: LR/nt (BirdLife International, 2000). Nearly qualifies for listing under criteria A1c+2c.

CONSERVATION STATUS AND ACTIONS:

This species is a poorly known, partial migrant which breeds in Europe, Asia and North Africa. Its wintering grounds overlap with part of its breeding grounds but also extend to the Middle East, western and north-western Africa and South-East Asia. Asia hosts most of the population although quantitative data are lacking (BirdLife International, 2003b).

An estimate for North Africa and Asia of 10,000 individuals in 1991 appears too low (BirdLife International, 2003b). Wintering population in the western Palearctic have been estimated at 50,000 in the mid 1980's, mostly in the central Mediterranean area. Wintering census in tropical Africa yielded a maximum of 6,450 individuals, with an estimated 7,000-10,000 birds in west Africa (del Hoyo *et al.*, 1992). In Europe, 27 countries contain sites regularly utilised by this duck (Callaghan, 1997) with approximately 13,000-24,000 pairs breeding in Europe, and it is thought the European breeding population constitutes about half the world population. During the winter, most individuals seem to migrate to Africa and the Middle East, leaving about 3,000-14,000 individuals in Europe (Callaghan, 1997).

During the first quarter of the 20th century, it was described as one of the most plentiful Anatidae species over a great part of its range. Since, it has undergone a large, long-term decline in Europe, and numbers continue downward in most countries (Callaghan, 1997). For example, in six zones of the Danube Delta (covering c.20% of the delta area), August counts declined from 979 individuals in 1978 to 89 in 1982 (Paspaleva *et al.* 1984). Although it is not got globally threatened, it has suffered several reductions in number and in several parts of range has become extremely local (del Hoyo *et al.,* 1992).

In Europe, little information on the birds status is available from some countries, including a number of countries formerly included within Yugoslavia and the Soviet Union (Callaghan, 1997) but overall, *Aythya nyroca* is considered a vulnerable species in Europe (Anon., 2002b) and the European population is falling alarmingly, especially in Eastern Europe (Russia and the Ukraine) (Callaghan, 1997).

The key threat is the loss of its wetland habitat, although hunting is also a serious threat (BirdLife International, 2003a). Other threats include introduction of non-native species (particularly Grass Carp *Ctenopharyngodon idella*), drowning in fishing nets, lead poisoning, disturbance, and climate change (Callaghan, 1997).

The species has received little international conservation action, although a number of national initiatives have developed recently (Callaghan, 1997). CMS, along with AEWA, has funded various activities such as the compilation of a review report, the organization of an international workshop, the development of a website and the updating and geographic extension of the existing Action Plan.

Afghanistan:

Status: Reported as breeding and wintering (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status: The species is generally scarce. It seems important breeding sites once existed (e.g. Lake Shkodra and Lake Mikri Prespa), but these have been degraded heavily (Callaghan, 1997).

CMS actions: None reported.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Algeria:

Status: Reported as passing migrant (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

Armenia:

Status: An uncommon resident, known only from Lake Sevan and adjacent Gilli Marsh, and the floodplain of the Araks River (Dement'ev and Gladkov, 1952; Adamian and Klem, 1997). Other possible sites include Lake Arpi, Vardakar Reservoir, Kechoot Reservoir, and Tolors Reservoir (Adamian and Klem, 1997).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Austria:

Status: An important and probably stable breeding population occurs at Lake Neusiedl, on the Hungarian/Austrian border (estimated at 150-200 pairs on the Austrian side). At adjacent Seewinkel, an area with many shallow salt ponds, the species was widespread and common in the 1960s (approximately 50 pairs), but declined to effective extinction during the 1980s. However, the species has recolonised this site recently, with 10-15 pairs nesting annually.

CMS actions: Not a Party to CMS.

Other actions: Both Lake Neusiedl and Seewinkel are designated SPAs under the European Union Birds Directive. A study of habitat requirements, food and behaviour of the duck was conducted at Lake Neusiedl in 1995, and a full census was carried out in 1996 (Callaghan, 1997).

Azerbaijan:

Status: Large winter counts have been made (9,000 birds) (BirdLife International, 2003). The Ferruginous Duck nests at lakes Aggel and Saraesy (Mil Steppe), Shilian Marsh (Shirvan Steppe), Lake Mahmund-chala (southern Mugan), Divichi Liman and possibly at smaller wetlands of the Samur-Divichi Lowland. The most important wintering site is Lake Saraesy, with smaller but regular numbers at Lake Aggel, Varvara Reservoir and lakes of southern Mugan (Mahmund-chala and Novogolovskaya-chala). Until the 1950s/60s, the duck was common in winter at Karasy, Shilian and Kurgala marshes, and the Shirvan Steppe, but there have been no recent records (Patrikeev, 1996).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997) but there have been winter counts (BirdLife International, 2003).

Bahrain:

Status: Reported as wintering (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status: Either scarce or locally common in winter (BirdLife International, 2003b). In Hail Haor, Sylhet, up to 4,000-5,000 birds are counted in years with good growth of aquatic vegetation (del Hoyo *et al.,* 1992).

CMS actions: Not a Party to CMS.

Other actions:

BELARUS:

Status: Probably mainly a summer visitor to the southern part of the country. Dement'ev and Gladkov (1952) describe the species as "extremely rare" in Belorussia (now Belarus), and currently only 50-75 pairs are estimated to breed (Tucker and Heath, 1994). The Pripyat floodplain is the most important area. There are several protected areas within the floodplain, but wider land-use changes may be a threat in the future (Callaghan, 1997). It is included in the national Red Data Book.

CMS actions: None reported.

Other actions: No specific conservation programmes seem to have been conducted for the species but it receives full legal protection (Callaghan, 1997).

BELGIUM:

Status: Up until the late 1970s, at least one pair of Ferruginous Ducks bred annually in Belgium, but there has been no confirmed record since (Devos *et al.,* 1989; Hecker, 1994). The species is also a rare and erratic passage and winter visitor (records rarely exceeding 10 *per annum*), and no site holds birds regularly *(contra* Hecker, 1994) (Callaghan, 1997).

CMS actions: None reported.

Other actions: No specific conservation programmes have been conducted for the species (Hecker, 1994).

BENIN:

Status: Occurrence reported (Dowsett and Dowsett-Lemaire,1993).

CMS actions: None reported.

Other actions:

Bhutan:

Status: Either scarce or locally common in winter, non-breeding (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

Bosnia and Herzegovina:

Status: Breeding seems to be concentrated on fishponds in the north (on the border with Croatia and within the Sava Valley). Flocks probably occur on passage, and have been recorded in mid-winter (Callaghan, 1997).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

BULGARIA:

Status: Mainly a summer visitor, with breeding pairs scattered throughout the country, though concentrated in the Danube Floodplain. On passage, numbers total several thousand (September-October), with a peak count of 1,000-3,000 at Mechka fishpond. Very few overwinter. It is listed in the Red Data Book of Bulgaria (Callaghan, 1997). Breeding, migratory and rarely a wintering species. The main breeding sites are along the Danube River, Black sea coast and some inland wetlands, predominantly in extensive fish-farms, shallow lakes with rich aquatic vegetation. The mean breeding population was established at 150 pairs, wintering 0-50 birds but the trend varies (Bulgaria National Report, 2002).

CMS actions: The breeding biology, habitat requirements, feeding ecology and habitat management are studied by BSPB. There is regular monitoring of breeding numbers. National census of the species taking place in 2002 by BSPB, supported by the CMS through BirdLife International. There is a National Species Action Plan (NSAP) prepared in line with CBD and Council of Europe requirements. ("Conservation of the Imperial Eagle": Bulgarian Society for the Protection of Birds/BirdLife Bulgaria runs two projects in 2001 and 2002). BSPB coordinates the International working group of the *Aythya nyroca* of BirdLife International. Future plans include habitat management measures. (Bulgaria National Report, 2002).

Other actions: This species is legally protected (Callaghan, 1997). A national survey of the species organised by BSPB will be completed in 1997, and the most important breeding site (Mechka Fishponds) has been suggested for protection. Management plans have been completed for some of the most important breeding sites, including the most important along the Black Sea coast. These were compiled either by BSPB or with its active participation within the framework of the Bulgarian-Swiss Biodiversity Conservation Programme (Callaghan, 1997).

BURKINA FASO:

Status: Occurrence reported here (Dowsett and Dowsett-Lemaire, 1993).

CMS actions: There are plans for a publicity/information campaign (Burkina Faso National Report, 2002).

Other actions:

CAMEROON:

Status: Non-breeding here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

Cape Verde (v)*:

Status: Occurrence reported here (Hazevoet, 1995).

CMS actions: Not a Party to CMS.

Other actions:

Central African Republic:

Status: Non-breeding here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

CHAD:

Status: Non-breeding here (BirdLife International, 2003a). The population size is unknown. The species is distributed in Lake Tchad, in the lagoon basin and in Chari (Chad National Report, 2002).

CMS actions: Activities include the Foundation Working Group on International Waterbird and Wetland Research (WIWO), The Netherlands (1999, 2001 and 2002) (Chad National Report, 2002).

Other actions:

China:

Status: Recent surveys have found high numbers, perhaps into the tens of thousands, in Inner Mongolia and it is apparently common on the Tibetan Plateau, (BirdLife International, 2003a). Twelve ferruginous duck were seen at a reservoir in the Tengchong area on 10th March 2002, and 330 or more at Lashiba Lake, Lijiang on 18th March 2002 (Anon., 2002a). 104 birds reported in the Hong Kong Bird Report 1991.

CMS actions: Not a Party to CMS.

Other actions:

D.R. CONGO:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

CROATIA:

Status: A large breeding population is concentrated in the north, while important numbers are recored in the winter and, in particular, in passage. Crna Mlaka is one of the most important autumn passage sites in Europe, with up to 5,000 birds estimated. It is unprotected (Callaghan, 1997).

CMS actions: None reported.

Other actions: The numbers and seasonal activity of the duck have been studied over recent years at Draganici Fishponds, and preliminary ecological work has been undertaken at Kopacki Rit and the Podunavlje Fishponds in Baranja (Getz, 1996). Monitoring is being undertaken at Draganici, Crna Mlaka and Lipovljana, partly supported by Euronatur (Callaghan, 1997).

CYPRUS:

Status: Non-breeding here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

CZECH REPUBLIC:

Status: Although once frequent, currently 0-3 pairs nest annually. The species is also scarce during passage, with up to five birds recorded annually. The reasons for the decline and near extinction are unclear (Callaghan, 1997; Czech Republic National Report, 2002).

CMS actions: The most important sites are designated as wetlands of international importance (Ramsar sites) and most of them are protected by national legislation. Potential breeding sites are legally protected (Czech Republic National Report, 2002).

Other actions: Fully protected by law but no specific conservation programmes have been conducted or are planned for the species, owing to its sporadic occurrence in small numbers. All sites were the species breeds regularly are within protected areas (Callaghan, 1997).

DENMARK:

Status: Occurrence reported (Dybbro, 1978). A very rare visitor (Denmark National Report, 2002).

CMS actions: None reported.

Other actions:

Djibouti:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

EGYPT:

Status: Non-breeding here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

Eritrea:

Status: Non-breeding here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

Estonia:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Ethiopia:

Status: Non-breeding here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

Finland (v)*:

Status: Occurrence reported (Gore, 1990).

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: A rare migrant and winter visitor to France and a sporadic breeder (Cruon *et al.,* 1992). It seems equally rare in Corsica. The most regular site in France is the Camargue, where the duck is seen annually between October and January (Hecker, 1994); sightings are usually of one to five individuals (Isenmann, 1993). One or two individuals are also recorded annually at La Dombes (Ain), and also there are regular sightings at Marais de Brière (Loire Atlantique) (Hecker, 1994). There are very few breeding records in the 20th century, the most recent being in 1993 at La Dombes, where the female possibly mated with a Tufted Duck *Aythya fuligula* (Hecker, 1994; Roux, 1994). It is scarce in winter, but since the early 1970s has occurred regularly on the Untersee area of Lake Constance (Bezzel, 1985; Hecker, 1994).

CMS actions: None reported.

Other actions: An unsuccessful re-introduction was conducted in the 1970s in Villars des Dombes. Currently, a re-introduction is being attempted at Le Marais de Ganne (Saint Andre des Eaux), where an open enclosure of pinioned birds is used to breed fully-winged juveniles. If 50 wild breeding pairs are not established within ten years of the start of the project, it will be terminated (Pourreau and Rambaud, undated). In 1996, ten pinioned pairs raised ten fully-winged individuals. A flock of about 20 birds has recently developed at Lake Constance (Bödensee), and small post-breeding groups gather also in the Danube and Rhein areas (Schuster *et al.,* 1983; Hölzinger, 1987; Hecker, 1994). Other than that, no specific conservation programmes have been conducted for the species (Callaghan, 1997). The ferruginous duck has been protected by law (Decree 17.04 81) since 1981 (Hecker, 1994).

GAMBIA:

Status: Occurrence reported (Gore, 1990).

CMS actions: None reported.

Other actions:

GEORGIA:

Status: Reported as breeding in valleys of the Akhalkalaki Plateau (Dement'ev and Gladkov, 1952), and possibly elsewhere. Passage and winter numbers may be significant in the lowlands, especially during winters of cold weather north of the Caucasus. Lake Paleostomi is probably the most important site. During passage and winter, hunting is very intensive at sites used by this duck, with little enforcement of regulations (Callaghan, 1997).

CMS actions: None reported.

Other actions: No specific conservation programmes seem to have been conducted for the species (Callaghan, 1997).

GERMANY:

Status: The duck has bred sporadically across most of the country, but most regularly in the east (eg. in the Elabe, Oder and Havel valleys and in the fishponds of Uckermark and Oberlausitz). A moulting flock of about 20 birds has recently developed at Lake Constance (Bödensee), and small post-breeding groups gather also in the Danube and Rhein areas (Schuster *et al.,* 1983; Hölzinger, 1987; Hecker, 1994). It is scarce in winter, but since the early 1970s has occurred regularly on the Untersee area of Lake Constance (Bezzel, 1985; Hecker, 1994). It is included in Category 1 of the German Red Data Book.

CMS actions: None reported.

Other actions: Fully protected under the Federal Conservation Law. No specific conservation programmes have been conducted for the species (Callaghan, 1997).

GHANA:

Status: Occurrence reported (Grimes, 1987).

CMS actions: None reported.

Other actions:

GREECE:

Status: Included in the Red Data Book as *Vulnerable* (Handrinos, 1992). The ferruginous duck was formerly a widely distributed breeding species, but is now confined to a few wetlands of Ipeiros (mainly the Amvrakikos Gulf), Macedonia and Thrace, with occasional isolated pairs elsewhere on the mainland. Also, artificial reservoirs within the former Lake Karla (Thessalía) have been utilised increasingly. The duck occurs in significant numbers during both autumn passage (mainly October) and spring passage (mid-March to early May), but larger numbers occur in autumn, for example over 2,000 at Spercheios Delta on 30th October 1988. Large flocks formerly occurred on the sea off Crete and more recent data suggest regular off-shore passage in autumn (Handrinos and Acriotis, 1997). Small numbers also winter in Crete, and in recent years it has also been seen regularly on the mainland in winter. The maximum year count on the mainland was 108 and the maximum site count was 93 at Lake Kerkini (both in 1988), which is the main regular wintering site apart from the Amvrakikos Gulf (Handrinos and Acriotis, 1997).

CMS actions: LIFE Project 99/72588 on the conservation and management of the wetlands of Amvrakikos in Greece involves *Aythya nyroca*, as well as other species. The Cheimaditida and Zazari wetlands in Greece, managed under project LIFE00NAT/GR/7242, host *Aythya nyroca* as well as other major species (Anon., 2002b).

Other actions: Protected from hunting (Handrinos and Acriotis, 1997). No specific conservation programmes have been conducted for the species (Callaghan, 1997).

GUINEA:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

GUINEA-BISSAU: Occurrence reported (UNEP-WCMC, 2004).

Status:

None reported.

CMS actions:

Other actions:

HUNGARY:

Status: Once distributed widely throughout the country, the ferruginous duck has undergone a sharp decline in the 20th century in many areas of Hungary (BirdLife International, 2003). However, high concentrations of breeding birds remain locally (eg. Somogy region, Kisbalaton, Pusztaszer region, and Pacsmag fishponds). About 500-600 pairs breed in Hungary, which may be a slight underestimate. The main populations are those of the Hortobágy (around 100 pairs), Pacsmag (60 pairs), southern Danube, Gemenc (50 pairs), Mórichely (45 pairs), Kis-Sárrét (40 pairs) and the Pusztaszer Landscape Protection Area (40-50 pairs) (Hungary National Report, 2002).

The overall Hungarian population seems stable, with increasing bird numbers in some areas and declining in others (this latter mainly in the Kis-Balaton region due to serious unsolved management problems of the lake system). Occasionally, birds are killed through illegal hunting, which causes the death of around 30 birds annually (Hungary National Report, 2002).

CMS actions: There are regular waterbird censuses. Those habitats which possess large flocks and are not yet protected, as for example the Mórichely-lake, are considered for protection in the near future. For designation of Special Protected Areas as part of Natura 2000, ferruginous duck populations are taken into consideration (Hungary National Report, 2002).

Other actions: Strictly protected by national legislation. No specific conservation programmes have been conducted for the species. However, a full census of breeding numbers and some research activity will begin in 1997, conducted by the Hungarian Wetland Specialist Group (Callaghan, 1997).

INDIA:

Status: Either scarce or locally common in winter (BirdLife International, 2003). Breeds in Baluchistan, Kashmir and Ladakh. Recorded as a widespread winter visitor to the subcontinent south to north-east Tamil Nadu. In the Delhi region this species was recorded as a fairly common winter visitor. In January 1969, a few hundred were seen in association with other ducks on the Yamuna. It has been recorded as a scarce winter visitor to Okhla, with about 20 being recorded during January 2002 (Urfi, 2003). Maximum available figures in India of 630 individuals counted in 17 lakes in Central Rajasthan in Nov 1982, and 670 in Khijadia Lakes, Gujarat (del Hoyo *et al.*,1992).

CMS actions: None reported.

Other actions:

I.R. Iran:

Status: Winter 1991 census yielded 598 birds (BirdLife International, 2003b).

CMS actions: Not a Party to CMS.

Other actions: A winter census was conducted in 1991 (BirdLife International, 2003b).

Iraq:

Status: Reported wintering here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.
Other actions:

IRELAND (v)*:
Status: Occurrence reported (Hutchinson, 1989).

CMS actions: None reported.
Other actions:

ISRAEL: *Status:*
Reported as resident and breeding here (BirdLife International, 2003). An average of 300 wintering birds have been recorded in Israel (del Hoyo *et al.*, 1992).

CMS actions:
Other actions: None reported.

ITALY:
Status: In the 19th century, the Ferruginous Duck was a common breeder in Tuscany (Maremma) and was a confirmed or probable breeder in Piemonte, Veneto, Toscana, Sicily, Sardinia and the Po Delta. Following land reclamation between 1850 and 1950, the species lost many important breeding areas. Currently, the duck is distributed sporadically over much of the lowlands, with highest breeding numbers occurring in the Po Basin. Large flocks occur on passage sporadically, and can over-winter in milder years (Brichetti *et al.*, 1984; Brichetti *et al.*, 1992; Chelini, 1984; Hecker, 1994).

CMS actions: None reported.

Other actions: Completely protected under the national law of wildlife protection and hunting (National Law no. 968/1977) (Hecker, 1994). Ecological research on the species is currently being conducted in the Ravenna wetlands. WWF Italy has launched a reintroduction project and during 1991-1994, 117 birds had been released in seven WWF reserves. By 1994, a total of 15 pairs of released birds had bred (Hecker, 1994). Actions to increase the presence of *Acrocephalus paludicola* are included in a LIFE project on the protection of priority bird species in the Po Valley (Anon., 2002).

Japan (v)*:
Status: Occurrence reported (Brazil, 1991).

CMS actions: Not a Party to CMS.
Other actions:

JORDAN:
Status: Reported as passing (BirdLife International, 2003a). The last observation was in 2001 at Aqaba sewage station (Jordan National Report, 2002).

CMS actions: There will be a reguiar water fowl census (Jordan National Report, 2002).

Other actions:

Kazakhstan:
Status: Numbers of breeding birds have declined (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

KENYA:
Status: Occurrence reported (Zimmerman *et al.*, 1996). Scarce and rare Palaearctic migrant in Kenya. The species has not been spotted in Kenya for some time now (Kenya National Report, 2002).

CMS actions: No specific research has been conducted on the species. The species is monitored within the framework of bi-annual waterfowl counts. In future more inventories need to be carried out and there will be a request for information from around the region to get some idea if there are any recent records (Kenya National Report, 2002).

Other actions:

Kuwait:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Kyrgyzstan:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA:

Status: No regular records, the ferruginous duck is an irregular breeder. The last record is of one pair in 1992 (Latvia National Report, 2002).

CMS actions: The ferruginous duck is a specially protected species in Latvia (Latvia National Report, 2002).

Other actions:

Lebanon:

Status: Reported as Non-breeding and wintering here (BirdLife International, 2003a).

Not a Party to CMS.

CMS actions:

Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: Reported as passing here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

LIECHTENSTEIN:

Status:

CMS actions: None reported.

Other actions:

LITHUANIA:

Status: Lithuania is on the extreme northern boundary of the breeding range of the ferruginous duck. Pairs are concentrated in the south, and numbers have declined in some areas. For example, in Zuvintas Nature Reserve, there were 15-20 breeding pairs in 1920-1930, but only 3-8 during 1966-1985. Odd birds occur during migration and there are few winter records (Zalakevicius, 1995).

CMS actions:

None reported.

Other actions:

No specific conservation programmes have been conducted for the species (Callaghan, 1997).

LUXEMBOURG: *Status:* Occurrence reported (Conzemius, 1995).

None reported.

CMS actions:

Other actions:

MACEDONIA:

Status: The only known breeding site is Lake Prespa, where about 3-5 pairs nest annually. Birds also occur during passage and winter, for example at Lake Ohrid (>70 birds recorded on passage) and Lake Prespa (>20 birds on passage and <10 wintering) (Callaghan, 1997).

CMS actions: None reported.

Other actions: Only legally protected during the breeding season (1st March to 31st July). No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Maldives (v)*:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MALI:

Status: Lake Horo, seems to be the most important refuge (del Hoyo *et al.,* 1992).

CMS actions: The latest data are not accessible at the moment because they contain an inventory error (Mali National Report, 2002).

Other actions: There has been a Joint Mission (May 2002) by DNCN and ONCFS and Wetlands International for the annual counting of migratory waterbirds and for the training of officers in the identification of birds and wetlands in the region of Mopti. There are plans to implement conservation projects and programmes for species of migratory birds in the wetlands of Mali (Mali National Report, 2002).

MALTA:

Status: Reported as Non-breeding here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

MAURITANIA:

Status: Reported as wintering here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

MOLDOVA:

Status: A recent, massive decline has occurred in the breeding population, from 1,000-1,300 pairs in the 1980s (Tucker and Heath, 1994), to 20-100 pairs currently. The reasons include habitat loss and degradation, disturbance, and since 1991, a sharp increase in poaching as a result of the deterioration of the national economy. During winter, the species occurs mainly in the lower Dniester and Prut rivers. Spring and autumn passage through the country remains substantial, particularly in areas with large areas of open water (eg. reservoirs and barrages). The duck is hunted illegally during autumn migration. Rare, nesting and migrating species. Included in the Red Book of Republic of Moldova (Moldova National Report, 2002). Fully protected (Callaghan, 1997).

CMS actions: None reported.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

REPUBLIC OF MONACO:

Status:

CMS actions: None reported.

Other actions:

MONGOLIA:

Status: Occurrence reported (BirdLife International, 2003).

CMS actions: None reported.

Other actions:

MOROCCO:

Status: Reported as breeding here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

Myanmar:

Status: At total of 809 birds were counted on 21 and 22 January 2003 at Indawgyi Lake (birds in the centre of the lake might have been overlooked.) (Chan, 2003). Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Nepal:

Status: Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS:

Status: The ferruginous duck has been a rare breeding bird throughout the 20th century. Prior to 1970, there were 10 confirmed breeding records and during 1973-1977 the annual numbers were estimated at 1-5 pairs (Teixeira, 1979). Subsequently, however, numbers have totalled 0-1 pairs annually (SOVON, 1988; Hecker, 1994). During 1992-1994, there were no breeding records except for a male seemingly paired to a female tufted duck in 1993 and 1994 (Woets, 1994; van Dijk *et al.,* 1997). The species was a more numerous non-breeding visitor earlier in the 20th century, for example at Zwarte Meer up to 100 annually occurred on autumn passage. Currently, however, it is a rare and sporadic non-breeding visitor and although up to 35 have been recorded annually since 1979, there are no sites that regularly hold birds (SOVON, 1987; Hecker, 1994).

CMS actions: None reported.

Other actions: Fully protected under the Bird Protection Act (Teixeira, 1979). No specific conservation programmes have been conducted for the species, because of its current sporadic occurrence (Callaghan, 1997).

NIGER:

Status: Reported as Non-breeding here (BirdLife International, 2003a).

CMS actions: None reported.
Other actions:

NIGERIA:

Status: Reported as Non-breeding here (BirdLife International, 2003a).

CMS actions: None reported.
Other actions:

NORWAY (v)*:

Status: Occurrence reported (Ree and Gjershaug, 1994).

CMS actions: None reported.
Other actions:

Oman:

Status: Reported as wintering and passing here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.
Other actions:

PAKISTAN:

Status: Reported as breeding (Urfi, 2003). Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

POLAND:

Status: The species breeds in Poland. There are 40 pairs (Poland National Report, 2002). There have been population declines (BirdLife International, 2003a). The species is distributed in small numbers throughout much of the country during the breeding season, with by far the highest concentration (45-110 pairs) located at Milicz fishponds (Wrockaw). Small groups are regularly recorded on passage sporadically, but very few winter (Callaghan, 1997).

CMS actions: A National Action Plan for this species is being prepared (Poland National Report, 2002).

Other actions: Protected from hunting. No specific conservation programmes have been conducted for the species (Callaghan, 1997).

PORTUGAL:

Status: Reported as wintering here (BirdLife International, 2003a). A few individuals have been sighted in some lagoons in central and southern Portugal (Portugal National Report, 2002).

CMS actions: The species is monitored as part of the annual waterbird counts (Portugal National Report, 2002).

Other actions:

Qatar:

Status: Reported as wintering and passing here (BirdLife International, 2003a).

CMS actions: Not a Party.
Other actions:

ROMANIA:

Status: The species is widely distributed, but concentrated in the eastern lowlands (in particular the Danube Delta). Early in the 20th century it was considered abundant, but has undergone a sharp decline owing mainly to habitat loss

(particularly of large areas of the Danube Floodplain) (Callaghan, 1997).

CMS actions: The conservation project LIFE99/NAT/99/RO/006394 for the Satchinez Marshlands in Romania is aimed at this species among others (Anon., 2002b). The Satchinez Marshlands in Romania is a major wintering area for ducks and geese, including *Anser erythropus* (Anon., 2002b).

Other actions: No legal protection. No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Russian Federation:

Status: Occurrence reported in Western Russia (BirdLife International, 2003). The USSR breeding population was evaluated at c. 140,000 pairs in 1970 but had fallen down to c. 5,200 pairs in 1984 (del Hoyo *et al.,* 1992). During breeding, patchily distributed, with the highest concentrations in the south. It is generally not found above 55-60°N. Large post-breeding flocks often gather in several southern deltas (especially the Volga), and smaller numbers may remain to winter in milder years (Dement'ev and Gladkov, 1952). Numbers of the species are falling alarmingly (Anon., 2002b). The species will be included within the forthcoming 2nd edition of the national Red Data Book.

CMS actions: Not a Party to CMS.

Other actions: No specitic conservation programmes have been conducted for the species (Callaghan, 1997).

SAUDI ARABIA:

Status: Winter 1991 census yielded 95 birds in Saudi Arabia (BirdLife International, 2003).

CMS actions: None reported.

Other actions: There was a census in 1991 (BirdLife International, 2003).

SENEGAL:

Status: Reported as Non-breeding here (BirdLife International, 2003a). Present in the north of the country (Senegal National Report, 2002).

CMS actions: Plans for the future include monitoring, protection and restoration of the habitat together with annual counting work (Senegal National Report, 2002).

Other actions:

Serbia and Montenegro:

Status: Breeding seems to be concentrated in the north (Hagermeier and Blair, 1997). There is a regular passage, and about 500 birds over-winter at Lake Skadar (Callaghan, 1997).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes seem to have been conducted for the species (Callaghan, 1997).

Seychelles (v)*:

Status: Reported as Non-breeding here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

Sierra Leone:

Status: Occurrence reported (Dowsett and Dowsett-Lemaire, 1993).

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA:

Status: The ferruginous duck was widespread and abundant as a breeding bird during the first half of the 20th century. Now, however, it is locally distributed and no sites hold more than a few breeding pairs. Key areas include the Danube Lowlands, the East Slovakia Lowlands, and the Košice Basin (including the Slovakian Karst area). Construction of barrages on the Danube and declining water levels in the East Slovakian Lowlands are expected to cause further declines. In mild winters, up to 40 birds remain within the country, but more usually very few or none winter (Callaghan, 1997).

Trnka (1997) evaluates the species as breeding, and regular migrating and wintering species in the period 1990–1997. The number of breeding pairs is estimated on 20–40, while the population trend within 1973 to 1994 is evaluated as "moderate decrease of population by 20 to 50%" (Murin *et al.*, 1994). In Western Slovakia the species bred near the Gabcíkovo a Cícov, Kalivodová et Darolová evaluate the species as rare and uncommon breeder of Danubian area (Slovakia National Report, 2002).

At the present time (2000 and 2001) the species was not recorded as breeding in Western Slovakia. In Záhorie Lowland the species bred near Jakubovo, currently breeding of the species is not known. In Eastern Slovakia the species bred more frequently on several sites (Medzibodro□ie, inundation area of the Latorica river Senné-Inacovce fishpond area and NNR Senné-fishponds). On the both the latter sites during 1970–1985, 3-10 pairs bred annually), in Košice basin 4-6 pairs bred annually. The species in NNR Senné-fishponds and surrounding fishpond area sporadically breeds in the number of 10 11 pairs (in 1975-1994). Currently the breeding of the species in the same area is expected but exact number is not known (Slovakia National Report, 2002).

CMS actions: The Senné-fishponds NNR in cooperation of SNC SR and SOVS are protected and managed. Future activities will be concentrated on the monitoring and protection of historical and other suitable nesting sites (Slovakia National Report, 2002).

Other actions: Full legal protection. No specific conservation programmes seem to have been conducted for the species (Callaghan, 1997).

SLOVENIA:

Status: Breeding is restricted to Lake Cerknica (central Slovenia) and the sub-Panonnian region (north-east Slovenia) (Geister, 1995). About 2-5 pairs nest annually at Lake Cerknica. Numbers in the north-east are also small, and seem to be concentrated on floodplain wetlands of the Drava and Mura rivers (including fishponds) (Callaghan, 1997).

There is a regular spring and autumn passage through the country, for example at Lake Cerknica (where 35 birds were recorded on 8th April 1996) and in the north-east (where <25 birds occur currently). In winter, birds are scarce (Sovinc 1994), with <10 usually being recorded (mainly on reservoirs bordering the River Drava and on the Adriatic coast) (Callaghan, 1997).

During the last 10 years, numbers in the North-east have declined dramatically, possibly due, at least in part, to the introduction of Grass Carp *(Ctenopharyngodon idell*a) and consequent degradation of feeding areas. Illegal hunting and habitat destruction have also probably contributed to the

decline (Callaghan, 1997).

CMS actions: None reported.

Other actions: Full legal protection. Censuses are being conducted currently by The Bird Watching and Bird Study Association of Slovenia (DOPPS) (Callaghan, 1997).

SOMALIA:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

SPAIN:

Status: Once distributed widely and abundant in the south and east, with up to 500 pairs breeding in the Guadalquivir Marshes (Valverde, 1960; Hecker, 1994). Currently, the species is on the verge of extinction as a breeding bird (0-4 pairs annually) (Callaghan, 1997). Small groups and individuals occur regularly on passage and during winter, but the species is scarce generally (Amat and Soriguer, 1982; Dolz *et al.,* 1989; Blanco and Gonzalez, 1992; Hecker, 1994).

CMS actions: None reported.

Other actions: Fully protected under national legislation, and included in the national Red Data Book (Blanco and Gonzalez, 1992). A re-introduction programme was launched by the Instituto para la Conservación de la Naturaleza (ICONA) in south-west Spain in 1992. In the Acebuche-Huerto-Pajas area of the Guadalquivir Marshes, 49 individuals were released in 1992 and 1993, from which three pairs bred in 1993. A further 45 were released in south-west Spain during 1994 and 1995, and over 30 in 1996 (Callaghan, 1997).

Sudan:

Status: Reported as Non-breeding here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.

Other actions:

SWEDEN:

Status: Occurrence reported (Risberg, 1990).

CMS actions: None reported.

Other actions:

SWITZERLAND:

Status: There are two breeding records in the 20th century, in 1991 and 1992 at a small pond close to Frauenfeld. During 1989-1993, a mean of 18 birds wintered in the country, and there are a few sites that regularly hold small numbers (most notably Untersee-Ende und Rhein) (Callaghan, 1997). The specis is a sporadic winter visitor to Switzerland. In mid-January there are between 5 and 27 individuals. In 1991 and 1992 there has been evidence of nesting (Switzerland National Report, 2002).

CMS actions: The species is federally protected. There are no planned actions because the population is too small (Switzerland National Report, 2002).

Other actions: Not protected by federal law from 1st September to 31st January, when it can be hunted. However, 15 of the 26 Cantons have protected the species. A proposal for full, national protection of the species is in

preparation for May 1997, which if successful would become law in 1997/1998. No specific conservation programmes have been conducted for the species, owing to its sporadic occurrence in small numbers (Callaghan, 1997).

SYRIAN ARAB REPUBLIC:

Status: Reported as wintering and passing here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

TAJIKISTAN:

Status: Reported as breeeding here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

Thailand:

Status: Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

TOGO:

Status: Reported as Non-breeding here (BirdLife International, 2003a).

CMS actions: None reported.

Other actions:

TUNISIA:

Status: Reported as wintering here (BirdLife International, 2003a). There are 600 individuals in Tunisia (Tunisia National Report, 2002).

CMS actions: There are plans for a study of ecology, an inventory and the devising of an Action Plan for the conservation of this species (Tunisia National Report, 2002).

Other actions:

Turkey:

Status: The species is very rare in the south-east, and locally distributed elsewhere, although high concentrations occur locally. There is a regular passage of small groups and individuals, and large flocks occasionally, particularly in the west. In general, very few birds over-winter, but during exceptional years (eg. 1990) over 1,000 can occur. There seems to have been a marked decline of both breeding and wintering numbers, probably owing mainly to wetland degradation (Kasparek, 1992; Callaghan, 1997).

CMS actions: Not a Party to CMS.

Other actions: Fully protected from hunting under Terrestrial Hunting Legislation No. 3167. No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Turkmenistan:

Status: Large winter counts have been made (20,833 birds) (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

UGANDA:

Status: Occurrence reported (Dowsett and Dowsett-Lemaire, 1993).

CMS actions: None reported.
Other actions:

UKRAINE:

Status: During the 1950s, about 70,000-80,000 pairs nested in the Ukraine, but numbers have declined sharply to about 1,500-5,000 pairs. These are largely within the Danube Delta, with smaller numbers in the Dnepr Delta (c. 140 pairs), west Ukraine (c. 40 pairs) and north Krym (c. 150 pairs). Important numbers also nest in the Dnestr Delta. Large post-breeding flocks occur frequently in the larger estuaries of the Black Sea coast, for example the Dnestr and Danube where about 200-400 birds moult (Callaghan, 1997).

A sizeable population (c. 500-1,500 birds) also over-winters, unless particularly hard weather develops. Reasons for the decline are unclear, but probably include wetland loss and degradation (particularly reclamation), and hunting (Callaghan, 1997). In 1967, 18,000 individuals were counted in the Black Sea region of Ukraine (Rüger *et al.,* 1986), but only up to 1,500 between 1979 and 1988 (Ardamatskaya and Sabinevsky, 1990). Numbers of the species are falling alarmingly (Anon., 2002b). This species is included in the national Red Data Book (Callaghan, 1997).

CMS actions: None reported.

Other actions: Protected from hunting. No specific conservation programmes have been conducted for the species (Callaghan, 1997).

United Arab Emirates:

Status: Reported as wintering and passing here (BirdLife International, 2003a).

Not a Party to CMS.

CMS actions:
Other actions:

UNITED KINGDOM:

Status: Occurrence reported (BOU, 1992).

CMS actions: None reported.
Other actions:

UZBEKISTAN:

Status: Large winter counts have been made (7,000 birds) but numbers of breeding birds have declined (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

Viet Nam:

Status: Reported as Non-breeding here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.
Other actions:

Yemen:

Status: Reported as wintering and passing here (BirdLife International, 2003a).

CMS actions: Not a Party to CMS.
Other actions:

Additional information - Western Sahara*:

Status: Occurrence reported (UNEP-WCMC, 2004).

Actions: None

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES:OTIDIDAE

SPECIES: *Chlamydotis undulata* (Jacquin, 1784)

SYNONYMS: *Chlamydotis macqueenii*

COMMON NAME: Houbara; Houbara Bustard (English); Houbara ondulé; Outarde houbara (French); Avutarda hubara; Hubara (Spanish)

RANGE STATES: Algeria; LIBYAN ARAB JAMAHIRIYA; MALI; MAURITANIA; MOROCCO; NIGER; SPAIN; TUNISIA. Only Northwest African populations qualify.

RED LIST RATING: LR/nt but nearly qualifies for listing under criteria A1cd+2cd (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

Chamydotis undulata occurs over a huge range from northern Africa to China but only the Northwest African populations are covered by CMS provisions. The global population has been estimated at 49,000-62,000 individuals, but it is likely to exceed 100,000 birds (BirdLife International, 2003). The population is declining (IUCN, 2003). *C. u. undulata* (9,800 birds) is resident in north Africa (BirdLife International, 2003).

The main threats are habitat loss and degradation as desert areas are developed for agriculture and infrastructure projects. These are compounded by high hunting pressure from falconers.There are no reliable data for rates of decline, but given the substantial threats declines are likely to be significant and possibly widespread (BirdLife International, 2003).

Algeria:
Status: Reported as breeding (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

LIBYAN ARAB JAMAHIRIYA:
Status: Reported as breeding. *C. u. undulata* has declined in Libya (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

MALI:
Status: Although CMS considers Mali to be a range state, UNEP-WCMC (2004) does not.

CMS actions: None reported.
Other actions:

MAURITANIA:
Status:
CMS actions: None reported.
Other actions:

MOROCCO:
Status: Reported as breeding (BirdLife International, 2003).

CMS actions: None reported.

Other actions:

NIGER:

Status: Although CMS considers Mali to be a range state, UNEP-WCMC (2004) does not.

CMS actions: None reported.

Other actions:

SPAIN:

Status: Reported as breeding in the Canary Islands (BirdLife International, 2003), where *Chlamydotis undulata fuertaventurae* is endemic to the archipelago, and is found on the islands of Fuerteventura, Lobos, Lanzarote and Graciosa. The population is estimated at 700-750 birds (300-350 on Fuerteventura and Lobos, and 400 on Lanzarote and Graciosa). The species is protected by Spanish legislation and is classified as an endangered species in the national Red Book (Anon., 2002).

CMS actions: A rehabilitation plan has been underway since 1985 and a management plan for this species has been approved (Anon., 2002). A census covering the whole of the Houbara's range in the islands has been organised (Heredia, 1995).

Other actions:

TUNISIA:

Status: The Sude Tunisien (South Tunisian) population is currently threatened with extinction (limited movement) (Tunisia National Report, 2002).

CMS actions: Study of the ecology of the species in Tunisia, Inventory and Action Plan for its conservation are being conducted (Tunisia National Report, 2002).

Other actions:

REFERENCES:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Chloephaga rubidiceps* (Sclater, 1861)

SYNONYMS: -

COMMON NAME: Ruddy-headed Goose (English); Ouette à tête rousse (French); Cauquén colorado (Spanish)

RANGE STATES: ARGENTINA; CHILE; UNITED KINGDOM (Falkland Islands (Malvinas))

RED LIST RATING: -

CONSERVATION STATUS AND ACTIONS:

The ruddy-headed goose exists in two well-defined populations: a sedentary one restricted to the Falkland (Malvinas) Islands and a migratory one that nests in southern Patagonia (Chile and Argentina), and winters in southern Buenos Aires province (Blanco *et al.,* 2003). During the breeding season, the range extends into continental Chile through the coastal area of the Magellan Straight (Estrecho de Magallanes), approximately from San Juan to Pali Aike (Region XII og Magallanes) and throughout the north of Tierra del Fuego in Argentina and Chile (Gibbons *et al.,* 1998). Most of the indivivuals are concentrated around San de San Gregorio (39-49% of the recorded individuals) and San Juan (1-15%), and in the north of the Chilean sector of Tierra del Fuego (29-51%) (Blanco *et al.,* 2001).

In the north of Tierra del Fuego, the Ruddy-headed Goose was very common until the end of the 1950s, with a population numbering 1,000 individuals (Rumboll, 1975). Since then there has been a significant decrease in the population size (Humphrey *et al,* 1970; Rumboll, 1975; Rumboll, 1979; Canevari, 1996). Recent results obtained by Wetlands International, with the support of the CMS (Blanco, 2000, Gibbons *et al.,* 1998), have confirmed the critical situation of the Tierra del Fuego population, which consists of around 900 individuals.

In Tierra del Fuego and southern Chile, the main threat is predation on eggs and chicks by *Pseudalopex griseus,* the pampa fox. The scarcity of safe nesting sites, allowing protection from terrestrial predators, is thought to limit the reporductive output of the species, mainly on the Tierra del Fuego Island (Gibbons *et al.,* 1998). Sport hunting, even though limited, also represents a threat to this species, particularly in Chile. Competition with other species of geese in breeding areas has also been suggested as a cause of the decline (Blanco *et al.,* 2001). The overlap between the species wintering distribution and the main wheat cropping areas of Argentina results in serious threats to this goose (Blanco *et al.,* 2003).

ARGENTINA:

Status: The wintering grounds of the Ruddy-headed Goose are restricted to an area of 13,000ha in the south of the Buenos Aires province. More than 80% of the recorded population concentrates in the south of the 'Ruta provincial 228' and in the area of the Arroyo Cristiano Muerto. The migratory routes of the Ruddy-headed Goose are not known with certainty but are thought to include the coastal departments of the provinces of Santa Cruz, Chubut, Río Negro and Buenos Aires (Blanco *et al.,* 2001).

However, the status of this goose in its wintering grounds in the southern Buenos Aires province is less known, and no historic population estimates exist. It has been classified as a species 'in danger of extinction' in the Patagonian Region (Consejo Asesor Regional Patagónico, 1995).

CMS actions: A bilateral project between Chile and Argentina is being developed to conduct research on this species (Chile National Report, 2002). CMS is funding activities including surveys of beeding and wintering areas, development of a Water Management Plan for critical nesting sites, fencing of nesting areas and information and education.

Other actions: Hunting is banned in the Province of Tierra del Fuego (Blanco *et al.*, 2001) and it is legally protected in Argentina (Canevari, 1996). In the Buenos Aires province, the Ruddy-headed Goose is legally protected but nevertheless, practical conservation measures are hard to implement because females often form interspecific assosciations with other species of geese, which are considered pests and are allowed to be hunted (Blanco *et al.*, 2001).

CHILE:

Status: The population occurs only in the Region Duodécima (Magallanes). The size and trend of the population is not known but it is considered to be threatened with extintion (Chile National Report, 2002). It is considered in danger of extinction (Blanco *et al.*, 2001) and is legally protected (Canevari, 1996).

CMS actions: A bilateral project between Chile and Argentina is being developed to conduct research on this species (Chile National Report, 2002). There are ongoing research projects funded by CMS and work is being carried out to monitor the total and breeding population. SAG of the city of Punta Arenas conducts a project to protect the breeding area known in Magallanes. Negotiations are being carried out with land owners for the restoration of the habitat of the breeding population and total population in the Magallanes sector, where all the population occurs (Chile National Report, 2002).

CMS is funding activities including surveys of beeding and wintering areas, development of a Water Management Plan for critical nesting sites, fencing of nesting areas and information and education.

Other actions:

UNITED KINGDOM:

Status: The Falkland (Malvinas) Islands population is in good conservation status, with an estimated size of 40,000 birds (Blanco *et al.*, 2003).

CMS actions: None reported.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: SCOLOPACIDAE

SPECIES: *Eurynorhynchus pygmeus* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Spoonbill Sandpiper; Spoon-billed Sandpiper (English); Bécasseau spatule (French); Correlimos cuchareta (Spanish)

RANGE STATES: Bangladesh; China; Japan; Korea, Democratic People's Republic of; Korea, Republic of; Malaysia; Myanmar; PHILIPPINES; Russian Federation; Singapore; SRI LANKA; Thailand; Viet Nam

RED LIST RATING: VU C1(BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

The Spoon-billed Sandpiper breeds on the Chukotsk peninsula and southwards down the isthmus of the Kamchatka peninsula, in north-eastern Russia. It migrates down the western Pacific coast through eastern Russia, Japan, North and South Korea, mainland China, Hong Kong and Taiwan to its main wintering ground in South and South-East Asia, where it is recorded from India, Bangladesh, Sri Lanka, Myanmar, Thailand, Vietnam, the Philippines, Peninsular Malaysia and Singapore, with unconfirmed reports from the Maldives. It is also a rare visitor to the USA and Canada, recorded in north-western Alaska, the Aleutian islands, British Columbia, the Pribolof islands and Alberta (AOU, 1998).

This sandpiper has a small population, which has undergone a rapid recent decline (BirdLife International, 2000). The global population of this species was recently estimated at between 4,000 and 6,000 individuals (Rose and Scott, 1997), presumably originally based on an estimate of c.2,000-2,800 breeding pairs in Russia (Flint and Kondrat'ev, 1977; also Johnsgard, 1981, Tomkovich, 1991, Collar *et al.*, 1994), but this was probably an overestimate (Tomkovich and Soloviev, 2000). It appears to be rare on migration and in winter throughout its range, indicating that it may actually total well below 4,000 individuals (BirdLife, 2001).

It is vulnerable to habitat loss on its breeding grounds because of its specific habitat requirements, high level of site fidelity, small population and patchy distribution. Throughout its migratory and wintering ranges, tidal flats are being reclaimed for industry, infrastructure and aquaculture and are becoming increasingly polluted. In the breeding grounds, nests are sometimes destroyed by reindeer herds and herders' dogs. Other threats including human disturbance on tidal flats and hunting of shorebirds (Birdlife International, 2003).

The effective protection and management of coastal wetlands in both the breeding and non-breeding ranges is vital for the conservation of this species. Unfortunately, given its low population and the current lack of information about its most important sites, at present it is only possible to urge stronger conservation at a few known important sites and in very general terms for the many areas in which small numbers have been recorded (BirdLife, 2001).

Bangladesh:

Status: Rashid (1967) listed this species as a winter visitor to coastal regions, possibly also occurring inland, although there is apparently no evidence for this apart from the existence of Assamese records. The largest known non-breeding concentrations have been recorded along the Bangladesh coast, suggesting that this may be the main wintering area of the species (Birdlife International, 2003). In Bangladesh, it was considered to be a "rare" winter visitor (Khan, 1982), but the highest-ever single count (257 individuals) was made in the Padma-Meghna Delta in 1989, and this remains the largest known wintering concentration (Thompson and Johnson, 1996). It is not known whether similar numbers of this species winter annually in the country, as further surveys have failed to locate large flocks in the same area (BirdLife International, 2001).

During the midwinter waterbird counts in January 1991, 45 birds of this species were counted in the whole country (Perennou and Mundkur, 1991), but in some years only a few individuals are reported. The area of mudflats, sandflats and coastline involved is enormous, however, and the likelihood is that all counts considerably underestimate the number of individuals present (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The islands in Noakhali district were apparently being planted with mangroves to stabilise them with a view to perpetuating wintering habitat for the Spoon-billed Sandpiper (Anon., 1989).

Canada (v)*:

Status: Non-breeding occurrence reported (Birdlife International, 2003). Recorded in north-western Alaska, the Aleutian islands, British Columbia, the Pribolof islands and Alberta (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

China:

Status: It has been recorded on spring and autumn migration along the coast of eastern China in Hebei, Jiangsu, Shanghai, Zhejiang, Fujian, Guangdong and Hainan, there are inland records from Heilongjiang and Beijing (and an unconfirmed report from Hunan), and recent reports in winter from Shandong and Jiangsu (which require confirmation). (BirdLife International, 2001). Protected areas in its breeding, staging and wintering areas include Yancheng and Chongming Dongtan (China) (Birdlife International, 2003). It is a rare passage migrant, mainly found on the east coast of Taiwan during spring migration (BirdLife International, 2001). Protected areas in its breeding, staging and wintering areas include Lanyang estuary (Birdlife International, 2003).

It occurs annually in low numbers in Inner Deep Bay marshes, mostly in mid-April. One to five birds are regularly present on passage and (based on plumage characteristics of birds observed) totals were estimated of 16 birds during spring 1990 and 12 in spring 1998 (BirdLife International, 2001). Protected areas in its breeding, staging and wintering areas include Mai Po (Hong Kong) (Birdlife International, 2003). Mai Po is an important passage and/or wintering site for Spoon-billed Sandpiper (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network,

including Yancheng and Chongming Dongtan in mainland China (BirdLife International, 2001).

Mai Po marshes were declared a "No Hunting Area" in 1973, and restriction on access, was strictly enforced to prevent disturbance to wild animals. The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds including this species at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network, including Mai Po-Inner Deep Bay in Hong Kong (SC) (BirdLife International, 2001).

India*:

Status: Occurrence reported (Ripley, 1982). It is an uncommon winter visitor recorded mainly on the east coast. In India, this species is known mainly by regular records of small numbers at Chilka lake in Orissa and Point Calimere in Tamil Nadu, but it is probably more numerous than the records suggest because of the difficulty of finding it amongst large mixed flocks of small waders (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: All of Chilka lake is under the jurisdiction of the Wildlife Department, and an officer of district forest officer rank is permanently posted there; the areas of wader habitat around Nalban island have been fenced. Point Calimere is also an established wildlife sanctuary (BirdLife International, 2001).

Japan:

Status: A rare but regular autumn migrant, occurring mainly in September and October, generally along the Pacific coast from Hokkaido to Okinawa (Brazil 1991). There have been very few records during national spring wader counts, but during national autumn counts its numbers have ranged from 15 to a maximum of 94 in 1981 (Brazil, 1991). Its numbers appear to have declined in Japan since the 1970s and it is on the Red List (BirdLife International, 2001).

It has occurred in or near to several protected areas on migration, including: Tofutsu-ko and Furen-ko on Hokkaido, Sendai Kaihin in Miyagi prefecture, Yatsu in Chiba prefecture, Hama Koshien in Hyogo prefecture, and Yagachi and Manko in Okinawa prefecture, which are established National Wildlife Protection Areas; it is also recorded from Shio-kawa in Aichi prefecture, Hakata bay in Fukuoka prefecture and Ariake-kai in Fukuoka and Saga prefectures, which are in the process of being designated as National Wildlife Protection Areas (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network, including Yoshino-gawa in Japan (BirdLife International, 2001).

D.P.R. Korea:

Status: It is a very rare spring and autumn passage migrant (Tomek, 1999). It is believed to be a scarce passage migrant in North Korea, with a total of less than 20 birds estimated to occur annually (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is a protected in this country (BirdLife International, 2001).

Republic of Korea: The coastal mudflats, saltpans and estuaries on the western and southern coasts of

Status: South Korea are important staging areas for this species during spring and especially autumn migration, notably the Mangyong (Mankyung) and Tongjin estuaries in North Cholla (BirdLife International, 2001). 180 birds reported on the Mangyong estuary in September 1998 and 200-250 birds reported on the Mangyong and Tongjin estuaries (Saemankeum area) in September 1999 (BirdLife International, 2001). The important staging area at Saemankuem, South Korea, including the Mankyung and Tongjin estuaries, has already been partially reclaimed (BirdLife International, 2003). It was designated as an endangered species by the South Korean Ministry of the Environment in 1998 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Malaysia:

Status: It is a non-breeding visitor, so far only recorded at one site: Kuala Selangor, first-winter male collected at the "salt field", November 1976 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Myanmar:

Status: Armstrong (1876) remarked that the species was "of rare occurrence" at Elephant Point. It was, however, "recorded from Arakan several times" (Oates, 1883). The individual shot by Smythies (1986) at the Sittang estuary "was the only one seen out of thousands of waders inspected", again suggesting that the local population of the species is small. There are no recent records from Myanmar, but it is plausible that an important wintering population survives in the extensive coastal wetlands of the Irrawaddy delta region (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

PHILIPPINES:

Status: It is known by a single record: Luzon Bicobian bay, midway between Maconacon and Palanan, east coast of Luzon, two, May 1996 (BirdLife International, 2001). The species has been recorded as wintering in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

Russian Federation:

Status: As a breeding bird, it is endemic to the coast of the western Bering Sea (in Chukotka and Koryakia), where it inhabits a narrow belt of coastal tundra around "Beringian" lagoons and bays. There are two major areas of distribution, one a more or less continuous stretch of c.350km of coast on the northern Chukotsk peninsula between Ukouge lagoon and Serdtse-Kamen' cape, and the other along the Bering Sea coast for c.2,600km (almost continuous between Getlyanen and Khatyrka, but then in isolated patches of suitable habitat south-west to Ossora). On migration, it occurs on Kamchatka (including the Commander islands), along the coasts of the Sea of Okhotsk in Magadan, Khabarovsk and Primorye, and on Sakhalin island and the Kuril islands (BirdLife International, 2001).

This species nests in solitary pairs or in aggregations of up to 10-15 pairs (Portenko, 1972) within a narrow and fragmented band of suitable coastal habitats, which limits the extent of its range and hence its population size (AVA). Within its breeding range there are almost 200 separate nesting

localities, the most important being Belyaka spit and Anadyr' lagoon. The breeding density has been estimated at 6-8 pairs per km^2 on the Belyaka spit, where 45-53 territorial males were counted in 1986-1988 (Tomkovich, 1991; Tomkovich; 1992b, Tomkovich,1995; Tomkovich and Soloviev 2000).

Totals of 50 and 95 males were counted on Yuzhnyi island and on Belyaka spit in 1973 and 1974 respectively (Krechmar *et al.,* 1978; Kishchinskiy, 1988), but in 1986-1988 only 45, 51 and 45 males were counted in the same area using the same methodology, indicating that the population there had possibly declined (Tomkovich and Soloviev, 2000). About 6-10 pairs have been found nesting at Ukouge lagoon (Kishchinskiy, 1988) and four pairs at Kivak lagoon (Tomkovich and Sorokin, 1983). A breeding population of 8-10 pairs has been estimated at Cape Rekokaurer (Kishchinskiy, 1988).

On the basis of its breeding densities and the mapped extent of suitable habitat, the total population was estimated at c.2,000-2,800 pairs by Flint and Kondrat'ev (1977), but this was probably an overestimate (Tomkovich and Soloviev, 2000). Its population was believed to be relatively stable, but highly vulnerable (Kondrat'ev, 1989; Tomkovich, 1991; Tomkovich, 1995). However, there is evidence that the breeding population has declined recently in the Egvekinot area (Dorogoy, 1997), and surveys in summer 2000 found that it had declined at all of the sites where previous population estimates were available; given the high breeding-site fidelity of this species, this indicates that the breeding population of this species has declined sharply in recent decades BirdLife International (2001). Information on numbers of migrant Spoon-billed Sandpipers in eastern Russia is discussed by Tomkovich (1992a).

Protected areas in its breeding, staging and wintering areas include Moroshechnaya and several local wildlife refuges on the Chukotsk peninsula (Russia) (Birdlife International, 2003). This species is included in the Russian Red Data Book (Kolosov, 1983).

The species has occurred in significant numbers a bird sanctuary on the Moroshechnaya river in western Kamchatka (1,500km^2)(Gerasimov and Gerasimov, 1999), and in several local wildlife refuges on the breeding grounds on the Chukotsk peninsula (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Migrant birds are protected in the Lazovskiy State Reserve and the Khasansky Nature Park (at the Tumen estuary) (BirdLife International, 2001). The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network, including the Moroshechnaya estuary in Russia (BirdLife International, 2001). It has been proposed that the hunting of all species of shorebird should be prohibited in eastern Russia (BirdLife International, 2001).

Singapore:

Status: It is a very rare non-breeding visitor, seen in the winter (Lim, 1994; Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

SRI LANKA:

Status: It is a very rare winter visitor (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

Thailand:

Status: The species is a rare passage migrant and winter visitor (Lekagul and Round, 1991). In Thailand, it is possible that a small number of Spoon-billed Sandpipers winters at Khok Kham or elsewhere, although it is equally plausible that the few records simply relate to migrating individuals (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

United States:

Status: Non-breeding occurrence reported (AOU, 1983; Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Viet Nam:

Status: Occurrence reported (Nguyen *et al.*, 2000). It is a passage and winter visitor known from two sites in the Red River delta (BirdLife International, 2001). The total wintering population in Vietnam appears to be fewer than 50 individuals, although it is possible that some sites remain to be discovered (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Protected areas in its breeding, staging and wintering areas include Xuan Thuy Nature Reserve (Vietnam) (Birdlife International, 2003).

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: FALCONIDAE

SPECIES: *Falco naumanni* (Fleischer, 1818)

SYNONYMS: -

COMMON NAME: Lesser Kestrel (English); Faucon crécerellette (French); Cernícalo Primilla (Spanish)

RANGE STATES: Afghanistan; ALBANIA; Algeria; Angola; Armenia; Azerbaijan; Bangladesh; BENIN; Bhutan; Bosnia and Herzegovina; Botswana; BULGARIA; BURKINA FASO; Burundi; CAMEROON; Cape Verde; Central African Republic; CHAD; China; Colombia; Comoros; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; COTE D'IVOIRE; CROATIA; CYPRUS; Djibouti; EGYPT; Equatorial Guinea; Eritrea; Ethiopia; EUROPEAN COMMUNITY (FRANCE, GREECE, ITALY, PORTUGAL, SPAIN, UNITED KINGDOM); GAMBIA; Gabon; GEORGIA; GHANA; GUINEA; GUINEA-BISSAU; INDIA; Iran (Islamic Republic of); Iraq; ISRAEL; JORDAN; Kazakhstan; KENYA; Kuwait; Kyrgyzstan; Lao People's Democratic Republic; Lebanon; Lesotho; Liberia; LIBYAN ARAB JAMAHIRIYA; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; Malawi; Maldives; MALI; MAURITANIA; MOLDOVA, REPUBLIC OF; MONGOLIA; MOROCCO; Mozambique; Myanmar; Namibia; Nepal; NIGER; NIGERIA; Oman; PAKISTAN; Qatar; ROMANIA; Russian Federation; Rwanda; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Sierra Leone; SLOVENIA; SOMALIA; SOUTH AFRICA; Sudan; Swaziland; SYRIAN ARAB REPUBLIC; TAJIKISTAN; TANZANIA, UNITED REPUBLIC OF; TOGO; TUNISIA; Turkey; Turkmenistan; UGANDA; UKRAINE; United Arab Emirates; UZBEKISTAN; Yemen; Zambia; Zimbabwe

RED LIST RATING: VU - A1bce+2bce (BirdLife International, 2000).

CONSERVATION STATUS AND ACTIONS:

The Lesser Kestrel is an extremely widespread Old World falcon, breeding from Iberia and North Africa through Central Asia to eastern China, and wintering chiefly in sub-Saharan Africa (BirdLife International, 2001). The European and north African population is estimated at 17,000-21,000 pairs, with several thousand pairs breeding outside this range, principally in central Asia.

Western Palearctic populations have undergone serious declines, although a few have begun to increase again. This species has undergone rapid declines in western Europe equivalent to c. 46% in each ten years since 1950 and *Falco naumanni* is considered an endangered species in Europe. There have also been rapid declines on the wintering grounds in South Africa, equivalent to c. 25% in each ten years since 1971, and possibly in parts of its Asian range (Birdlife International, 2003). It is predicted that similar declines will continue over the next 10 years (BirdLife International, 2000).

The main cause of its decline has been habitat loss and degradation in its western Palearctic breeding grounds, primarily a result of agricultural intensification, but also afforestation and urbanisation. The use of pesticides may cause direct mortality, but is probably more important in reducing prey populations. The abandonment or restoration of old buildings has resulted in the loss of nest-sites (Birdlife International, 2003). In addition, desertification in the Sahel zone, important for passage and wintering birds, has reduced available habitat, while dams have destroyed large areas of suitable floodplain habitat which, when drying out after the wet season, were important for Lesser Kestrels (BirdLife International, 2001).

A European action plan has been published (Birdlife International, 2003).

Afghanistan:

Status: *Falco naumanni* is reported to breed in, as well as migrate through, this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status: *Falco naumanni* is reported to breed here. The population was estimated in 1963 to be between 100 and 1,000 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

Algeria:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Angola:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Armenia:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Austria*:

Status: Occurrence reported (Rokitansky, 1964).

CMS actions: Not a Party to CMS.

Other actions:

Azerbaijan:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Bahrain*:

Status: *Falco naumanni* is reported to migrate through this country (Nightingale and Tim, 1992; Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

BELGIUM (v)*:

Status: Occurrence reported (Herroelen, 1997).

CMS actions: None reported.

Other actions:

BENIN:

Status: A not insignificant population is found in the bush, grass and tree swamps of the North Benin regions (Benin National Report, 2002). *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

Bhutan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bosnia and Herzegovina:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Botswana:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003). In southern Botswana flocks of over 100 birds were regular in the early 1980s, but could not be found during the 1990s (BirdLife International, 2001). The number of Lesser Kestrel flocks in southern Botswana has fallen despite the continued presence of apparently abundant habitat and food (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: Marginal population. Breeding not recorded since 1991 (Bulgaria National Report, 2002). Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by over 50% (Birdlife International, 2003). Observations of post breeding birds available in 1999, 2000, 2001. Extensive search of breeding pairs completed in 1995-1997 without success (Bulgaria National Report, 2002). The population was estimated in 1999 to be between one and five breeding pairs (Birdlife International, 2003).

CMS actions: National Species Action Plan (NSAP) prepared in line with CBD and Council of Europe requirements. Prepared as part of "Conservation of the Lesser Kestrel": Bulgarian Society for the Protection of Birds/BirdLife Bulgaria runs one project in 1995-1997 (Bulgaria National Report, 2002).

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003). Possible reintroduction investigated by BSPB. Search for breeding pairs, habitat data collection and monitoring of Orthoptera populations (BirdLife International, 2001).

BURKINA FASO:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

Burundi:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

CAMEROON:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

Cape Verde:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Central African Republic:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

CHAD:

Status: *Falco naumanni* is reported to winter in this country. Small population, status unknown. (Birdlife International, 2003). Reported in the National park of Zakouma, the Wildlife Reserve of Siniaka Minia and the Reserves oudi Rimé and Achim (Chad National Report, 2002).

CMS actions: None reported.

Other actions:

China:

Status: The Lesser Kestrel breeds in the steppes and deserts of Inner Mongolia, Xinjiang, Hebei and Beijing (at least formerly), and presumably also in Gansu, and is a passage migrant through several other. It breeds in the protected areas of Anxi Gobi Nature Reserve, Gansu, Baihe Nature Reserve, Sichuan and Taihangshan Macaque Nature Reserve, Henan regions (BirdLife International, 2001).

The species has been described as "uncommon" in its Chinese breeding

range, and "rare" elsewhere, but given the sheer breadth of the breeding range in northern China, it is probably not unreasonable to suggest that there could be several thousand breeding pairs. "Large numbers" used to occur in the hills near Beijing in September, presumably representing flocks on migration, and the species has recently been found to be "uncommon to fairly common in mid-autumn" at Beidaihe in Hebei. Trends are unknown but seem likely to be negative (BirdLife International, 2001).

The available information suggests that substantial breeding populations may survive in northern China. These could prove to be globally important given the declines that have taken place in Europe and Central Asia. It is possible that the breeding population in northern China is threatened by habitat loss and the use of pesticides and poisons (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Colombia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Comoros:
Status:
CMS actions: Not a Party to CMS.
Other actions:

CONGO:
Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

D.R.C. CONGO:
Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

COTE D'IVOIRE:
Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

CROATIA:
Status: *Falco naumanni* is reported to breed in this country. The population was estimated in 1994 to be between five and 10 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by 1-20% (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

CYPRUS:
Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

CZECH REPUBLIC (ex, br)*:

Status: Occurrence reported (Kren, 2000).

CMS actions: None reported.

Other actions:

DENMARK (v)*:

Status: Occurrence reported (Dybbro, 1978).

CMS actions: None reported.

Other actions:

Djibouti:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

EGYPT:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

Equatorial Guinea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Eritrea:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Ethiopia:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: *Falco naumanni* is reported to breed in this country. The population was estimated in 1999 to be 39 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003). A national action plan for *Falco naumanni* has been prepared (BirdLife International, 2001).

Gabon:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

GAMBIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

GEORGIA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

GERMANY (v)*:

Status: Occurrence reported (Barthel, 1993).

CMS actions: None reported.
Other actions:

GHANA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

GREECE:

Status: The country population was estimated in 1995 to be between 2,700 and 3,240 breeding pairs. Between 1970 and 1990 the breeding population of is estimated to have decreased by over 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003).

GUINEA:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

GUINEA-BISSAU:

Status:
CMS actions: None reported.
Other actions:

HUNGARY (br)*:

Status: Occurrence reported (Gorman, 1996).

CMS actions: None reported.
Other actions:

INDIA:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003). Although records are widely spread, this species is now a rare winter visitor and passage migrant, occasionally in large flocks. The species breeds in the protected areas of Keoladeo National Park, Rajasthan;

Manas National Park, Assam; Kaziranga National Park, Assam; and Wynaad Wildlife Sanctuary, Kerala (BirdLife International, 2001).

Early accounts of its status and population in India are rather confused. In the early twentieth century it was an "apparently rare winter visitor" in the Lucknow area. Other evidence suggests that a population once wintered further south, in the Deccan, where it was apparently "common" or "locally common", with several hundred roosting near Sholapur in January and flocks observed at Nagar. Curiously, it was thought to be nesting in the area as it was seen calling in mid-May at suitable nesting sites, but this seems unlikely given its current breeding distribution; its status as a breeding bird in Maharashtra is therefore best treated as unconfirmed (BirdLife International, 2001).

In late nineteenth century southern West Bengal the species was described as "not uncommon in the rainy season". In north-east India it was thought to be always uncommon as very few were collected. At the time it was also "rare" in North Cachar. The current scatter of records throughout northern India suggests that the species is probably an irregular passage migrant in the country. However, large flocks recorded in Orissa and the Deccan in January were presumably wintering rather than on passage (BirdLife International, 2001).

Intensification of agriculture and increased use of pesticides are two threats that have caused significant declines in raptor populations in India, perhaps including this species (BirdLife International, 2001).

CMS actions: None reported.
Other actions:

I.R. Iran:

Status: *Falco naumanni* is reported as breeding, as well as migrating through, this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Iraq:

Status: *Falco naumanni* is reported as breeding, as well as migrating through, this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

IRELAND (v)*:

Status: Occurrence reported (Hutchinson, 1989).

CMS actions: None reported.
Other actions:

ISRAEL:

Status: *Falco naumanni* is reported as breeding, as well as migrating through, this country (Birdlife International, 2003). After a survey done in 2000, it is estimated that there are about 550 nesting pairs, 10% of the population until the 1950s (Israel National Report, 2002).

CMS actions: Research, monitoring, rehabilitation and reintroduction projects are being conducted by the SPNI. Nesting boxes have been placed on shingled rooftops (Israel National Report, 2002).

Other actions:

ITALY:

Status: *Falco naumanni* is reported to breed in this country. The country population was estimated in 1999 to be between 2,107 and 2,190 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by over 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003). A national action plan for *Falco naumanni* has been prepared (BirdLife International, 2001).

Japan (v)*:

Status: *Falco naumanni* is a vagrant in this country (Brazil, 1991; BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN:

Status: *Falco naumanni* is reported to breed in, as well as migrate through, this country (Birdlife International, 2003). Reported in the southern part of Jordan: with 25 pairs in Dana Nature Reserve and 20 pairs in Mujib Nature Reserve (Jordan National Report, 2002).

CMS actions: Two surveys have been conducted in Dana Nature Reserve and in Mujib Nature Reserve and it is planned to repeat these in the future (Jordan National Report, 2002).

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003).

Kazakhstan:

Status: *Falco naumanni* is reported to breed here, although the species has disappeared from the north of the country (Birdlife International, 2003). A breeding population in south-east Kazakhstan was recently estimated at 500-2,000 pairs and is apparently secure, although the total breeding population in Kazakhstan is perhaps only 5,000-8,000 pairs (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003). The range is 89% above an altitude of 500m and only 8% within the driest areas (0-250mm). It is rare at the coast. Kenya, more than other East Africa countries, has the bulk of the passage. The following areas are known to be its staging areas: Amboseli National Park, Lakes Baringo, Bogoria and Elmenteita, Masai Mara National Reserve and Mau Narok grasslands. Not very regular though occasionally counted during bird counts. It is listed as vulnerable in Kenya. (Kenya National Report, 2002).

CMS actions: Through inventories, its staging sites have already identified and most of them have protection status except, Mau Narok grasslands. Biennial bird counts are conducted (Kenya National Report, 2002).

Other actions:

Kuwait:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Kyrgyzstan:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Laos People's D.R. :

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003). Although there are no recent records, the species formerly wintered in the north-west. Some 60 years ago the species was described as being present in "extraordinary numbers" during the winter in Xiang Khouang province (= Tranninh), especially around the Plain of Jars, with more than 100 arriving at fires to feed on grasshoppers. As there have been no recent records anywhere in the country, despite extensive surveys, it is likely that a decline has taken place and that the species is now very rare (BirdLife International, 2001).

While the reasons underlying the loss of the species from Laos are unknown, hunting is quite possibly a significant factor as it is a ubiquitous practice in the human population (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Lebanon:

Status: *Falco naumanni* is reported as a non-breeding visitor to, and passing migrant in, this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Lesotho:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Liberia:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

LIECHTENSTEAIN (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

F.Y.R. MACEDONIA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

Malawi:

Status: *Falco naumanni* is reported as a non-breeding wintering visitor to this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Maldives:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003). The most recent record of this species in the Maldives dates back to 1975 (BirdLife International, 2001). The species is probably an annual visitor in small numbers, although records are too few to be certain (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

MALI*:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

MALTA*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

MAURITANIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

REPUBLIC OF MOLDOVA:

Status: *Falco naumanni* is reported to breed in this country. The population was estimated in 1989 to be between seven and 12 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by over 50% (Birdlife International, 2003). Rare and disappearing species. No more than five to ten pairs reported as nesting (Republic of Moldova National Report, 2002).

CMS actions: Studies of situations and possible ways of restorating this species are planned (Republic of Moldova National Report, 2002).

Other actions:

MONGOLIA:

Status: The available information suggests that substantial breeding populations may survive in Mongolia. These could prove to be globally important given

the declines that have taken place in Europe and Central Asia (BirdLife International, 2001). It is a widely distributed and fairly common breeding visitor in Mongolia, becoming rarer in the east of the country. *Falco naumanni* breeds in the protected Gobi Gurvan Saichan National Park.

A reliable estimate for Mongolia cannot be attempted given the poor quality of data available, but a very conservative estimate would place the breeding population at least in the low thousands. Post-breeding concentrations of a few hundreds have been recorded in western Mongolia. On a railway journey through Dornogovi province, a maximum of 542 was counted on 14 August 1988 (BirdLife International, 2001).

There are no obvious threats to this species and its habitats in Mongolia, and its population appears to be stable. However, as the winter quarters of these birds are unknown (presumably southern Africa), it cannot be assumed that they face no significant threats (BirdLife International, 2001).

CMS actions: None reported.
Other actions:

MOROCCO:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

Mozambique:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Myanmar:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003). The species was last recorded here in 1935. It was perhaps formerly fairly common or at least regular on spring passage, but there are very few records despite a great deal of collecting and observation in the period roughly from 1860 to 1940 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Namibia:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Nepal:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003). The species is mainly an uncommon autumn passage migrant, with a few spring and several winter records. Occurrences are generally distributed between central and eastern Nepal. *Falco naumanni* breeds in the protected areas of Annapurna Conservation Area, Chitwan National Park, Rara Lake National Park and Kosi Tappu Wildlife Reserve (BirdLife International, 2001).

The species moves through the country during passage periods in varying numbers annually, with a possible wintering population tentatively estimated

at c. 60 and declining; the largest recorded congregation of the species was a roost of 340 at Pokhara lake in October 1982. There are very few winter or spring records from the country. It is apparently a regular autumn passage migrant and winter visitor to Pothana in the lower Kali Gandaki valley (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

NIGER:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

NIGERIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.
Other actions:

Oman:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

PAKISTAN:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2003). The species is a vagrant. A population breeds in Turkestan and birds regularly occur on migration in south-west Iran, so the species should be expected in Baluchistan, yet records suggest that it passes through the country in only tiny numbers (BirdLife International, 2001).

CMS actions: None reported.
Other actions:

POLAND (br?)*:

Status: Occurrence reported (Tomialojc, 1990).

CMS actions: None reported.
Other actions:

PORTUGAL:

Status: *Falco naumanni* is reported to breed in this country. The country population was estimated in 1999 to be between 162 and 200 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

In 2001, a total of 270 to 272 breeding couples were estimated distributed within 31 colonies. These numbers represent an increase of 70% since the last published census and are the result of an increase in both the number of couples at the major colonies of Castro Verde SPA (southern Portugal) and census effort (Portugal National Report, 2002).

CMS actions: In 2001 the Institute for Nature Conservation conducted a national census. Research is being conducted at hunting areas of Mértola (Guadiana Valley

Natural Park, southern Portugal). National census of Lesser Kestrel are conducted yearly. There is a project on the Conservation of Stepic Birds at Castro Verde region (southern Portugal) (Portugal National Report, 2002).

The project 'Re-establishment of the Lesser Kestrel (Falco naumanni) in Portugal' has been submitted by LPN to the LIFE program. The project aims to: improve and implement available breeding sites, namely through construction of walls specially designed to provide breeding sites. Increase the quality of the feeding areas, promoting farming techniques that are beneficial to the main prey occurrence. Monitor power lines in the main occurrence areas (Portugal National Report, 2002).

Other actions:

Qatar:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

ROMANIA:

Status: *Falco naumanni* is reported to breed in this country. The country population was estimated in 1998 to be between 0 and one breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have increased by between 21 and 50% (Birdlife International, 2003).

CMS actions: Project LIFE00NAT/RO/7171 for the conservation and management of habitats in the Iron Gates Natural Park in Romania focuses particularly on *Falco naumanni* (Anon., 2002).

Other actions:

Russian Federation (v):

Status: The species has been recorded in the extreme south of eastern Russia, near the Mongolian border. In eastern Russia the species is known only from close to the Mongolian border and it presumably only has a small population there. (BirdLife International, 2001).

Falco naumanni is reported to breed in this country, although the species has disappeared from the Ural region. The country population was estimated in 1994 to be between 70 and 150 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by over 50% (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Rwanda:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

SAUDI ARABIA:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

SENEGAL:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003). This species is often counted in the centre of the country (in the region of Fatick). The population size is approximately 50 (Senegal National Report, 2002).

CMS actions: None reported.

Other actions:

Serbia and Montenegro:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Seychelles:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Sierra Leone:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA (ex, br)*:

Status: Occurrence reported (Trnka *et al.,* 1995).

CMS actions: None reported.

Other actions:

SLOVENIA:

Status: *Falco naumanni* is reported to breed in this country. The country population was estimated in 1994 to be between five and 10 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

SOMALIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003). It is considered that increased use of organophosphates in Somalia and neighbouring countries may kill hundreds of Lesser Kestrels annually (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

SOUTH AFRICA

(Natal):

Status: No more than 50,000-60,000 birds are reported to winter in this country, representing a 50% decline since 1971. In South Africa, key grasslands have been lost to agricultural intensification, afforestation and intensive pasture management (Birdlife International, 2003). Winter roost-sites in South Africa are often under threat as they are usually found in towns and cities on land with potential for development (BirdLife International, 2001).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003).

SPAIN:

Status: *Falco naumanni* is reported to breed in Spain, as well as wintering in the south of the country. The country population was estimated in 1994 to be between 5,000 and 8,000 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

CMS actions: *Falco naumanni* has been the subject of three projects in Spain over the period concerned. Project LIFE99NAT/E/6341 deals with the salt lake complex of Villafáfila and aims to maintain the nesting colonies in the protected area. Project LIFE00NAT/E/7297 deals with the conservation of habitats for the nesting of *Falco naumanni* in Aragón. Project LIFE2000NAT/E/7348 on the management of the Serena site and of the neighbouring mountains (Anon., 2002).

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003).

SRI LANKA:

Status: It is a vagrant to the country known by a single record at Palatupana (Yala) in 1995 (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

Sudan:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Swaziland:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SWEDEN (v)*:

Status: Occurrence reported (Risberg, 1990).

CMS actions: None reported.

Other actions:

SWITZERLAND (br?)*:

Status: Occurrence reported (Winkler, 1999).

CMS actions: No activity planned because the species is too small (Switzerland National Report, 2002).

Other actions:

SYRIAN ARAB REPUBLIC:

Status: *Falco naumanni* is reported to breed in, as well as migrate through, this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

TAJIKISTAN:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

U.R. TANZANIA:

Status: *Falco naumanni* winters in Tanzania. Population size and trends not know although the literature shows that the species has undergone a rapid decline in its wintering grounds in Southern Africa equivalent to 10% in each ten years since 1971 (U. R. Tanzania National Report, 2002).

CMS actions: A number of wintering areas are protected in form of National Parks, Game Reserves or Conservation Areas e.g. Serengeti NP and Ngorongoro CA (U. R. Tanzania National Report, 2002).

Other actions:

TOGO:

Status:

CMS actions: None reported.

Other actions:

TUNISIA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003). It is a vulnerable species with a population of 600 individuals, (Tunisia National Report, 2002)

CMS actions: The ecology of the species has been studied in Tunisia, and there is an inventory and Action Plan for its conservation (Tunisia National Report, 2002).

Other actions:

Turkey:

Status: *Falco naumanni* is reported to breed in Turkey, as well as wintering in the south of the country. The country population was estimated in 2001 to be between 6,000 and 9,000 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 30% (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2003).

Turkmenistan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

UGANDA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

UKRAINE:

Status: *Falco naumanni* is reported to breed in the Ukraine. The country population was estimated in 1998 to be between 20 and 30 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions: A national action plan for *Falco naumanni* has been prepared in the Ukraine (BirdLife International, 2001).

United Arab Emirates:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM (v)*:

Status: Occurrence reported (BOU, 1992).

Gibraltar

Falco naumanni is reported to breed here and the population was estimated in 1999 to be between five and 10 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in Gibraltar (Birdlife International, 2003).

UZBEKISTAN:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2003). The population appears to fluctuate with the abundance of prey, and eastern breeders may be similarly affected (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

Yemen:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Zambia:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Zimbabwe:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Additional information - Western Sahara (?)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

Actions: None reported.

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: GRUIDAE

SPECIES: *Grus leucogeranus* (Pallas, 1773)

SYNONYMS: -

COMMON NAME: Siberian Crane; Siberian White Crane; Snow Crane (English); Grue blanche asiatique; Grue blanche d'Asie; Grue de Sibérie; Leucogéranne (French); Grulla blanca asiática; Grulla siberiana; Grulla siberiana blanca (Spanish)

RANGE STATES: Afghanistan; China; INDIA; Iran (Islamic Republic of); Kazakhstan; MONGOLIA; PAKISTAN; Russian Federation; Turkmenistan; UZBEKISTAN

RED LIST RATING: CR A2cde (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

The Siberian Crane has three separate populations, all of which nest in northern Russia. The relatively large eastern ("Yakutia/China") population breeds in Yakutia and winters in eastern China, the tiny central ("Ob'/India") population breeds in the Ob' valley in Western Siberia and winters in north-west India, and the tiny western ("Tyumen'/Iran") population also breeds in Western Siberia but winters in Iran (BirdLife International, 2001).

The migratory movements of this species have been studied using satellite-tracking. All three populations are counted on a regular basis on their wintering grounds. Given that two of the three populations of this species are on the brink of extinction, the propagation and re-introduction of captive birds is considered to be critical for its survival. There are now 91 birds in captivity in 11 zoos and breeding centres worldwide, and an international studbook is being maintained. Captive-raised birds are now being released in an effort to maintain the central (Ob'/India) population and releases are also planned for the western (Tyumen'/Iran) population (BirdLife International, 2001).

The global population of *Grus leucogeranus* is estimated at 2,500-3,000 individuals with a range of 107,000km^2 (BirdLife International, 2003). This species is expected to undergo an extremely rapid decline in the near future, primarily as a result of the destruction and degradation of wetlands in its passage and wintering grounds (BirdLife International, 2000).

The wintering site holding 95% of the population is threatened by hydrological changes caused by the Three Gorges Dam. The key threat is wetland loss and degradation at staging areas and wintering sites through agricultural development, the development of oilfields and increased human utilisation. Construction of the Three Gorges Dam will change the hydrological pattern of lower Yangtze river and may have a major impact on the wintering population. Increasing levels of human disturbance are also a problem, particularly at Poyang Hu. Hunting on passage, in Pakistan and Afghanistan, is the key threat to the central population (BirdLife International, 2000).

Afghanistan:

Status: Ab-i-Istada lake is an important stopover site on spring migration, and almost certainly in autumn in some years, as there is a record of three birds in December 1970; it is likely that birds from the central population migrate through the Hindu Kush mountains at Salang Kotal in Baghlan, flying over

with Common Cranes *Grus grus*; and in the 1970s local people in the Pech and Waygal valleys in Kunar knew the species, and stated that 1-3 birds occurred on passage with Common Cranes in the Chaman valley in late March (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Azerbaijan (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

China:
Status: Migrates through north-east mainland China and winters in eastern China. The species is mainly a localised passage migrant and winter visitor to eastern China, although a few non-breeding birds have been found in northern China in summer. There are migratory stopovers at Zhalong Nature Reserve in Heilongjiang, Melmeg and Xianghai Nature Reserves in Jilin, Shuangtai Hekou Nature Reserve in Liaoning, the Luan He estuary (and Beidaihe, where large numbers fly through in autumn) in Hebei, Pangzhai in Henan and Shengjin Hu lake in Anhui, and the main wintering grounds are at Poyang Hu lake (which supports c. 95% of the global population) in Jiangxi, with smaller wintering flocks at Dongting Hu lake in Hunan, and possibly at Shengjin Hu lake in Anhui and Heigangkou in Henan (BirdLife International, 2001).

The unconfirmed reports of wintering birds in Xinjiang are of particular interest, as they suggest that some birds from the extremely rare central flyway population may winter in western China. Little information is available on the status of this species in China in the past. 2,900-3,000 individuals reported to winter in China (mainly at Poyang Hu lake). An aerial census in early 1999 located only 2,004 Siberian Cranes throughout the Poyang Hu lake area, indicating that there may have been a real decline in the eastern population (BirdLife International, 2001).

Large numbers have also been recorded on migration at Lindian Reed Farm (in Zhalong Nature Reserve) in Heilongjiang, where workers reported flocks of more than 500 birds in 1978-1980, and 121-525 birds were seen annually on spring migration and 5-25 in autumn in 1981-1986. Spring counts there were of 525 birds in 1986, 746 in 1987, 806 in 1988, 761 in 1990 and 790 in 1993, but the species has very seldom been reported from Zhalong subsequently (BirdLife International, 2001).

The eastern population was relatively poorly known until the main wintering grounds were discovered at Poyang Hu lake in January 1981. The number known to winter in Poyang Hu Nature Reserve remained in the general order of 2,500 birds in the years 1988-1997 (other than in 1993, when many cranes wintered outside the reserve). However, there appears to have been a decline there since the mid-1990s: in the winter 1998/1999, only 741 birds were recorded inside the reserve, although c. 1,400 were found in other parts of the Poyang Hu system, and an aerial census in early 1999 located only 2,004 throughout the Poyang Hu area. The other wintering grounds in China are Dong Dongting Hu Nature Reserve in Hunan, which supports under 100 birds, and Shengjin Hu in Anhui, which has never held more than 20 birds (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is a Nationally Protected Species (First Class) and several ecological and behavioural studies have been completed on the wintering grounds (BirdLife International, 2001).

INDIA:

Status: It winters at Keoladeo National Park, Bharatpur, Rajasthan, north-west India and possibly elsewhere in India (BirdLife International, 2001). The Siberian Crane was formerly a widespread winter visitor to northern India, straggling east to Bihar and south to Madhya Pradesh, but it was always mainly faithful to particular wintering sites, of which the most famous were Keoladeo National Park (Bharatpur) in Rajasthan and Payagpur jheel in Uttar Pradesh. Only Keoladeo remains as a known site for the species, and even there it now only occurs intermittently; given that 9-10 birds were recorded on the presumed breeding ground of the central population in the mid-1990s, there must be an alternative wintering ground used by this population that has not yet been identified (BirdLife International, 2001).

In the nineteenth century, the Siberian Crane was regularly reported in the Gangetic Basin of northern India, and in the early twentieth century it was described as not uncommon in north-west India but always in small flocks. Since 1937 most records in India have been from Keoladeo National Park, but the numbers there declined from c. 200 birds in 1965 to 33 in winter 1980/1981, increased to 41 in 1984/1985, and then decreased again to only five in 1992/1993 and none in the following two winters. However, four birds (including one chick) returned in February 1996, indicating that the population had not yet become extinct but was wintering elsewhere. Reports of 9-10 birds in the Kunovat basin in Russia in summer 1994, on the breeding grounds of the central population, also support the theory that there must be other wintering grounds for this population, perhaps elsewhere in India or in western China (BirdLife International, 2001).

Pesticide use and pollution is a threat in India (BirdLife International, 2000). It is legally protected under India's Wildlife Protection Act of 1972 (BirdLife International, 2001).

CMS actions: None reported.

Other actions: Long-term ecological studies have been conducted at the traditional wintering grounds of the central population in Keoladeo National Park, focusing on habitat utilisation and feeding behaviour under changing ecological conditions during 1975-1977 (Sauey, 1979; 1985) and 1984-1991.

I.R. Iran:

Status: Nine individuals reported to winter in Iran (Rose and Scott, 1997). The small western population that winters near Fereidoonkenar in the south-eastern Caspian lowlands has remained stable at 9-11 birds since the mid-1980s but it is highly vulnerable (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Japan (v)*:

Status: Reported as a vagrant. This species was reported to be common on Hokkaido in the eighteenth century, and a common winter visitor to Kyushu during the Edo Era (seventeenth to nineteenth century, but it is now a rare and irregular winter visitor and spring migrant, mainly to western Japan (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Kazakhstan:

Status: It has occurred on migration in Kazakhstan, and may even have nested there in the nineteenth century, and there are recent records of one at Ovrag Karasu, north of Zhuldyz, in the steppes of northern Kazakhstan, in September 2000, with six in the same area in October 1978 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea (v)*:

Status: Occurrence reported (Yoon Moo-Boo, 1993). Recorded as a vagrant and a very rare non-breeding visitor (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

MONGOLIA:

Status: Migrates through eastern Mongolia (BirdLife International, 2001). It is a rare migrant and summer resident that has been reported to breed in and near to Mongolia in the past, but there is no evidence to support such reports. In the Mongolian Red Data Books, it is listed as Endangered and "Very Rare". It is also listed as a "Very Rare Animal" in the Mongolian Law on Hunting (1995), which means that it may be hunted or trapped only for research and with permission from the government, and it is prohibited to hunt, trap, or sell any parts for any other purposes " (BirdLife

CMS actions: International, 2001).

Other actions:

None reported.

PAKISTAN:

Status: This species is known from Pakistan by a handful of records in the late nineteenth century, and several reports by hunters, most of which are considered to be unconfirmed. Despite the paucity of confirmed records, it is likely that the small central population must overfly the Zhob district of Baluchistan and Multan area in the Punjab. There has been no record this century from Pakistan, reflecting the increasing rarity of this species over many decades. Nevertheless, the entire central population of the species probably passes through the country each autumn (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

Russian Federation:

Status: The relatively large eastern ("Yakutia/China") population breeds in Yakutia in eastern Russia, and migrates through south-eastern Russia. The Siberian Crane nests only in Russia; its range was considered to have been relatively extensive during the cool, wet period of the eighteenth and early nineteenth centuries, but it began to contract in the mid-nineteenth century when the climate became warmer and drier and suitable nesting habitats became less widespread. It now has three disjunct breeding populations, two of which nest outside the Asian region in Western Siberia. The small, declining central population breeds in the Ob' valley, where the first nests with eggs were discovered in 1981 on the lower Kunovat river, a right-bank tributary of the Ob' (BirdLife International, 2001).

On migration, the species is recorded almost throughout Yakutia, but the main migration route lies to the east of the Lena river. It occurs regularly in the Torey basin in Chita (and also extremely rarely in the Onon basin, and some immature birds sometimes summer in southern Chita) and on the Zeya-Bureya plain in Amur, but it is a rare visitor to the Lake Khanka area and elsewhere in Primorye, and there are a few records from Irkutsk, Buryatia, Khabarovsk and Sakhalin (BirdLife International, 2001).

Winter monitoring of the central and western populations has shown them to be in a critical state. The eastern population is considered to have remained stable over recent decades, but it appears to have been stronger in the mid-nineteenth century than it is at present, on passage in both Primorye and southern Chita.

Various estimates were made of this breeding and summering population in north-east Yakutia between 1960 and 1989, including 250-300 birds, 325-790, and 900-1,500 birds. However, these were all underestimates, because no allowance was made for the birds inevitably missed during aerial surveys, and a comparison of the actual population density found in a sample plot in the Indigirka delta (5.4 birds per 100km^2) with the previous estimates indicated that aerial surveys had on average underestimated crane numbers by a factor of 2.46; on the assumption that the 812 "recorded locations" (presumably this means individual birds) of Siberian Cranes represented only 40-50% of the birds actually present, it has been estimated that there are or were at least 1,620-2,030 birds in northern Yakutia (BirdLife International, 2001). It is included in the Russian Red Data Book and the Red Data Book of Yakutia (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Wintering monitoring is conducted. In Yakutia, conservation measures designed to protect *Grus leucogeranus* on the breeding grounds and during migration have been in operation for quite a long period and would appear to have eliminated the majority of factors causing unnatural mortality. Numerous ground and aerial surveys have been conducted of the eastern breeding population in Yakutia. Extensive ecological and behavioural studies have been completed on the breeding grounds. In 1997 and 1998, sites between Kunovat to Tyumen' that had been identified during satellite-tracking studies were investigated (BirdLife International, 2001).

Turkmenistan:
Status:
CMS actions: Not a Party to CMS.
Other actions:

UZBEKISTAN:
Status:
CMS actions: None reported.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: HIRUNDINIDAE

SPECIES: *Hirundo atrocaerulea* (Sundevall, 1850)

SYNONYMS: -

COMMON NAME: Blue Swallow (English); Hirondelle bleue (French)

RANGE STATES: Burundi; CONGO, DEMOCRATIC REPUBLIC OF THE; KENYA; Lesotho; Malawi; Mozambique; Rwanda; SOUTH AFRICA; Swaziland; TANZANIA, UNITED REPUBLIC OF; UGANDA; Zambia; Zimbabwe

RED LIST RATING: VU A1ce+2ce, C1+2b (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

Hirundo atrocaerulea is an intra-African migrant. In 1998, the total breeding population of *Hirundo atrocaerulea* was estimated to be around 2,000 breeding pairs, over a range of 141,000 km^2 (Birdlife International, 2003). *Hirundo atrocaerulea* is threatened by destruction and degradation of its grassland habitat on both its breeding grounds and its wintering sites. This is inferred to have led to a rapid reduction of its already small population, which is projected to continue in the future unless conservation action is taken (BirdLife International, 2000).

Burundi:

Status:

CMS actions: Not a Party to CMS.

Other actions:

D.R. CONGO:

Status: *Hirundo atrocaerulea* is reported as breeding in the south-east (and a non-breeding visitor to the north-east) of this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

KENYA:

Status: *Hirundo atrocaerulea* is reported as an uncommon non-breeding visitor (Birdlife International, 2003). Little is known about population size in Kenya. However, *Hirundo atrocaerulea* 's distribution in Kenya is well known. It is found in Western Kenya around Busia and Ruma National Park. It is recorded regularly between April and September (Kenya National Report, 2002).

CMS actions: No specific research has been done on the species but monitoring protocols have been developed for the species (Kenya National Report, 2002).

Other actions:

LESOTHO:

Status:

CMS actions: None reported.

Other actions:

MALAWI:

Status: *Hirundo atrocaerulea* is reported as a frequent to common breeding bird in this country. Malawi has the largest population by country of this species (Birdlife International, 2003). A major decline has occurred as the Zomba plateau has undergone afforestation (IUCN, 1996).

CMS actions: None reported.

Other actions:

MAURITANIA:

Status:

CMS actions: None reported.

Other actions:

MOZAMBIQUE:

Status: *Hirundo atrocaerulea* is reported as breeding in the west (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

NIGERIA (Ex?):

Status: None reported.

CMS actions:

Other actions:

RWANDA:

Status:

CMS actions: None reported.

Other actions:

SOUTH AFRICA:

Status: *Hirundo atrocaerulea* is reported as breeding in this country, but is close to extinction (Birdlife International, 2003). A major decline has occurred as parts of its range have undergone afforestation (IUCN, 1996). Blue swallows are considered the next bird species most likely to become extinct in South Africa, unless serious habitat management issues are addressed. Because of lost nesting habitat, there are only about 80 documented active blue swallow nests left in South Africa (Earthwatch Institue, 2004).

CMS actions: None reported.

Other actions: A South African working group has been formed to coordinate and encourage conservation of the species (Birdlife International, 2003). The South African Endangered Wildlife Trust–Blue Swallow Working Group has made great strides in developing research and education programs in areas where most of the active blue swallow nests have been documented. Programmes are conducted in the grasslands in Limpopo Province on nesting, habitat needs of this species and also aiming at promoting habitat conservation (Earthwatch Institue, 2004).

SWAZILAND:

Status: *Hirundo atrocaerulea* is reported as breeding in the west of this country, but is close to extinction. In Swaziland, c.5 pairs breed in Malolotja Nature Reserve (Birdlife International, 2003). High rural human density in Swaziland has rendered all its former habitat unsuitable (IUCN, 1996).

CMS actions: None reported.

Other actions:

TANZANIA:

Status: *Hirundo atrocaerulea* is reported as a frequent to common breeding bird in

the south-west of this country (Birdlife International, 2003). It breeds in south-western Tanzania i.e. Kitulo Plateau, Mbeya, Mufindi and Iringa. It occurs in north-western Tanzania in the Minziro Highlands and around Lake Victoria in the non-breeding season. The species is threatened by destruction of its grassland habitats on both its breeding ground and its wintering area. This is inferred to have led to a rapid reduction of its already small population (U.R. Tanzania National Report, 2002).

CMS actions: Research on the habitat requirement of this species in the southern Udzungwa Mountains has been conducted in 1999-2000 by the Wildlife Conservation Society of Tanzania (U.R. Tanzania National Report, 2002).

Other actions:

UGANDA:

Status: *Hirundo atrocaerulea* is reported as an uncommon non-breeding visitor to the south of this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

ZAMBIA:

Status: *Hirundo atrocaerulea* is reported as an uncommon breeding bird in the north-east of this country (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

ZIMBABWE:

Status: *Hirundo atrocaerulea* is reported as an uncommon breeding bird in this country. Around.200 pairs breed within Nyanga National Park, and less than 50 pairs breed in Chimanimani National Park. (Birdlife International, 2003). A major decline has occurred as parts of its range have undergone afforestation (IUCN, 1996).

CMS actions: None reported.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: SCOLOPACIDAE

SPECIES: *Numenius tenuirostris* (Vieillot, 1817)

SYNONYMS: -

COMMON NAME: Slender-billed Curlew (English); Courlis à bec grêle (French); Zarapito Fino (Spanish)

RANGE STATES: ALBANIA; Algeria; Armenia (?); Azerbaijan (?); Bahrain; Bosnia and Herzegovina; BULGARIA; CROATIA; CYPRUS; EGYPT; EUROPEAN COMMUNITY (Austria, FRANCE (?), GREECE, ITALY, SPAIN); GEORGIA; HUNGARY; Iran (Islamic Republic of); Iraq; ISRAEL (?); JORDAN (?); Kazakhstan; Kuwait (?); Lebanon (?); LIBYAN ARAB JAMAHIRIYA (?); MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF (?); MALTA; MOLDOVA, REPUBLIC OF (?); MOROCCO; Oman; Qatar; ROMANIA; Russian Federation; SAUDI ARABIA (?); Serbia and Montenegro; SYRIAN ARAB REPUBLIC (?); TUNISIA; Turkey; Turkmenistan; UKRAINE; United Arab Emirates; UZBEKISTAN; Yemen

RED LIST RATING: CR C2b, D (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

Numenius tenuirostris migrates through Europe to reach its wintering areas around the Mediterranean. It is certainly one of Europe's least known and rarest species of birds (Anon., 2002). It migrates west-south-west from its presumed breeding grounds in Siberia through central and eastern Europe, predominantly Russia, Kazakhstan, Ukraine, Bulgaria, Hungary, Romania and Yugoslavia to southern Europe , Greece, Italy, and Turkey, and north Africa, Algeria, Morocco and Tunisia (BirdLife International, 2003).

Regarded as very common in the 19th century, it declined dramatically during the 20th century (BirdLife International, 2003) and the slender-billed curlew is now in danger of extinction worldwide (Anon., 2002). This species has an extremely small population and the number of birds recorded annually continues to fall (IUCN, 2003). In 1994, the population was estimated at only 50-270 birds, but records suggest the global population may now be under 50 individuals (BirdLife International, 2003). Bettween 1980-1990, there were only 103 records involving 316-326 birds, and from 1990-1999, this dropped to 74 records involving 148-152 birds. Most recent records are of 1-3 birds with the exception of 19 in Italy (BirdLife International, 2003).

Habitat loss and degradation is a majot threat (IUCN, 1996) and hunting was historically high and may have been the key factor in its historical decline (BirdLife International, 2003). Despite this relative lack of knowledge, some conservation actions have been successfully undertaken (Anon., 2002).

ALBANIA:

Status: Reported as wintering (BirdLife International, 2003).

CMS actions: None reported.

Other actions:

Algeria:
Status: Reported as wintering (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:
Armenia (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:
Austria:
Status: Reported as non-breeding (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:
Azerbaijan (?):
Status: Reported as non-breeding (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:
Bahrain:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELGIUM (v)*:
Status: Occurrence reported (Herroelen, 1997).

CMS actions: None reported.
Other actions:
Bosnia and Herzegovina:
Status: Reported as non-breeding (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:
BULGARIA:
Status: Irregularly observed during migration and wintering. Minimum wintering population is one bird. Most observations have been made along the Black-Sea coastal wetlands (Bulgaria National Report, 2002).

CMS actions: None reported.
Other actions:
Canada (v)*:
Status: Occurrence reported (Godfrey, 1986).

CMS actions: Not a Party to CMS.
Other actions:
CROATIA:
Status: Reported as wintering (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

CYPRUS:
Status: Reported as non-breeding (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

CZECH REPUBLIC (v)*:

Status: Occurrence reported (Kren, 2000).

CMS actions: None reported.
Other actions:

EGYPT:

Status: Reported as non-breeding (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

FRANCE:

Status: Reported as non-breeding (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

GEORGIA:

Status:
CMS actions: None reported.
Other actions:

GERMANY (v)*:

Status: Occurrence reported (Barthel, 1993).

CMS actions: None reported.
Other actions:

GREECE:

Status: Reported as wintering and passing (BirdLife International, 2003).

CMS actions: LIFE Project 99/72588 on the conservation and management of the wetlands of Amvrakikos in Greece involves *Numenius tenuirostris*. Project LIFE00NAT/GR/7198 aimed at the conservation and management of the Drana lagoon in the Evros delta is significant as it concerns one of Europe's most important wetland areas, strategically located at the heart of an important migration route of *Numenius tenuirostris* (Anon., 2002).

Other actions:

HUNGARY:

Status: Very rare visitor during spring (March-April) and autumn (September-November). One as yet unverified record from 2001, which is being scrutinised by the Hungarian Rarities Committee (Hungary National Report, 2002).

CMS actions: None reported.
Other actions:

I.R. Iran *:

Status: Reports of birds wintering in Iran persist but require confirmation (BirdLife Intenational, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Iraq:

Status: Reported as wintering (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

ISRAEL (?):
Status: Reported as passing (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

ITALY*:
Status: A flock of 19 birds was sighted in Italy in 1995 (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

Japan (v)*:
Status: Occurrence reported (Brazil, 1991).

CMS actions: Not a Party to CMS.
Other actions:

JORDAN (?):
Status: Reported as passing (BirdLife International, 2003).

CMS actions: Future censuses are planned for this species (Jordan National Report, 2002).
Other actions:

Kazakhstan:
Status: Reported as passing (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Kuwait (?):
Status: Occurrence reported (Bundy and Warr, 1980). Reported as wintering (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

LATVIA (v)*:
Status: Occurrence reported (Celmins, 1992).
CMS actions:
Other actions: None reported.

Lebanon (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:

LIBYAN ARAB JAMAHIRIYA (?):
Status: Reported as wintering (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

F.Y.R. MACEDONIA (?):
Status: Reported as wintering (BirdLife International, 2003).
CMS actions:
Other actions: None reported.
MALTA:
Status: Reported as non-breeding (BirdLife International, 2003).
CMS actions:
Other actions: Noen reported.
MOLODOVA (?):

Status: None reported.
CMS actions:
Other actions:
MOROCCO:
Status: Reported as wintering. Flocks of over 100 birds were recorded from Morocco as late as the 1960s and 1970s (BirdLife International, 2003).

CMS actions: None reported.
Other actions:
NETHERLANDS (v)*:
Status: Occurrence reported (van den Berg, 1994).

CMS actions: None reported.
Other actions:
Oman:
Status: Reported as wintering (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:
POLAND (v)*:
Occurrence reported (Tomialojc, 1990).
Status:
None reported.
CMS actions:
Other actions:
PORTUGAL (v)*:
Status: Reported in the Azores and on the mainland (Themido, 1952).

None reported.
CMS actions:
Other actions:
Qatar:
Status:
CMS actions: Not a Party to CMS.
Other actions:
ROMANIA:
Status: Reported as passing (BirdLife International, 2003).

CMS actions: None reported.
Other actions:
Russian Federation:
Status: *Numenius tenuirostris* has only been confirmed breeding near Tara, north of Omsk in Siberia, Russia, between 1914-1924 (Anon., 2002; BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions: Research is being conducted on abundance and distribution of this species (BirdLife International, 2003).

SAUDI ARABIA (?):

Status: Reported as wintering (BirdLife International, 2003).

CMS actions: None reported.

Other actions:

Serbia and Montenegro:

Status: Not a Party to CMS.

CMS actions:

Other actions:

SLOVAKIA (v)*:

Status: Occurrence reported (Trnka *et al.*, 1995).

CMS actions: None reported.

Other actions:

SLOVENIA*:

Status: Occurrence reported (Matvejev and Vasic, 1973).

CMS actions: None reported.

Other actions:

SPAIN:

Status:

CMS actions: None reported.

Other actions:

SWITZERLAND (v)*:

Occurrence reported (Winkler, 1999).

Status:

None reported.

CMS actions:

Other actions:

SYRIAN ARAB REPUBLIC (?):

Status:

CMS actions: None reported.

Other actions:

TUNISIA:

Status: Rare and vulnerable species (Tunisia National Report, 2002). Reported as wintering (BirdLife International, 2003).

CMS actions: None reported.

Other actions:

Turkey:

Status: Reported as wintering (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Turkmenistan:

Status: Not a Party to CMS.

CMS actions:

Other actions:

UKRAINE:

Status: Reported as passing (BirdLife International, 2003).

CMS actions: CMS is funding a survey in coastal areas along the Black Sea in Ukraine, which is implemented by BirdLife International.

Other actions:

United Arab Emirates:

Status:

CMS actions: Not a Party to CMS.

Other actions:

UZBEKISTAN:

Status:

CMS actions: None reporetd.

Other actions:

Yemen:

Status: Reported as non-breeding and wintering (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: OTIDIDAE

SPECIES: *Otis tarda* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Great Bustard (English); Grande Outarde; Outarde barbue (French); Avutarda; Avutarda Común; Avutarda euroasiática (Spanish);

RANGE STATES: Afghanistan; ALBANIA; Algeria; Bosnia and Herzegovina; BULGARIA; China; CROATIA; CZECH REPUBLIC; EUROPEAN COMMUNITY (Austria, GERMANY, GREECE, ITALY, PORTUGAL, SPAIN); GEORGIA; HUNGARY; Iran (Islamic Republic of); Iraq; ISRAEL; Japan; Kazakhstan; Korea, Democratic People's Republic of; Korea, Republic of; Kyrgyzstan; Lebanon; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; MOLDOVA, REPUBLIC OF; MONGOLIA; MOROCCO; PAKISTAN; POLAND (Ex); ROMANIA; Russian Federation; Serbia and Montenegro; SLOVAKIA; SLOVENIA; SYRIAN ARAB REPUBLIC; TAJIKISTAN; TUNISIA; Turkey; Turkmenistan; UKRAINE; UZBEKISTAN

RED LIST RATING: VU A2c (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

The Great Bustard occupies a huge Palearctic range between 35° and 55° N (Anon., 2002), covering 2,353,000km^2 and stretching from Morocco and Portugal in the west to the Russian Far East and north-east China in the east. Most populations are resident or partially migratory. Formerly the birds within this long but relatively narrow belt would have been part of an effectively single, if occasionally disjointed, population, but in the past two hundred years, and in particular in the past 50 years, the disruption and destruction of steppe and grasslands have been so intense that the species survives in ever smaller and ever more isolated areas (BirdLife International, 2001).

Currently, the global population may number 31,000-37,000 individuals, with a global breeding population of maybe 1,750-3,100 individuals. The nominate species *Otis tarda tarda* breeds from the Iberian peninsula and the North of the Maghreb all the way to Central Siberia. The Iberian peninsula hosts the largest part of the population of *Otis tarda* with approximately 50% of the worldwide total. This population stands at some 14,500-15,000 individuals and is considered stable (Anon., 2002).

The Asian region supported a large population of Great Bustards until the early twentieth century. However, numbers have declined during the twentieth century, with a particularly rapid fall in the 1950s and 1960s (according to data from the wintering grounds). Currently there are about 4,200-4,500 individuals occuring in east Asia (BirdLife International, 2001).

There have been rapid declines in populations throughout eastern and central Europe and in parts of Asia (BirdLife International, 2001) and the Great Bustard is considered threatened and vulnerable worldwide. In Europe, *Otis tarda* is considered an endangered species (Anon., 2002).

In Europe, North Africa, the Middle East and Central Asia, key threats include increased human disturbance and the potential for agricultural intensification following land privatisation in eastern Europe and the former Soviet Union. Habitat loss continues as a result of ploughing of grasslands, intensive grazing, afforestation and increasing development of irrigation schemes, roads, power-lines, fencing and ditches. Mechanisation, chemical fertilisers and pesticides, fire and predation all contribute to high mortality in eggs, chicks and juveniles. Hunting is a major threat in the Ukraine (BirdLife International, 2001).

In the Asian region, hunting and habitat loss on both the breeding and wintering grounds are the main reasons for the dramatic reduction in the numbers of Great Bustard during the twentieth. A particularly rapid decline appears to have taken place in the past four decades, apparently linked to more efficient methods of hunting, the large-scale conversion of steppe to agricultural land on its breeding grounds in Russia and China, and habitat loss on the wintering grounds in China (BirdLife International, 2001).

Afghanistan:

Status: It was at least historically a regular winter visitor to the Danaghori plains of northern Afghanistan (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status:

CMS actions: None reported.

Other actions:

Algeria:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Austria:

Status: Only 50-60 individuals have been reported and the population is declining (Anon., 2002). The Austrian population numbers 27-30 individuals recently (Czech Republic National Report, 2002). Breeding populations currently remain here (BirdLife International, 2001). There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions: Legally protected (BirdLife International, 2001).

Azerbaijan*:

Status: Occurrence reported (Flint *et al.*, 1984).

CMS actions:

Other actions: Not a Party to CMS.

BELGIUM (v)*:

Status: Reported as non-breeding and passing (Herroelen, 1997; BirdLife International, 2003).

CMS actions: None reported.

Other actions:

Bosnia and Herzegovina:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: Former breeding species. Currently found as irregular wintering species. There are single observations from the Dobrudja plain in NE Bulgaria (Bulgaria National Report, 2002). Breeding populations currently remain here (BirdLife International, 2001). Ten-15 breeding individuals reported in 1992-3 (BirdLife International, 2003).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001).

China:

Status: Mainland China is now the main wintering grounds. The Great Bustard breeds in Heilongjiang, Jilin, Inner Mongolia and Xinjiang, and it bred once in Hebei in the 1960s, buts its breeding range is now much reduced and fragmented. It occurs on passage and in winter in many other provinces in eastern China, and important wintering sites have been located in Shandong, Henan, Anhui, Jiangsu and Jiangxi provinces (BirdLife International, 2001).

Its breeding population was estimated at 250-300 in China. The wintering population of *O. t.* was recently estimated at 2,000-3,000 in Xinjiang, although this may be an overestimate. Its numbers on the wintering grounds in China have declined during the 1990s, and it is feared that this will continue unless urgent conservation measures are taken (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is a nationally protected species (first class) in mainland China (BirdLife International, 2001).

CROATIA:

Status: Reported as wintering (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

CYPRUS (v)*:

Status: Occurrence reported (Flint and Stewart, 1991).

CMS actions: None reported.

Other actions:

CZECH REPUBLIC:

Status: There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2003) and the population is now considered nearly extinct. It is thought to winter irregularly (0-3 individuals in 2001-2002). Future existence of the Czech population will depend on vitality of the neighbouring population in Austria, numbering 27-30 individuals recently (Czech Republic National Report, 2002).

CMS actions: This species is legally protected (BirdLife International, 2001). In 2001 a temporarily protected area was established at the former breeding site in southern Moravia, near the Czech-Austrian border, for the next ten years. A management plan for the site has been prepared, and financial sources are sought to fulfil its recommendations. The site is regularly controlled in both breeding and winter seasons. Informal co-operation with Austrian ornithologists aimed at protection of the species has been started () (Czech Republic National Report, 2002).

Other actions:

DENMARK (ex, br)*:

Status: Occurrence reported (Dybbro, 1978).

CMS actions: None reported.

Other actions:

EGYPT (v)*:

Status: Occurrence reported (Goodman and Meininger, 1989)

CMS actions: None reported.

Other actions:

Finland (v)*:

Status: Occurrence reported (Solonen, 1985).

CMS actions: Not a Party to CMS.

Other actions:

FRANCE (ex, br)*:

Status: Occurrence reported (Cruon *et al.*, 1992)

CMS actions: None reported.

Other actions:

GEORGIA:

Status: Reported as wintering (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

GERMANY:

Status: The population numbers 130 individuals and is declining (Anon., 2002). In 1999, 61-69 breeding individuals were reported (BirdLife International, 2003). There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001).

Gibraltar (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

GREECE:

Status: Reported as non-breeding (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

HUNGARY:

Status: About 1,000-1,300 individuals breed in Hungary (BirdLife International, 2001, Anon., 2002). The largest flocks are found in the Kiskunság (c. 400 individuals), Dévaványa (c. 380) and the Hortobágy (c. 110.). There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2003) but the population seems now stable or very slightly increasing, though many factors threaten the survival of the species. The number of native predators (crows, magpies, martens, stone martens and foxes) is extremely high (Hungary National Report, 2002).

CMS actions: Continuous research has been going on for many years to improve the success

of nestling repatriation. A synchronised census is organised twice a year by all national park directorates. Predator control, collecting eggs of abandoned nests and repatriating artificially raised nestlings is occurring. Rutting grounds are protected, nests are protected by buffer-zones in agricultural lands, and there is temporal and spatial limitation of reaping. Natura 2000 sites will be designated for the protection of the Bustard habitats (Hungary National Report, 2002).

Other actions: Legally protected (BirdLife International, 2001).

I.R. Iran:

Status: Reported as resident, breeding, non-breeding, wintering and passing (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status: Reported as resident (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

IRELAND (v)*:

Status: Occurrence reported (Hutchinson, 1989).

CMS actions: None reported.

Other actions:

ISRAEL:

Status: Reported as wintering (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

ITALY:

Status: Up to ten individuals were reported as wintering (BirdLife International, 2003).

CMS actions: None reported.

Other actions:

Japan:

Status: Winters in very small numbers (BirdLife International, 2001). The Great Bustard has always been a rare winter visitor to Japan, and prior to 1975 there had only been 15 records, mostly of solitary birds (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The hunting of the species in Japan is prohibited under an ordinance of 1918, and it is listed in a bilateral agreement between Japan and Russia (made in 1973) on the conservation of migratory birds (BirdLife International, 2001).

JORDAN (?)*:

Status: Occurrence reported (Andrews, *et al.*, 1999).

CMS actions: None reported.

Other actions:

Kazakhstan:

Status: Breeding populations currently remain here. There have been particularly large declines in population sizes (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

D.R. Korea:

Status: The Great Bustard was formerly a common winter visitor, in flocks of up to 100 birds, but is now rare (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status: The species used to be a common winter visitor around Seoul, but rare further south, but it has become increasingly scarce everywhere, with only a handful of recent records (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Kyrgyzstan:

Status: Breeding populations currently remain here (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA (v)*:

Status: Occurrence reported (Celmins, 1992).

CMS actions: None reported.

Other actions:

Lebanon:

Status: Occurrence reported (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

LUXEMBOURG (v)*:

Status: Occurrence reported (Conzemius, 1995).

CMS actions: None reported.

Other actions:

F.Y.R. Macedonia:

Status: Reported as wintering (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

REPUBLIC OF MOLDOVA:

Status: Very rare straying species (Republic of Moldova National Report, 2002). Breeding populations currently remain here (BirdLife International, 2001) with two to three breeding pairs reported in 1988 (BirdLife International, 2003). There has been an estimated 50% or greater decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: Numbers are being studied as is the spreading of the species and possible ways of restoration (Republic of Moldova National Report, 2002).

Other actions:

MONGOLIA:

Status: It breeds in the steppes, and winters in very small numbers on the breeding grounds (BirdLife International, 2001). The Great Bustard is widely distributed in Mongolia, in Arkhangai, Bulgan, Dornod, Dzavkhan, Gov'-Altai, Khentii, Khövsgöl, Khovd, Ömnögov', Övörkhangai, Selenge, Töv and Uvs provinces; its main range encompasses the forest steppes of northern and central Mongolia, and the steppes and desert steppes of western, central and eastern Mongolia, but it penetrates even into the desert zone (northern Gobi) of southern Mongolia (BirdLife International, 2001).

The subspecies generally occurring in Mongolia is *Otis tarda dybowskii*, but *O. t. tarda* probably occurs in extreme western Mongolia (BirdLife International, 2001). Particularly large declines in population sizes here (BirdLife International, 2001). Its breeding population was estimated at 700-2,000 individuals. It is listed as "Rare" in the Mongolian Law on Hunting (1995) (BirdLife International, 2001)

CMS actions: None reported.

Other actions: Hunting and trapping of the species has been prohibited since 1980 although it is permitted for "special purposes" (BirdLife International, 2001).

MOROCCO:

Status: Breeding populations currently remain here (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

Myanmar (v)*:

Status: Occurrence reported (Smythies, 1986). There is a single record: Fort Hertz, Myitkyina, 370m, two, one of which (a young female) was collected, December 1933 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS (v)*:

Status: Occurrence reported (van den Berg, 1994).

CMS actions: None reported.

Other actions:

PAKISTAN:

Status: Reported as wintering. Was always very rare and is possibly now extinct (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

POLAND (Ex):

Status: Migrating population only. Rarely (irregularly) migrating species (Poland National Report, 2002).

CMS actions: Preparing to sign the Memorandum of Understanding on the Conservation and Management of the Middle-European population of the Great Bustard in the near future (Poland National Report, 2002).

Other actions:

PORTUGAL:

Status: Stable breeding population of 1,000 individuals (Anon., 2002). Breeding populations currently remain here (BirdLife International, 2001). There has

been an estimated 50% or greater decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001).

ROMANIA:

Status: Ten to 15 breeding individuals and 20-30 wintering individuals reported in 1992-3. There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: None reported.

Other actions: Females are legally protected (BirdLife International, 2001).

Russian Federation:

Status: *Otis tarda* breeds in the steppes of eastern Russia, and winters in very small numbers on the breeding grounds (BirdLife International, 2001). In Eastern Russia, the Great Bustard was a locally common breeding species in the steppes and forest-steppes of Krasnoyarsk, Khakassia, Tuva, Buryatia, Chita, Amur and Primorye, but has declined dramatically during the twentieth century. It is now known to breed in only a handful of areas, where it is generally uncommon or rare (BirdLife International, 2001).

Most of the eastern Russian population migrates to China, but a few birds have been recorded in winter, and there are many records of birds on migration (BirdLife International, 2001). Eastern Russia alone is estimated to have held more than 50,000 individuals prior to the 1940s. In 1999, 7,200 breeding individuals were reported (BirdLife Inetrnational, 2003). Included in the Russian Red Data Book (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Legally protected and its hunting is banned throughout the country (BirdLife International, 2001).

SAUDI ARABIA (v)*:

Status: Occurrence reported (Jennings, 1981).

CMS actions: BirdLife International, 2001

Other actions:

Serbia and Montenegro:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA:

Status: Currently the population of the Great Bustard in Slovakia is represented by ten nesting hens. The wintering population comprises individuals breeding in Hungary and Austria too, of which about 100 visit Slovak territories. The population in Slovakia is at the critical limit of extinction and it requires supernormal conservation measures (Slovakia National Report, 2002). There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: Research is being carried out, focused on human impact, influence of agricultural activities. Regular monitoring occurs within the species range in

Slovakia. Protection against disturbance on nesting habitats, guidance on hunting and elimination of improper predators on nesting sites is carried out. Establishment of the conservation regime to prevent the disturbance on key sites of the species occurrence. Conservation and management of the nesting places in accordance to National Recovery Plan for the Great Bustard, Action Plan for the Implementation of the National Biodiversity Strategy, requirements of international treaties etc (Slovakia National Report, 2002).

Other actions: Legally protected (BirdLife International, 2001).

SLOVENIA:

Status:

CMS actions: None reported.

Other actions:

SPAIN:

Status: There were 17,000-19,000 breeding birds reported in 1993-4 (BirdLife International, 2003). Currently, the population is stable and numbers 13,500 – 14,000 individuals (Anon., 2002). There has been an estimated 50% or greater decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001).

SWEDEN (ex, br)*:

Status: Occurrence reported (Risberg, 1990).

CMS actions: None reported.

Other actions:

SWITZERLAND (ex, br)*:

Status: Occurrence reported (Winkler, 1999).

CMS actions: None reported.

Other actions:

SYRIAN ARAB REPUBLIC:

Status: Reported as non-breeding and wintering (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

TAJIKISTAN:

Status: Breeding populations currently remain here (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

TUNISIA:

Status:

CMS actions: None reported.

Other actions:

Turkey:

Status: There were 800-3,000 breeding birds reported in 1996 and 1,500 to 3,000 reported in 2001. There has been an estimated 21-30% decline in the breeding population between 1970 and 2000 (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Turkmenistan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

UKRAINE:

Status: Breeding populations currently remain here (BirdLife International, 2001) with 130-170 breeding individuals reported in 1998 (BirdLife International, 2003). But 8,000-10,000 birds occur on passage or in winter in Ukraine (BirdLife International, 2001). There has been an estimated 50% or greater decline in the breeding population between 1970 and 1990 (BirdLife International, 2003).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001).

UNITED KINGDOM (ex)*:

Status: Occurrence reported (BOU, 1992).

CMS actions: None reported.

Other actions:

UZBEKISTAN:

Status: Reported as resident (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Oxyura leucocephala* (Scopoli, 1769)

SYNONYMS: -

COMMON NAME: White-headed Duck (English); Érismature à tête blanche (French); Malvasía; Malvasía Cabeciblanca (Spanish)

RANGE STATES: Afghanistan; ALBANIA; Algeria; Armenia; Azerbaijan; Bahrain; BULGARIA; CYPRUS; EGYPT; EUROPEAN COMMUNITY (FRANCE, GREECE, ITALY, PORTUGAL, SPAIN); GEORGIA; HUNGARY; Iran (Islamic Republic of); Iraq; ISRAEL; JORDAN; Kazakhstan; Kuwait; Kyrgyzstan; Lebanon; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; MOLDOVA, REPUBLIC OF; MONGOLIA; MOROCCO; PAKISTAN; Qatar; ROMANIA; Russian Federation; SAUDI ARABIA; SYRIAN ARAB REPUBLIC; TAJIKISTAN; TUNISIA; Turkey; Turkmenistan; UKRAINE; UZBEKISTAN

RED LIST RATING: EN A1acde (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

Globally, the population is estimated at 2,500-10,000 individuals, with a range of 66,0000km^2. It occurs on passage/in winter in the eastern Mediterranean, the Middle East, central Asia and the Indian subcontinent. The present distribution of the White-headed Duck is fragmented, with a small resident population in the west Mediterranean (Spain, Tunisia, Algeria) and a larger, mainly migratory population in the east Mediterranean and Asia (Green and Anstey, 1992). The majority of the birds in this latter population breed outside the western Palearctic in Kazakhstan and the Russian Federation and winter inside the western Palearctic in Turkey. Western Asia, which probably holds the majority of the remaining world population of the White-headed Duck during the breeding season, including most of the birds wintering in Turkey and other parts of the eastern Mediterranean (Green and Hughes, 1996).

There are now at least two subpopulations, one being centred around the western Mediterranean and the other centred around the eastern Mediterranean and the coasts of the Black Sea and Caspian. The nature of movements within each of these regions is very poorly understood, with a total lack of ringing data, and it is possible that there are more than two subpopulations isolated from each other by a lack of interchange (Green and Hughes, 1996).

The population was probably over 100,000 in the early 20th century, falling to an estimated 19,000 birds in 1991. Since then, numbers have probably declined to less than 10,000 individuals (BirdLife International, 2003). 50,000 birds wintered in the Caspian Sea in the 1930s, but since the 1960s no more than 1,000 individuals have been reported (IUCN, 1996). In the East Mediterranean, Turkey and South-west Asia regions, the population was estimate at 5,000 to 10,000 and decreasing in 2002 (UNEP-WCMC, 2004). The west Mediterranean winter population can be estimated at 1,000 with a 1992 count of 836. The wintering population in countries bordering the eastern Mediterranean and Black Sea can be estimated at 13,000 with a 1991 count of 11,507. The wintering population in countries further east can be conservatively estimated at 5,000, with a 1991 count of 3,904, 3,620 of these being found within the western Palearctic (Azerbaijan) (Green and Hughes, 1996).

Mid-winter counts indicate that the population of this species has undergone a very rapid decline of c.60% in the last ten years. Given increases in the Spanish subpopulation, it is projected that the overall rate of decline will be lower in the next ten years (BirdLife International, 2000). However, increases at certain wintering sites and in the Spanish population do not compensate for the large declines at Burdur Gand (Turkey) and in other eastern populations (BirdLife International, 2003). Numbers appear to be roughly stable in most countries, but many key sites are not effectively protected, and the threats to them have the potential to cause rapid population declines in the near future (Green and Hughes, 1996).

The main threat to the survival of the species seems to be the fact that a related introduced species, *Oxyura jamaicensis*, originating in America and able to hybridize with *Oxyura leucocephala*, is making headway. Hybridization with *O. jamaicensis* may become irreversible within the next few years (IUCN, 1996). Other major threats include habitat loss and degradation, water pollution and hunting (IUCN, 2003). The species is incredibly easy to shoot, making hunting a much more significant threat than for most waterbirds (Green and Hughes, 1996). The conservation of the White-headed Duck in Europe also requires the effective conservation of wetlands of importance for the species, together with the effective control of hunting on these wetlands (Green and Hughes, 1996).

In Europe, the white-headed duck is classified as an endangered species (Anon., 2002). In 1994, a workshop, organised by the Wildfowl and Wetlands Trust and IWRB, took place at Strasbourg (France) to discuss the action plan for the White-headed Duck in Europe. Information on the number of Ruddy Duck records comes largely from a database managed by the Wildfowl and Wetlands Trust, and from Martí (1993) (Green and Hughes, 1996).In 2002, a status overview of the Central Asian population, with recommendations, was conducted by Wetlands International – Asia Pacific, funded by CMS.

Afghanistan:

Status: A large population breeds here (BirdLife International, 2003). The population in Algeria and Tunisia was estimated at 400-600 individuals and was considered stable in 2002 (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status: This species became extinct as a breeding bird this century, although still dispersing on passage and in winter (IUCN, 1996).

CMS actions: None reported.

Other actions:

Algeria:

Status: Algeria has a resident population of White-headed Duck in the El Kala wetland complex in the north-east, which is also thought to have been the main area for the species in the last century. However, the species probably also bred in Lac Fetzara (Annaba region) and Lac Holloula (Alger region) before these sites were transformed in the 1930s. The White-headed Duck is currently breeding in Lac Tonga, Lac des Oiseaux and Lac de Ben Azzouz, and c.37 nests were located in 1991. Breeding probably also occurs in Marais de la Mekhad. Non-breeders and wintering birds occur on Lac des Oiseaux and Lac Oubeira. The highest count ever recorded was 220 on Lac Oubeira in January 1984 with 209 on Lac des Oiseaux in March 1992. There are at least 40 breeding females (Green and Hughes, 1996). Key sites are Lac des Oiseaux (unprotected), Lac Tonga (National Park and Ramsar site), Lac Oubeira (National Park and Ramsar site) and Lac Ben Azzouz (unprotected) (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Green and Hughes, 1996).

Armenia:

Status: Breeding was formerly recorded in the Lake Sevan area but there are no recent records. Former breeding populations have probably become extinct (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions:

AUSTRIA (v)*:

Status: Occurrence reported (Rokitansky, 1964).

CMS actions: None reported.

Other actions:

Azerbaijan:

Status: Became extinct as a breeding bird this century, although still dispersing on passage and in winter (IUCN, 1996). Breeding may have occurred in lakes of the southern Mugan and Kura valley until the early part of this century, but there is no evidence of breeding in recent years. In winter, Azerbaijan is of major importance for the species, at least in some years, and in 1991 over 3,100 birds were counted in Lake Aggel and 520 in Kizil Agach Bays (IWRB's International Waterfowl Census, IWC). Lake Aggel thus seems to be the second most important wintering site globally for the species, although there is no mention of the species from previous censuses at the site in the 1960s. There is however an unconfirmed record of 5,000 birds in Kizil Agach Bays in 1962. Key sites are Lake Aggel (State Reserve), Kizil Agach Bays (State Reserve and Ramsar site) and Lake Saraesy (unprotected). The species is listed in the Red Data Book of Azerbaijan published in 1990 (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species but the IWRB has conducted censuses (Green and Hughes, 1996).

Bahrain:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BELGIUM (v)*:

Status: Occurrence reported (Herroelen, 1997).

CMS actions: None reported.

Other actions:

Bosnia and Herzegovina (v)*:

Status: Occurrence reported (Matvejev and Vasic. 1973).

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: This species is predominantly migratory and wintering. The main wintering ground is found in the Burgas wetlands complex. Numbers have been established

at between 175 and 2260 (March 2000) and the population is increasing (Bulgaria National Report, 2002; BirdLife International, 2003). From the 1890s to the 1940s the White-headed Duck was recorded wintering or on passage in the west of Bulgaria (around Sofia) and along the Black Sea coast.

Important numbers continue to winter along the Black Sea coast with record counts of 214 at Lake Durankulak in January 1983 and 233 birds on 29–30 November 1993 (188 at Lake Mandra complex and 45 at Lake Burgas). The birds arrive in November and are sometimes recorded until the end of March. Key sites are Lake Mandra, especially the Uzungeren zone (unprotected), Poda (Protected Site), Lake Burgas (partly protected) and Lake Durankulak (Natural Monument and Ramsar site). It is listed as Rare in the national Red Data Book (Green and Hughes, 1996).

CMS actions: Feeding ecology and habitat requirements were studied in the context of a common project between Bulgaria, Greece, Turkey and Romanian in 2001-2002, organised by BSPB and the Bulgarian-Swiss Biodiversity Conservation Programme (Bulgaria National Report, 2002). Numbers are regularly monitored and the most important wintering site is partially protected. Disturbance by net-fishing is studied and a National Species Action Plan (NSAP) was prepared in line with CBD and Council of Europe requirements (Bulgaria National Report, 2002).

Other actions: The species is included in a poster on globally threatened waterbirds produced by the Bulgarian Society for the Protection of Birds, but no other specific conservation programmes have yet been conducted for the species (Green and Hughes, 1996).

China*:

Status: Occurrence reported (Cherg Tso-hsin, 1994). Its status in China is unclear (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

CROATIA (v)*:

Status: Occurrence reported (Kraij, 1997).

CMS actions: None reported.

Other actions:

CYPRUS:

Status:

CMS actions: None reported.

Other actions:

CZECH REPUBLIC*:

Status: Occurrence reported (Kren, 2000).

CMS actions: None reported.

Other actions:

DENMARK (v?)*:

Status: Occurrence reported (Dybbro, 1978).

CMS actions: None reported.

Other actions:

EGYPT:

Status:

CMS actions: None reported.

Other actions:

FRANCE:

Status: Became extinct as a breeding bird this century (in Corsica only) although still dispersing on passage and in winter (IUCN, 1996). Small numbers of White-headed Ducks were recorded breeding on Lake Biguglia and other Corsican wetlands until the 1960s. Recent proposals for a reintroduction project in Corsica have been postponed. There are a total of 85 Ruddy Duck records, mainly during the winter, plus two breeding records from 1988 and 1993. Breeding probably now takes place annually in small numbers (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: An informal working group made up of the Ministry of the Environment, the Office National de la Chasse (ONC) and various NGOs was established in December 1994 to address the Ruddy Duck problem. No control measures against Ruddy Ducks have yet been implemented. A ministerial decree needs to be issued before control measures are legal (Green and Hughes, 1996).

GEORGIA:

Status:

CMS actions: None reported.

Other actions:

GREECE:

Status: Increases at wintering sites (BirdLife International, 2003). In the last century, the White-headed Duck was reported to be common in Epirus and resident in the Louros delta, Amvrakikos, although no nest has ever been found. Breeding may have occurred in Greece in the 1950s, but this is open to question. In recent years, a significant wintering population has developed in Macedonia and Thrace, with a peak mid-winter count of 423 in January 1990 (G. Handrinos and IWRB International Waterfowl Census). A record count of 850–900 was made at Lake Vistonis on 12 December 1994. All records since 1960 are for December to early April, although the birds probably start to arrive in November. Since 1982, there has been the trend for wintering numbers to increase, to spread to the west and to become more concentrated in Lake Vistonis. It is not known whether these birds come from the north (through Bulgaria) or from Turkey, and the shooting of a female in December 1991 on Lesbos supports the latter possibility (Green and Hughes, 1996).

Key sites are Lake Vistonis (Ramsar site and SPA), Lake Ismaris/Mitrokou (Ramsar site and SPA) and Lake Kerkini (Ramsar site and SPA). Hunting is permanently banned at Kerkini, but is permitted at Vistonis and Ismaris. There are significant threats to the habitat at all three sites. The White-headed Duck is listed as Endangered in the national Red Data Book (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: No specific conservation programmes have yet been conducted for the species but IWRB has conduceted censuses (Green and Hughes, 1996).

HUNGARY:

Status: An irregular vagrant to fishponds in spring and autumn, occasionally during winter. Records are slightly more numerous than in previous years, partly due to better coverage of areas by bird watchers (Hungary National Report, 2002). It became extinct as a breeding bird this century although still dispersing on passage and in winter (IUCN, 1996). Breeding of the White-headed Duck was recorded in Hungary from 1853 onwards around the northern Danube and between the Danube and the Tisza. The last confirmed breeding was at Lake Kondor in 1961 although breeding may have occurred at Lake Nádas in 1971. The species is now considered extinct as a breeding bird in the country, although there are records for 1995 of

vagrants. It is listed in the Hungarian Red Data Book (Green and Hughes, 1996).

CMS actions: Regular waterbird censuses are carried out (Hungary National Report, 2002). Most of the potential habitats for the species lie in protected areas (Hungary National Report, 2002).

Other actions: A reintroduction of the White-headed Duck in Hungary was conducted in 1988 by the Hungarian Ornithological Society and the Wildfowl and Wetlands Trust, but this failed to establish a population in the wild (Green and Hughes, 1996).

INDIA*:

Status: Occurrence reported (Ripley, 1982).

CMS actions: None reported.

Other actions:

Iran:

Status: A large population breeds here (BirdLife International, 2003). The peak winter count between 1984 and 1994 was 628 individuals (1988). There are at least 100 breeding females (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ISRAEL:

Status: It became extinct as a breeding bird this century, although still dispersing on passage and in winter (IUCN, 1996).Wintering individuals that are counted during the winter waterfowl census range between a few tens to about 300 individuals (Israel National Report, 2002). The peak winter count between 1984 and 1994 was 620 individuals (1988) (Green and Hughes, 1996).

In the last century the White-headed Duck was considered a common resident on Lakes Tiberias and Hula, but breeding has not been recorded for at least 50 years. A wintering population has remained, and the known wintering population increased markedly following the creation of a reservoir, Tishlovet Hakishon, in 1984. Numbers have increased steadily each winter, from 70 in 1986 to 514 in 1994. It is likely these increasing numbers reflect a relocation of birds from other wintering sites in the Middle East. The breeding grounds of these birds are unknown, but could be eastern Turkey (Green and Hughes, 1996).

Key sites are Tishlovet Hakishon, Ma'ale Kishon reservoir, Yesodot reservoir and Hula valley (including Hula Reserve), and data from IWRB International Waterfowl Census supplied on a regional level show there are important numbers wintering in the wetlands of the valley of Yesreel, northern Negev, Jordan valley, foothills of Judea and the Galilee coastal plain (Green and Hughes, 1996).

CMS actions: None reported but winter waterfowl censuses are mentioned in the Israel National Report (2002).

Other actions: No specific conservation programmes have yet been conducted for the species in Israel (Green and Hughes, 1996).

ITALY:

Status: It became extinct as a breeding bird this century in Italy (including Sardinia and probably Sicily), although still dispersing on passage and in winter (IUCN, 1996). Breeding and wintering of White-headed Ducks was formerly recorded in Puglia,

Sardinia and probably Sicily until 1977, but the species is now only a vagrant. It is listed as Endangered in the national Red Data Book (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: There are currently two plans to develop reintroduction projects, coordinated separately by WWF Italy and Lega Italiana Protezione Uccelli (Green and Hughes, 1996).

JORDAN:

Status: This species is vagrant (Jordan National Report, 2002).

CMS actions: None reported.

Other actions:

Kazakhstan:

Status: Important passage concentrations occur. A large population breeds primarily in Kazakhstan (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Kyrgyzstan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Lebanon:

Status:

CMS actions: Not a Party to CMS.

Other actions:

LIBYAN ARAB JAMAHIRIYA (v)*:

Status: Occurrence reported (Bundy, 1976).

CMS actions: None reported.

Other actions:

F.Y.R. MACEDONIA:

Status:

CMS actions: None reported.

Other actions:

MALTA (v)*:

Status:

CMS actions: None reported.

Other actions:

REPUBLIC OF MOLDOVA:

Status:

CMS actions: None reported.

Other actions:

MONGOLIA:

Status: A larger population breeds in Mongolia (BirdLife International, 2003). Current status is unclear (IUCN, 1996).

CMS actions: None reported.

Other actions:

MOROCCO:

Status: It became extinct as a breeding bird this century although still dispersing on passage and in winter (IUCN, 1996). In the Western Mediterrannean (Spain and Morocco), the population was estimated at 2,500 individuals and increasing in 2002 (UNEP-WCMC, 2004). The White-headed Duck bred in northern Morocco at the turn of the century and was regarded as "common". Only vagrant birds have been recorded since the 1950s. There is no evidence that birds from the currently expanding Spanish population have dispersed to Morocco (Green and Hughes, 1996).

CMS actions: None reported.

Other actions:

NETHERLANDS (v)*:

Status: Occurrence reported (van den Berg, 1994).

CMS actions: None reported.

Other actions:

PAKISTAN:

Status:

CMS actions: None reported.

Other actions:

POLAND (v)*:

Status: Occurrence reported (Tomialojc, 1990).

CMS actions: None reported.

Other actions:

PORTUGAL:

Status:

CMS actions: None reported.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ROMANIA:

Status: Breeds here irregularly (IUCN, 1996). Increases at wintering sites (BirdLife International, 2003). The peak winter count between 1984 and 1994 was 18 individuals (1990) although this is mainly important as a staging area. There are occasional records of breeding females (Green and Hughes, 1996). The White-headed Duck formerly bred in the lakes of Transylvania, with the last record of breeding from Sculia in 1908. Breeding was recorded in the Danube Delta, Dobrodja, in May 1986, when eight adults and three young were seen on channels between Crisan and Maliuc. It is possible that breeding occurs regularly, although the last previous breeding record in the Danube delta was from Lake Agigea in 1957 (Green and Hughes, 1996).

Lake Techirghiol and the Danube delta have been used as wintering sites since at least the 1960s with up to 37 birds in midwinter (1969), Lake Techirghiol being the major site. These sites are also important for passage, with autumn passage beginning about 10 October and probably ending about the end of November, and spring passage occurring in March. The highest numbers recorded are 218 on Lake Techirghiol in November 1982, with 75 seen on 25 November 1993. Key sites are the Danube delta (Ramsar site, Biosphere Reserve, World Heritage site) and Lake Techirghiol (unprotected) (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: No specific conservation programmes have yet been conducted for the species but winter counts occur (Green and Hughes, 1996).

Russian Federation:

Status: A large population breeds primarily here (BirdLife International, 2003). There are at least 50 breeding females. Formerly a common breeder in the Sarpa lowlands between Volgograd and the Caspian and in the Volga/Ural steppes. The species has also been recorded historically in the northern Caucasus and along the western coast of the Caspian. In 1992, breeding occurred in one to three sites alongside the Volga and Uzen rivers in the Volga delta area, when 40–70 adults and three broods were recorded. The Manych–Gudilo reservoirs are major spring and autumn migration sites for the species, probably for birds wintering in Turkey. In October 1980, 1,200 birds were counted at these lakes (Green and Hughes, 1996).

Key sites identified so far are Manych–Gudilo reservoirs and the Volga delta. Specific sites within these large wetland complexes and their precise legal status have yet to be identified. It is listed as Category IV: Rare in the Russian Federation Red Data Book (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have yet been conducted for the species.

SAUDI ARABIA:

Status:

CMS actions: None reported.

Other actions:

Serbia and Montenegro (ex)*:

Status: Occurrence reported (Matvejev and Vasic, 1973) but it became extinct as a breeding bird this century although still dispersing on passage and in winter (IUCN, 1996).

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA (v)*:

Status: Occurrence reported (Trnka *et al.*, 1995).

CMS actions: None reported.

Other actions:

SLOVENIA (v)*:

Status: Occurrence reported (Matvejev and Vasic, 1973).

CMS actions: None reported.

Other actions:

SPAIN:

Status: *Oxyura leucocephala* is resident in Spain (BirdLife International, 2003) and there has been an increase in population (22 birds in 1977 to 2,396 birds in 2000) (BirdLife International, 2000). In the Western Mediterrannean (Spain and Morocco), the population was estimated at 2,500 individuals and increasing in 2002 (UNEP-WCMC, 2004). The peak winter count between 1984 and 1994 was 786 individuals (1992). There are 100-200 breeding females (Green and Hughes, 1996).

Spain holds a secure, resident population of White-headed Ducks which has recovered from a low point of only 22 birds recorded in 1977 to 786 birds in

January 1992. The majority of the population has always been found in Andalucía. However, the increase in numbers has been accompanied by an expansion in distribution both within and beyond the former strongholds of lagoons in the Córdoba, Cadiz, Sevilla and Huelva provinces of Andalucía, and nowadays the species can also be found in the provinces of Almería, Ciudad Real, Toledo, Madrid, Alicante and Mallorca (Green and Hughes, 1996).

Since 1984, breeding has been recorded in Málaga and for the first time in Almería and Jaén provinces. Breeding has also been recorded outside Andalucía in Alicante province (Valencia) and Toledo and Ciudad Real provinces (Castilla-La Mancha). Since 1992, the majority of breeding birds have been in Almería, mainly due to the severe drought which has affected most of the traditional breeding sites in western Andalucía. Since 1984, birds have also been recorded in Cuenca (Castilla-La Mancha), Madrid and Santander (Cantabria) (Green and Hughes, 1996).

It is listed as Endangered in the Spanish Red Data Book. The White-headed Duck is also listed as Endangered in the National Catalogue of Threatened Species (Royal Decree 439/90) and hence it is compulsory to prepare regional Recovery Plans under Law 4/89 (Green and Hughes, 1996).

CMS actions:

Oxyura leucocephala is the subject of a LIFE project aimed at drawing up a conservation plan in the Spanish region of Valencia (Anon., 2002).

Other actions:

Concern over marked declines of the species led to the production of a national conservation plan in the late 1980s. A highly effective conservation programme initiated in Andalucía in 1979 has led to the dramatic population recovery. This programme involved the protection of all the major Andalusian sites for White-headed Ducks. In the early 1980s, ICONA (now DGN) initiated a working management plan. Since 1992, DGN has led a series of technical coordination seminars in which all Communities where White-headed Ducks are recorded have participated. No Communities have satisfied their legal requirement by developing their own Recovery Plans (Green and Hughes, 1996).

Effective protection from illegal hunting in Andalucía has undoubtedly played the most important role in the population recovery. Other habitat protection measures taken include the removal of introduced fish (from Laguna del Rincón and Laguna de Zoñar, Córdoba), the control of pollution and sedimentation, and the regeneration of the natural surrounding vegetation. The species has recently become established in Valencia and Castilla-La Mancha. The principal site in Valencia, El Hondo, was declared a Paraje Natural in 1988 (Green and Hughes, 1996).

Of five sites important for the species in Castilla-La Mancha, only one is protected, as a hunting refuge. However, over 75% of the Spanish population occurs in protected areas at any one time. Since 1982 there has been a captive breeding programme for the White-headed Duck run by DGN, with 79 birds being released into the wild by the end of 1990 and at least 85 additional birds released since then. In 1993, an additional 36 birds were released in Mallorca with eight birds still present in the area after nine months (Green and Hughes, 1996).

SWITZERLAND (v)*:

Status: Occurrence reported (Winkler, 1999).

CMS actions: Non reported.

Other actions:

SYRIAN ARAB REPUBLIC:

Status: The peak winter count between 1984 and 1994 was 35 individuals (1994). There is one June record of White-headed Duck from 1994. There appears to be a regular wintering population, and at Lake Quattine 30 were recorded in 1993 and 35 in 1994 (IWRB International Waterfowl Census). Lake Quattine

(unprotected) is the only key site identified so far (Green and Hughes, 1996).

None reported.

CMS actions: No specific conservation programmes have yet been conducted for the species but winter counts are conducted (Green and Hughes, 1996).

Other actions:

TAJIKISTAN:

Status:

CMS actions: None reported.

Other actions:

TUNISIA:

Status: It is a vulnerable winter visitors, 620 individuals reported (Tunisia National Report, 2002). The peak winter count between 1984 and 1994 was 182 individuals (1989). There are occasional records of breeding females. The species winters regularly in northern Tunisia, but breeding has only been occasionally recorded, suggesting exchange of birds with Algeria (Green and Hughes, 1996).

The first breeding record, near Gabès in 1957, was during an unusually wet year. Winter numbers have declined after over 500 birds were recorded in the IWRB censuses in each of 1968, 1969, 1971 and 1973 and a flock of 1,550 was recorded at Lac de Tunis in February 1969. Following major floods in 1969, the winter distribution expanded to southern Tunisia as more wetlands became available, but from the late 1970s the range has been restricted to the north-east. Breeding is irregular and in small numbers and since 1980 has been recorded at Barrage El Houareb, Barrage Sidi Abdelmoneim, Barrage Besbessia and Menzel Bourguiba lagoon (Green and Hughes, 1996).

Key sites are Lake Ichkeul (National Park, World Heritage Site, Biosphere Reserve, Ramsar site), Barrage el Haouareb (Hunting Reserve), Lake Tunis (National Reserve), Gdir El Ghoul 1 (unprotected), Gdir El Ghoul 2 (unprotected), Barrage Lebna (unprotected), Barrage Sidi Abdelmoniem (unprotected), Sebkha Kelbia (Natural Reserve), Barrage Besbessia (unprotected), Salines de Soliman (unprotected), Oued El Kebir (unprotected), Barrage Mornaguia (unprotected), Barrage Mlaabi (unprotected), Menzel Bourguiba lagoon (unprotected) and Lake Hammam Jedidi (unprotected) (Green and Hughes, 1996).

CMS actions: A study of the ecology of the species, an inventory and an Action Plan for its conservation are being conducted (Tunisia National Report, 2002).

Other actions: The distribution of educational booklets summarising the previous action plan (Anstey 1989) in French in 1990 is reported to have brought clear benefits in educating Eaux et Forêts guards responsible for controlling hunting on reservoirs occupied by the species. No other specific conservation programmes have yet been conducted for the species in Tunisia.
(Green and Hughes, 1996).

Turkey:

Status: A larger population breeds here. At the former key wintering site, Burdur Gölü, numbers declined from 10,927 birds in 1991 to 1,273 in 1996 (BirdLife International, 2003). The peak winter count between 1984 and 1994 was 10,927 individuals (1991). There are 200-300 breeding females. Turkey has the largest wintering population of the White-headed Duck of any range-state, and also holds a major breeding population. The southern coastlands and central plateau have major breeding and wintering sites, eastern Turkey has breeding and passage sites, and the Black Sea coastlands hold major passage sites. Wintering is also recorded in the Black Sea coastlands and western Anatolia. The peak wintering population is at least 11,000 birds, while Green *et al.* (1989) estimated a total of 150–200 breeding

pairs. The number of Turkish breeding pairs is likely to be higher than this figure, as in 1991 the breeding population was c.150 pairs in the central plateau alone.

The most important site in Turkey is Burdur Gölü which often holds over 50% of the known world population during winter. In February 1991 there was a record count of 10,927 birds on the lake, but numbers fluctuate markedly and only 3,010 were recorded in February 1993. About 500 birds were recorded on 27 July 1994, and the lake is probably vitally important all year round. Other recent counts include 1,246 at Cernek Gölü in the Kizilirmak delta in March 1992, which is an extremely important passage site (Green and Hughes, 1996).

Key sites are Çukurova delta (particularly Akyatan Gölü and Akyayan Gölü, Hunting Reserve and unprotected respectively), Arin Gölü (unprotected), Burdur Gölü (Ramsar site and Hunting Reserve), Hotamis marshes (Natural Heritage Site), Eregli marshes (Natural Heritage Site), Kizilirmak delta (particularly Cernek Gölü, Hunting Reserve), Kulu Gölü (Natural Heritage Site), Marmara Gölü (unprotected), Salda Gölü (Natural Heritage Site), Sultan marshes (Strict Nature Reserve, Natural Heritage Site and Ramsar site), Van Gölü (unprotected), Van marshes (unprotected), Horkum Gölü (unprotected), Edremit marshes (unprotected), Bendimahi marshes (unprotected), Uyuz Gölü (unprotected), Yarisli Gölü (unprotected), Kozanli Saz Gölü (unprotected), Hirfanli reservoir (unprotected) and Akkayi Baraji (unprotected). Many important sites for the species have been destroyed and most other sites have been degraded. Several former key sites listed by Anstey (1989) seem to have lost their importance for the species due to habitat degradation (Karamik Gölü, Corak Gölü, Eber Gölü, Cavuscu Gölü) (Green and Hughes, 1996).

The *Draft Red List of Threatened Animals of Turkey* published by the Ministry of Environment in 1990 gives the status of the White-headed Duck as Vulnerable to Endangered (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: There has been considerable attention paid to the species in Turkey since 1989 which has led to conservation measures being taken at Burdur Gölü. Considerable conservation work on the species has already been done by DHKD, the Wildfowl and Wetlands Trust and the Burdur Municipality, using the species as a successful flagship for wetland conservation. Distribution of educational booklets summarising the previous international action plan for White-headed Duck in Turkish led to the imposition of temporary hunting bans at Burdur Gölü and Yarisli Gölü from December 1990 onwards (Green and Hughes, 1996).

An international symposium on Burdur Gölü and the White-headed Duck was organised in December 1991, and DHKD produced an attractive poster in Turkish and English in 1993. The steps necessary to prepare a management plan have been identified, and a detailed ecological study of White-headed Ducks was completed at the lake in 1993. In 1993, the lake was declared a Game and Waterbird Conservation Area and Ramsar site principally to protect the species. The White-headed Duck is now being used as a flagship in the current campaign against development proposals at the lake, and has become a symbol for nature conservation in Turkey (Green and Hughes, 1996).

Turkmenistan:

Status: Concentrations of about 50,000 wintering on the Caspian coast of Turkmenistan until the 1930s have since disappeared (Poslavski, 1992).

CMS actions: None reported.

Other actions:

UKRAINE:

Status: Former breeding populations have probably become extinct. Both breeding and wintering were historically recorded in the Azov Sea area and passage was recorded

in the Crimean region. In the past 100 years there have been only 19 records of the species from the Ukraine, mainly of single birds, but it seems extremely likely that important numbers of birds seen on passage in Romania and wintering in Bulgaria and Greece pass through the Ukraine along the Black Sea coast. The White-headed Duck is included in the national Red Data Books published in 1980 and 1995 (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: No specific conservation programmes have yet been conducted for the species (Green and Hughes, 1996).

UZBEKISTAN:

Status: Important passage concentrations occur and a large population breeds here (BirdLife International, 2003).

CMS actions: None reported.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: PHOENICOPTERIDAE

SPECIES: *Phoenicopterus andinus* (Philippi, 1854)

SYNONYMS: *Phoenicoparrus andinus*

COMMON NAME: Andean Flamingo (English); Flamant des Andes (French); Flamenco andino; Parina grande (Spanish);

RANGE STATES: ARGENTINA; BOLIVIA; Brazil; CHILE; PERU

RED LIST RATING: VU A1acd+2bcd (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

Phoenicopterus andinus occurs on high mountain lakes in the puna zone of south-west Peru, northern Chile, south-west Bolivia and north-west Argentina, at altitudes which are mainly between 2,300m and 4,000m, breeding having been recorded at only about ten localities in Argentina, Bolivia and Chile (IUCN, 1996). Population assessments are difficult and vary greatly, but 50,000-100,000 individuals may have been realistic until the mid-1980s. Breeding success appears to be consistently low and thus declines may continue for many years, because flamingos have a high longevity (20-50 years) (BirdLife International, 2003).

Currently, the global population, which is declining, is estimated at 33,927 individuals, with a range of 19,2000km^2 (BirdLife International, 2003). This species has declined at a rate equivalent to at least 24% in ten years since the mid-1980s. This is attributed to ongoing exploitation and declines in habitat quality (BirdLife International, 2000).

Egg-harvesting and mining activities may be to blame for consistently low breeding success, and the species may in any case be nomadic in search of temporally patchy food, rendering it particularly susceptible to man-induced perturbations to its natural cycle (IUCN, 1996).

ARGENTINA:

Status: Occurrence reported in the northwest. Laguna Vilama hosts one of the few breeding sites for this species (IUCN, 1996). There is a resident population of c.100 at Laguna Mar Chiquita (BirdLife International, 2003).

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions:

BOLIVIA:

Status: Occurrence reported in the southwest. Laguna Colorada hosts one of the few breeding sites for this species with 1,000 breeding pairs in 1992-3, although human predation of eggs caused 100% failure (IUCN, 1996).

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions:

Brazil:

Status: Occurrence reported (Bege and Pauli, 1990; Sick, 1993). Wintering reported in

Brazil (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

CHILE:

Status: The species occurs in saltlakes in highlands in the regions Primera (Tarapacá), Segunda (Antofagasta) and Tercera (Atacama). Populations have remained stable during 1997, 1998 and 1999, totalling (January censuses) 17,397, 16,953 and 16,351 specimens respectively. The majority of places where the species occurs belong to the Sistema Nacional de Areas Silvestres Protegidas del Estado (SNASPE) [National System of Wild Protected Areas] National Parks Lauca, Volcán Isluga, Llullaillaco and Nevado de Tres Cruces, National Reserves Las Vicuñas and Los Flamencos and Natural Monument Salar de Surire (Chile National Report, 2002).

There are five breeding sites in Chile, of which Salar de Atacama is the bird's main and perhaps only regular breeding location in the world, with a total population judged well under 50,000 birds (IUCN, 1996).

CMS actions: There are several projects already finished and ongoing in relation to feeding, behaviour and ecology. Since 1986, censuses have been conducted in several Andean wetlands and it is planned to maintain the censuses twice every year There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions:

PERU:

Status: Occurs on high mountain lakes in the puna zone in the southwest (IUCN, 1996).

CMS actions: None reported.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: PHOENICOPTERIDAE

SPECIES: *Phoenicopterus jamesi* (Sclater, 1886)

SYNONYMS: *Phoenicoparrus jamesi*

COMMON NAME: James' *Flamingo*; James's Flamingo; Puna Flamingo (English); Flamant de James (French); Flamenco andino chico; Flamenco de James; Parina chica (Spanish)

RANGE STATES: ARGENTINA; BOLIVIA; Brazil; CHILE; PERU

RED LIST RATING: LR/nt (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

Phoenicopterus jamesi occurs at a large number of scattered brackish and salty lakes in the high mountains of south-western Peru, northern Chile, south-western Bolivia and north-western Argentina, at altitudes mainly between 2,300m and 4,500m (IUCN, 1996).

Population trend is stable (IUCN, 2003). The population probably declined rapidly during the 20th century[2], but has started to increase[8], presumably owing to the success of conservation programmes, and was estimated at 47,619 birds in 1997[7]. Breeding success varies greatly from year to year, with threats mostly impacting on productivity, but the 1999-2000 season was extraordinarily successful (BirdLife International, 2003).

Egg-collecting and disturbance cause considerable problems, and the species may be nomadic, in search of temporally patchy food, rendering it particularly susceptible to man-induced perturbations to its natural cycle (IUCN, 1996). International and national conservation programmes have been organised in Argentina, Bolivia, Chile and Peru, and will hopefully continue to encourage population growth (BirdLife International, 2003).

ARGENTINA:

Status: Occurs in northwestern Argentina (IUCN, 1996). Small numbers occur around the lowland Laguna Mar Chiquita, Argentina (BirdLife International, 2003).

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions:

BOLIVIA:

Status: Occurs in south-western Bolivia (IUCN, 1996). The most (and the only regular) breeding taking place at Laguna Colorada, where up to 30,000 birds (including 9,000 breeding pairs) have been present (IUCN, 1996) and up to 41,000 birds according to BirdLife International (2003). In 1999-2000 (an extremely successful year), 18,000 chicks hatched at Laguna Colorado (BirdLife International, 2003).

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions: Egg-collecting and hunting were intensive during the 20th century, but have been controlled in protected areas, most importantly, Eduardo Avaroa National Faunal Reserve (BirdLife International, 2003).

Brazil:

Status: Although CMS lists Brazil as a range states, neither UNEP-WCMC (2004) nor BirdLife International (2003) consider *Phoenicopterus jamesi* to occur here.

CMS actions: Not a Party to CMS.

Other actions:

CHILE:

Status: The species occurs in saltlakes in highlands in the regions Primera (Tarapacá), Segunda (Antofagasta) and Tercera (Atacama). Populations have increased during 1997, 1998 and 1999, totalling (January censuses) 8,081, 8,492 and 10,703 specimens respectively. The majority of places where the species occurs belong to the Sistema Nacional de Areas Silvestres Protegidas del Estado (SNASPE) [National System of Wild Protected Areas] National Parks Lauca, Volcán Isluga, Llullaillaco and Nevado de Tres Cruces, National Reserves Las Vicuñas and Los Flamencos and Natural Monument Salar de Surire (Chile National Report, 2002). A breeding colony has flourished under protection at Salar de Tara (IUCN, 1996).

CMS actions: There are several projects already finished and ongoing in relation to feeding,

behaviour and ecology. Since 1986, censuses have been conducted in several Andean wetlands. There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina. Future work involves continuing with new studies and maintaining the censuses twice every year (Chile National Report, 2002).

Other actions:

PERU:

Status: Occurs in the scattered brackish and salty lakes in the high mountains of the puna zone of south-western Peru (IUCN, 1996).

CMS actions: None reported.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: THRESKIORNITHIDAE

SPECIES: *Platalea minor* (Temminck and Schlegel, 1849)

SYNONYMS: -

COMMON NAME: Black-faced Spoonbill (English); Petite Spatule (French); Espátula menor (Spanish)

RANGE STATES: China; Japan; Korea, Democratic People's Republic of; Korea, Republic of; PHILIPPINES; Russian Federation

RED LIST RATING: EN C1+2b (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

This spoonbill has a single, very small population estimated at 700 birds. The historical status of the Black-faced Spoonbill is poorly understood and this lack of baseline data makes identifying a population trend problematic. The only known breeding grounds of the Black-faced Spoonbill are on islands around the eastern and northern coasts of the Yellow Sea, along the western coast of the Korean Peninsula (in both North and South Korea) and in north-east China (BirdLife International, 2001).

There has been considerable interest in this species since the late 1980s, when Kennerley (1990) published a review that showed that the known population of Black-faced Spoonbills at that time was only 288 individuals. Since then the known population gradually increased to over 700 birds in December 1999. This apparent recent increases may reflect improved observer coverage or the displacement of birds from degraded and destroyed sites as well improved international coordination of the study of this species (BirdLife International, 2001).

A coordinated international census of wintering Black-faced Spoonbills began in the mid-1990s and covers most of the known wintering grounds; since 1997 the total count (which is conducted in mid-January) has exceeded 520 birds. In November-December 1999, 527 birds were seen at the Tsengwen estuary on Taiwan, 164 birds in Hong Kong, and 25 birds in Fukuoka, indicating that the total global population almost certainly exceeds 700 birds (BirdLife International, 2001).

Although the total number of this species appears currently to be stable or even increasing, the concentration of a high proportion of its population at a few sites during both the breeding and non-breeding seasons makes it highly vulnerable to natural or artificial catastrophe, particularly as many of the key sites are under pressure and not adequately protected (BirdLife International, 2001). Given the substantial threats to its habitat it may currently be declining or is likely to decline in the near future (BirdLife International, 2000). According to IUCN (2003), the population is decreasing.

Habitat destruction is probably the biggest threat (Birdlife International, 2003). Given its reliance on intertidal habitats on the coast, with much of its wintering population concentrated at a handful of key sites, the Black-faced Spoonbill is potentially highly sensitive to the effects of pollution (BirdLife International, 2001).

An action plan was published in 1995 and workshops involving all major range countries were held in 1996 and 1997. Education material, satellite tracking and field survey results and management recommendation have been produced (Birdlife International, 2003). Recent international satellite-tracking studies have added considerably to knowledge of the migratory movements of this species, and have identified some important breeding and passage sites. Questionnaires in national languages have been produced by the Wild Bird Society of Japan and distributed in Russia, China, North Korea and South Korea to ask for details of sightings of Black-faced Spoonbills (SC). An international census of wintering birds was conducted in 1997, 1998 and 1999 (BirdLife International, 2001). Posters and leaflets in local languages have been produced by the Chinese Wild Bird Federation and distributed to range countries for promotion of public awareness on the status of the Black-faced Spoonbills (BirdLife International, 2001).

Brunei Darussalam (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004). A single bird was reported in early 1985, but it has been suggested that this record may possibly refer to the Royal Spoonbill *Platalea regia*, which has been recorded in Indonesia (BirdLife International, 2001). It is not extinct according to Birdlife International (2003).

CMS actions: Not a Party to CMS.

Other actions:

Cambodia (v)*:

Status: Occurrence reported (Sun Hean *et al.,* 1998). In the early 20th century this species was reported rare but widespread in the country, but there have been no recent records. It only appears to have been reported at a single site Kompong Thom, apparently seen in some numbers in January 1928 (BirdLife International, 2001) and is now considered to be extinct (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

China:

Status: The species has occurred widely along the eastern and southern coasts of China on passage, and there are also a few inland records, which indicate that they may breed in the inner north-east. The first confirmed breeding record was in 1999, when three pairs were found nesting on an islet off the coast of Liaoning. Some birds winter along the coast of China, mainly between Jiangsu and Hainan (BirdLife International, 2001). There have been a few recent records in winter at tidal mudflats adjacent to the Taipa-Coloane causeway, Macao (nine individuals in January 1998, 12 individuals in January 1999) (BirdLife International, 2001).

La Touche (1925-1934) described it as "common on the south-east China coast, where it may be met with in small parties", also indicating that it was more numerous in the late nineteenth and early twentieth centuries than at present. In December 1999 48 individuals were reported at Futian Nature Reserve, Guangdong (BirdLife International, 2001). There could be some important undiscovered wintering sites in south-east China and the coastal zone of Quang Ninh province in Vietnam (BirdLife International, 2001).

Platalea minor is mainly a winter visitor to the Deep Bay area, but a few birds have also occurred in summer and at other sites in Hong Kong (BirdLife International, 2001). In addition to Deep Bay, May Po is an important wintering sitetes (IUCN, 1996). In 1995-6, up to 99 birds were

reported at Mai Po and 130 in December 1999 (BirdLife International, 2001).

There have been real increases in the numbers at Deep Bay in Hong Kong presumably as wintering birds have become more concentrated at the less disturbed sites (they have declined at the more disturbed site at Dongzhaigang on Hainan), rather than because of a real increase in total global population. (BirdLife International, 2001). Between 1970 and 1990, the population increased from 7 to 52 individuals.

The Black-faced Spoonbill is a winter visitor to Taiwan, mainly to the west coast, and the Tsengwen estuary in Tainan supports the largest wintering flock of Black-faced Spoonbills in the world. Some birds also winter annually in Ilan county in north-eastern Taiwan (BirdLife International, 2001).1 in 1993-4,

There have been real increases in the numbers at the Tsengwen estuary (206 individuals in 1993-4, 363 in January 1999 and a maximum count of 527 individuals in December 1999 (IUCN, 1996)), presumably as wintering birds have become more concentrated at the less disturbed sites (they have declined at the more disturbed site at Dongzhaigang on Hainan), rather than because of a real increase in total global population (BirdLife International, 2001).

The main wintering grounds at the Tsengwen estuary are threatened by industrial development, particularly a key site in Taiwan (Birdlife International, 2003).

Pollution is a major threat to birds wintering in Hong Kong (Birdlife International, 2003) and Inner Deep Bay is suffering severe pollution. The area of fishponds around Deep Bay has been greatly reduced in the last 30 years due to the development of housing estates and container storage (BirdLife International, 2001).

The main wintering grounds are threatened by industrial development and reclamation. Fishers in China collect waterbird eggs at a nesting site (Birdlife International, 2003).

On Hainan, hunting is a major threat to Black-faced Spoonbills. Bird shooting is a serious problem even inside the core protected area of Dongzhaigang Nature Reserve, and as shooting is sometimes carried out by police, the wardens of the nature reserve do not dare to interfere (BirdLife International, 2001).

In Guangxi, disturbance caused by tourism is one of the main threats to Black-faced Spoonbills. Dongzhaigang Nature Reserve is famous for its mangrove habitats and attracts many tourists, who were already causing some disturbance in 1992, and this problem is now believed to have increased (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: In mainland China it is a National Protected Species (Second Class) (BirdLife International, 2001). Several of the important sites for this species have already been designated as protected areas, including Yancheng Nature Reserve in Jiangsu, Shankou Nature Reserve in Guangxi, Futian Nature Reserve in Guangdong and Dongzhaigang Nature Reserve on Hainan. The newly discovered breeding site at Xingren Tuo island in Liaoning has been designated as a non-hunting area (BirdLife International, 2001).

Platalea minor is legally protected in Hong Kong. Satellite-tracking experiments have been conducted on the species in this country. Conservation measures are being taken in the Deep Bay area. WWF Hong Kong (which manages Mai Po marshes in Inner Deep Bay) has been cooperating with Futian Nature Reserve on the conservation of Deep Bay,

including the drafting of an education programme for Futian, and since 1995 Mai Po and Inner Deep Bay have become a Ramsar site, and more wetlands at Inner Deep Bay will be protected as a wetland park for conservation and education purposes (BirdLife International, 2001).

Following the shooting of several Black-faced Spoonbills in Tainan county in the early 1990s, the government froze the potential development plans for the area, and during winter 1993/1994 local bird clubs mounted a round-the-clock watch to ensure the birds were not shot at, which was apparently successful as no birds were known to have been injured (BirdLife International, 2001).

The Chinese Wild Bird Federation has produced pamphlets and posters for public education on the conservation of this species in Taiwan, and many other government and private organisations there have also become involved with Black-faced Spoonbill conservation; the more active ones include the Love-your-hometown Foundation, the Wetland Conservation Union and the Chi-gu Coastal Area Protection Association formed by fishermen from the region, Environmental Protection Union with many scholars as its members, the Black-faced Spoonbill Conservation Center (formed by the previous four groups), and the Provincial Endemic Species Research and Conservation Center (BirdLife International, 2001).

Japan:

Status: It was once considered that this species was probably never more than a rare winter visitor to Japan, more recently it has been suggested that it was formerly not uncommon in winter on Kyushu. It has been recorded from all parts of Japan in winter or on migration, although it is very rare in eastern and northern Japan, and there have been some records in summer. Courtship behaviour was observed in Ishikawa prefecture on Honshu in summer 1996, but there have been no confirmed breeding records. All of the regular wintering grounds are on Kyushu (Hakata bay, Ariake bay, Mannose-gawa and Izumi) and on Okinawa (Manko) (BirdLife International, 2001).

The maximum count at Hakata bay (including Imazu and Wajiro tidal flats), Fukuoka, was of 28 individuals in November 1997. Up to 26 birds were reported in November 1997 at the Mannose and Shin-kawa rivers. The species is included on the Red List of Japan (BirdLife International, 2001). The main wintering grounds are threatened by reclamation (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions: It is legally protected in Japan. Regular wintering sites at Izumi-Takaono in Kagoshima and Manko on Okinawa have been designated as National Wildlife Protection Areas, and occasional wintering grounds at Yatsu in Chiba and Nakaumi in Tottori and Shimane are also National Wildlife Protection Areas; Manko was designated as a Ramsar site in 1999, and the designation of important wintering sites at Hakata bay in Fukuoka and Ariake-kai in Fukuoka and Saga as National Wildlife Protection Areas is in progress (as of 1999) (BirdLife International, 2001).

A breeding programme for this species started at Tama Zoo in Tokyo, Japan, in the mid-1990s, and a total of 21 eggs were laid from 1996 to 1998 and four chicks were successfully raised (BirdLife International, 2001).

D.P.R. Korea:

Status: There are important breeding grounds of this species on islets off the west coast of North Korea, including the colonies on the islands of Taegam-do, Sogam-do, Sonchonrap-ro and Solbatsem-do in North Pyongan, and Tok-do

in South Pyongan. Satellite-tracking of wintering birds from Taiwan and Hong Kong has indicated that islands in the Demilitarised Zone (DMZ), which currently divides North Korea from South Korea, are probably the most important breeding grounds of this species in the world (BirdLife International, 2001).

However larger flocks were reported around the breeding grounds before the Korean War (1950-1953) than are found at present, indicating that a decline may have occurred around that time (BirdLife International, 2001).

A colony of 10 to 20 pairs was discovered on an islet in the Han estuary in 1994, where it was said to be common earlier in the twentieth century (IUCN, 1996).

The threats to the breeding and foraging sites used by this species in North Korea are unknown. The nesting sites in the DMZ, are afforded protection by the current security situation on the Korean Peninsula, but could be opened up for development and increased disturbance should the situation change in the future (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is legally protected in North Korea. Breeding sites in North Korea, at Taegam-do, Unmu-do, Sonchonrap-do and Tok-do, are designated as seabird sanctuaries (Birdlife International, 2003). Several important studies have been completed on the breeding biology and population status of this species (BirdLife International, 2001).

Republic of Korea:

Status: This species breeds in South Korea, and also occurs on passage and in winter. Most breeding sites are in or near to the Demilitarised Zone in Kyonggi, but there have also been some breeding records in South Cholla. It occurs more widely on passage, and southern Kanghwa island in Kyonggi is an important staging ground for post-breeding birds before their southward migration. Eastern Cheju island is the only regular wintering ground in South Korea, although there are some (mainly unconfirmed) reports of wintering birds on the western and southern coasts. In January 1998, 19-25 birds were reported at Cheju island (BirdLife International, 2001).

The main wintering grounds are threatened by reclamation (Birdlife International, 2003). Disturbance from photographers is a potential threat to this species at the breeding colonies, and is already believed to have adversely affected breeding success at some colonies in South Korea (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is legally protected in South Korea (Birdlife International, 2003).

Malaysia*:

Status: Reported in Sabah (UNEP-WCMC, 2004)

CMS actions: Not a Party to CMS.

Other actions:

PHILIPPINES:

Status: If it has occurred at all in the Philippines (there being some question as to whether Black-faced or Eurasian Spoonbills were involved) it was possibly never more than a rare winter visitor, with no flocks exceeding six individuals observed. It is only known from Luzon (BirdLife

International, 2001).

CMS actions: None reported.

Other actions:

Russian Federation:

Status: Non-breeding birds recorded in the Tumen estuary. Breeding not confirmed (Birdlife International, 2003). It is only known by a few records in southern Primorye, it is suggested that there may be breeding sites in the Ussuri basin in southern Primorye. One of the two birds recorded in Russia was shot. Hunting may be a threat to this species there (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Thailand (v)*:

Status: Non-breeding birds recently recorded in this country (Lekagul and Round, 1991, Birdlife International, 2003). It is a very rare winter visitor (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Viet Nam*:

Status: It is a winter visitor, mainly to northern Vietnam, especially in the coastal zone of the Red River delta (BirdLife International, 2001). Another major wintering site is the Day River estuary. In 1995-6 up to 104 individuals were reported at the Red River delta and Xuan Thuy Nature Reserve (BirdLife International, 2001). It is listed in the Vietnamese Red Data Book

Increasing levels of disturbance and also hunting are threats in Vietnam (Birdlife International, 2003). Aquaculture development has been causing the loss of inter-tidal mudflats in the Red River delta, but deposition and accretion of sediment may be creating suitable habitat rapidly enough to compensate for this. Dams on the Red and Black Rivers upstream of Hanoi may be reducing the amount of sediment reaching the delta, although extensive deforestation in the watersheds of these rivers could be having the opposite effect. This species has been hunted, at least on occasions (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Not yet officially protected, although wintering sites, include Xuan Thuy and Tien Hai, are protected (BirdLife International, 2001; Birdlife International, 2003). In 1996, surveys by BirdLife/FIPI resulted in the identification of all wetlands in the Red River delta which support the species (BirdLife International, 2001).

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: RALLIDAE

SPECIES: *Sarothrura ayresi* (Gurney, 1877)

SYNONYMS: -

COMMON NAME: White-winged Crake; White-winged Flufftail (English); Râle à miroir (French); Polluela especulada (Spanish)

RANGE STATES: Eritrea (?); Ethiopia; SOUTH AFRICA; Zambia; Zimbabwe

RED LIST RATING: EN B1+2abcde (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

The global population of *Sarothrura ayresi* is estimated at 700 individuals. This species has a very small range, with breeding proven at only two locations, and an occupied breeding range of only 250km^2 (Birdlife International, 2003). Its disappearance from former locations, together with the high rate of loss and degradation of its preferred habitat, seasonal marshland, imply that its very small population is suffering a continuing decline (BirdLife International, 2000).

The main threats are habitat loss and degradation (IUCN, 2003). Seasonal marshes are threatened by drainage (for cultivation and forestry), flooding by dams, catchment erosion, water abstraction, human disturbance, too-frequent burning, and excessive trampling and grazing by livestock and cutting of marsh vegetation for fodder (Birdlife International, 2003).

Eritrea (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ethiopia:

Status: *Sarothrura ayresi* is reported as breeding in this country. There are currently two sites in the central highlands, the only known breeding area for this species. In the Ethiopian highlands, 10-15 pairs have bred at Sululta annually since 1996 and c. 200 pairs were discovered at a new breeding site in 1997. The two Ethiopian sites are on state-run farms which are about to be privatised, and which could then be unfavourably modified or drained (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions: At the new Ethiopian breeding site, the vegetation is not cut for fodder until December, thus giving the birds time to breed without disturbance (Birdlife International, 2003).

SOUTH AFRICA:

Status: *Sarothrura ayresi* is reported as a non-breeding visitor at nine main sites in South Africa since the 1980s. The total population is estimated to be 235 birds (Birdlife International, 2003).

CMS actions: None reported.

Some South African sites have some legal protection, and at least four

Other actions: sites are protected by the landowners (Birdlife International, 2003).

Zambia:

Status: Claimed records (e.g. Avidabse (2004)) from this country are unproven (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Zimbabwe:

Status: *Sarothrura ayresi* is reported as a non-breeding visitor to this country. There are two records in the 1970s and a possible breeding record in the 1950s (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: SPHENISCIDAE

SPECIES: *Spheniscus humboldti* (Meyen, 1834)

SYNONYMS: -

COMMON NAME: Humboldt Penguin; Peruvian Penguin (English); Manchot de Humboldt (French); Pingüino de Humboldt (Spanish)

RANGE STATES: CHILE; PERU; international waters (Southeast Pacific Ocean)

RED LIST RATING: VU B2abcde+3bc, C1 (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

Spheniscus humboldti occurs in coastal Peru and Chile with vagrants recorded in Colombia (Morales Sanchez, 1988) and Ecuador (Ridgely and Greenfield, 2001). Currently, this species mainly breeds from Isla Foca (5°12'S) in Peru (Paredes *et al.*, 2003) to Algarrobo (33°S) in Chile (Williams, 1995; Ellis *et al.*, 1998). It nests on islands and rocky coastal stretches, burrowing holes in guano and, occasionally using scrape nests or caves (Birdlife International, 2003). It is colonial, and colonies are usually small (Martinez, 1992). It is endemic to the Humboldt Current Region where it is restricted to cool, nutrient-rich waters (Williams, 1995).

This species occupies a small breeding range and there have been extreme population fluctuations, close to one order of magnitude at major colonies in Chile. However, an overall reduction in the number of breeding colonies indicates that there is probably an ongoing underlying decline in both range and population (BirdLife International, 2000).

In the mid 19th century the population of the Humboldt penguin may have been over a million birds (Ellis *et al.*, 1998) since which time it has been declining (Martinez, 1992; Hays, 1986). The total population was estimated to be c.20,000 birds at the beginning of the 1980s, with 10-12,000 in Chile (Martinez, 1992). However, the actual size of the Humboldt penguin population is as yet, still unknown (Luna-Jorquera *et al.*, 2000) and it is not clear if data indicating fluctuations in penguin numbers reflect a migration of penguins from one colony to another or if they represent a recovery/decline of the population (UNEP-WCMC, 2003).

Historical declines resulted from guano over-exploitation. Guano is still used in Peru, but fluctuations are caused by (apparently increasing) ENSO events, with the 1982-1983 ENSO event reduced the population from 19,000-21,000 birds to 5,180-6,080, and more recent underlying declines probably relate to over-fishing anchoveta *Engraulis* spp. stocks and entanglement in nets. Other threats include capture for food (not only subsistence) and use as fish bait, human disturbance, predation by rats and cats, and marine. Particular declines have been observed subsequent to El Niño Southern Oscillation (ENSO) events (BirdLife International, 2003).

CHILE:

Status: The Humboldt Penguin breeds in Chile, where it is listed in the Red Data Book (Vulnerable) (Simeone, 1996). Ellis *et al.* (1998) reported that there are 12 breeding colonies in Chile between Grande Island and Punihuil, and at least 14 breeding sites in total although recently it has bred at only ten. The occurrence of the Humboldt penguin was noted for the first time on La Isla Metalqui near Chiloe in Chile in 1996 (Simeone and Hucke-Gaete, 1997).

This species occupies a small breeding range and there have been extreme population fluctuations, close to one order of magnitude at major colonies (Birdlife International, 2003). The population was estimated at 10-12,000 individuals in the early 1980s (Martinez, 1992) but only approximately 7,500 in 1995-6 (Ellis *et al.,* 1998). More recent estimates, such as that of c. 7,000 pairs in one large colony at Chanaral Island in Chile (Simeone *et al.*, 2003) point towards an overall total of Humboldt penguins that for Chile is higher than previous recent figures. In a survey of nine islands of the central and north coasts of Chile, Simeone *et al.* (2003) found c. 9,000 pairs of Humboldt penguins, the majority of which (c. 7,000 pairs) were found on the Chanaral Islands.

Considerable reductions in the populations of the Humboldt Penguin have been seen on some islands within the Pinguino de Humboldt Penguin Reserve, as well as in Pan de Azucar Island, where the local park guards have found evidence of illegal hunting of this bird (J. Gonzalez, pers. comm.). A decline in the number of penguins here may have occurred between 1991 and 1997 (Simeone and Schlatter, 1998). However, elsewhere there was an increase in the number of nesting sites at Pájaro Niño Island in central Chile from c. 500 in 1977 to 689 in 1996 despite significant habitat disturbance and alterations (Simeone and Bernal, 2000). According to the Chile National Report (2002), the population has increased from around 8,500 in 1996 to almost 26,000 in 2001, although no reference for these figures is cited in the report.

Most places where the species occurs belong to the Sistema Nacional de Areas Silvestres Protegidas del Estado (SNASPE) [National Protected Areas System], National Reserves Pingüino de Humboldt, and Natural Monuments Isla Cachagua and Islotes de Puñihuil (Chile National Report, 2002).

CMS actions: There are several projects already finished and ongoing in relation to breeding,

and assessment of the population status and census are being conducted since 1988. It is planned to continue with new research projects and maintain censuses (Chile National Report, 2002).

Other actions: Chile has undertaken a number of conservation measures to safeguard the Humboldt penguin. The Humboldt Penguin is protected within the Pinguino de Humboldt Penguin Reserve and Isla Cachagua Natural Monument. Colonies such as the Isla Chañaral and the Choros Islands, Pan de Azucar and Punihuil are also protected. In addition to the 30 year moratorium on the hunting and capture of marine animals, permits are also required for export to zoos, and for research (Cheney, 1998). However, enforcement of these laws has been problematic, and it would appear that no fines or penalties had ever been levied against anyone for deliberately taking penguin meat (Cheney, 1998). The Sea Birds Lab of the Universidad Católica del Norte supported by scientists at Planeta Vivo is carrying out a research programme on Chañaral Island, the main island of the National reserve "Pingüino de Humboldt" (Planeta Vivo, 2002). The reproductive success of the Humboldt Penguins in the Choros and Damas island of this reserve has been studied during the past two years (Planeta Vivo, 2002). Other studies are listed by Ellis *et al.* (1998) and include yearly censuses by Braulio Araya and Mariano Bernal on the main colonies along the Chilean coast.

Colombia (v?)*:

Status: Occurrence reported (Hilty and Brown, 1986; Ramyle, 1988).

CMS actions: Not a Party to CMS.

Other actions:

Ecuador (v)*:

Status: It is only known from a few reports involving dead or dying birds; some or all of these birds may have been transported to Ecuador with the assistance of ships (Ridgely and Greenfield, 2001).

CMS actions: Not a Party to CMS.

Other actions:

PERU:

Status: Small numbers breed along most cliff sections of Peru, with larger numbers occurring at Pachachamac and Punta San Juan (Martinez, 1992). Ellis *et al.* (1998) reported that there were more than 12 breeding sites in Peru, but only two important breeding colonies, Punta San Juan and Pachacamac, with the former supporting the largest Humboldt penguin colony in Peru (Anon., 1987; Majluf *et al.*, 2001). Reports of large numbers at Lobos de Tierra and Punta Pampa Redonda were probably optimistic (Duffy *et al.*, 1984). Most recently, 22 Humboldt penguin colonies have been identified, 14 of which showed signs of breeding (Paredes *et al.*, 2003). Only five colonies were larger than 100 breeding pairs (Paz-Soldan and Jahncke, 1998).

The size and the distribution of the penguin colonies in Peru has changed over the last 15 years, with more penguins now on the southern coast and fewer on the central coastal area, although the breeding range has remained the same (Paredes *et al.*, 2003). The population size has dropped from approximately 9,000 individuals in 1981 (Ellis *et al.,* 1998) to around 4,425 individuals in 2001 (Paredes *et al.,* 2003). The Humboldt penguin was listed as Vulnerable in Peru in 1977 but in 1991 it was upgraded to Endangered in the Peruvian Red Data Book (Simeone, 1996).

CMS actions: The peruvian Association for conservation of Nature, funded by CMS, is conducting a survey of humboldt penguins along the Peruvian coast.

Other actions: Most breeding sites are protected by designated areas, such as Punta San Juan and Paracas. Many of the islands have been protected by the state-owned guano company since 1909 in Peru (Duffy *et al.*, 1984). However, the guano harvest can still have detrimental impacts to the penguin populations. The only colonies that have increased in number are those with legal protection, where wardens or scientists are permanently present, such as San Juanito Islet and Punta San Juan (Paredes *et al.*, 2003). A 1998 agreement between the Wildlife Conservation Society and PROABONOS, the body in charge of guano exploitation, involved penguin rookeries being fenced off during the harvest and observers remained on site throughout the harvest, thus preventing the workers from taking penguins or eggs to supplement their income (Paredes *et al.*, 2003).

The Peruvian Association for Conservation of Nature (APECO) in collaboration with the National Institute of Natural Resources (INRENA) of the Peruvian Ministry of Agriculture have initiated a project which aims to evaluate the populations of *Spheniscus humboldti*, including an assessment of the risks to the populations from human activities (Anon., 2003). This will involve surveying penguin populations along the southern coast of Peru, from both land and sea. In addition, a workshop will be organised involving both Peruvian and Chilean experts, with a view to setting the basis for a bilateral agreement under CMS.

Other studies are listed by Ellis *et al.* (1998) and include work on the breeding biology and foraging ecology in Punta Juan, and the long term survey of different colonies along the Peruvian coast, evaluating the status of seabirds, including the Humboldt penguin.

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

AVES: LARIDAE

SPECIES: *Sterna bernsteini* (Schlegel, 1863)

SYNONYMS: *Thalasseus zimmermanni*

COMMON NAME: Chinese Crested Tern; Chinese Crested-tern (English); Sterne d'Orient (French); Charrán Chino (Spanish)

RANGE STATES: China; Indonesia; Malaysia; PHILIPPINES; Thailand

RED LIST RATING: CR D (BirdLife International, 2000)

CONSERVATION STATUS AND ACTIONS:

This poorly-known seabird qualifies as Critically Endangered because it is inferred to have a tiny population, estimated at fewer than 50 individuals (Birdlife International, 2003) and the population is declining as a result of unknown factors. However, it is possible that extensive searches at the former localities and in other potentially suitable areas could locate larger numbers (BirdLife International, 2001). No specific threats are known, although many coastal wetlands in its presumed breeding range in eastern China are affected by large-scale development projects and, in China, seabirds are exploited for food (BirdLife International, 2003).

Cambodia*:

Status: Possible record from Cambodia (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

China:

Status: The Chinese Crested Tern has been recorded on the eastern coast of China, in Hebei, Shandong, Fujian and Guangdong. In June-July 1937, a total of 21 specimens were collected on islets off the coast of Shandong, where it was presumably breeding, indicating that it was locally not uncommon in the past. The only recent records have been from Hebei in 1978 and Shandong in 1991. The most recent sighting in China was from Huanghe Sanjiaozhou Nature Reserve in Shandong and there are several other protected areas along the Chinese coast where it could potentially occur, at least on passage (BirdLife International, 2001).

Several nesting pairs were discovered in a tern colony on the Mazu Dao islands in summer 2000, and subsequent investigations revealed that similar birds were present in this colony in previous year, and located a photograph of a bird on the mainland of Taiwan: Pachang river, Putai, Chiayi county, one photographed with Caspian Terns *S. caspia*, 17 April 1998. This discovery of nesting pairs at Mazu Dao proved that the species was still extant (BirdLife International, 2001). The current population is unknown, but is presumably very small given the paucity of recent records (Birdlife International, 2003).

Many coastal wetlands in its presumed breeding range in eastern China are affected by large-scale development projects and, in China, seabirds are exploited for food (Birdlife International, 2003). Other potential threats to this species in China are the introduction of rats and cats to nesting islands, oil pollution, heavy contamination of estuarine areas by industrial and agricultural

effluents and human disturbance on offshore islands (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Chinese Crested Tern is a nationally protected species (second class) (BirdLife International, 2001). Following the discovery of large breeding colonies of terns ta the Matzu Dao islands, eight uninhabited islets were declared as "National Matzu Nature Reserve for Terns" in January 2000; the local county government is very supportive of the conservation of the site, including the enforcement of the law to control access to the area. (BirdLife International, 2001).

The University of Rhode Island and the Chinese Institute of Zoology have recently initiated a study of the Chinese Crested-tern, which aims to locate and census all breeding colonies; estimate breeding success; assess threats to individual colonies; prepare plans for breeding site protection; and develop a long-term recovery plan by locating and protecting key staging, migration, and wintering areas (BirdLife International, 2001).

Indonesia:

Status: The species is known by a single record from Maluku province and a recent unconfirmed sighting from Bali: *Bali* Sanur, one seen close inshore, probably this species, 22 March 1984; *Halmahera* Kao (Kaou), one collected, 22 November 1861 (BirdLife International, 2001; 2003).

CMS actions: Not a Party to CMS.

Other actions:

Malaysia:

Status: Recorded as non-breeding in Sarawak, Malaysia (Birdlife International, 2003). Three specimens have been collected at two localities in Sarawak (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

PHILIPPINES:

Status: There are two old specimen records: Manila Bay, one collected, 6 May 1905; no locality, one undated skin labelled "the Philippines" (BirdLife International, 2001; 2003).

CMS actions: None reported.

Other actions:

Singapore*:

Status: Possible record from Singapore (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Thailand:

Status: The species is known from peninsular Thailand by one confirmed record and a recent unconfirmed report (BirdLife International, 2001). A possible non-breeding record from peninsular Thailand in 1980 (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions: In Thailand, it is nationally protected, and the locality where it was historically recorded is protected as the Laem Talumphuk Non-Hunting Area (Birdlife

International, 2003).

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* Range State not yet included in the CMS range list for this species.

RAPID REVIEW OF CONCERTED ACTION SPECIES

ANNEX B: MARINE MAMMALS

CONTENTS

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BALAENOPTERIDAE

SPECIES: *Balaenoptera borealis* (Lesson, 1828)

SYNONYMS: -

COMMON NAME: Coalfish Whale; Pollack Whale; Rudophi's Rorqual; Sei Whale (English); Baleinoptère de Rudolphi; Rorqual boréal; Rorqual de Rudolphi; Rorqual sei (French); Ballena boba; Ballena sei; Rorcual boreal; Rorcual de Rudolphi; Rorcual norteno (Spanish)

RANGE STATES: ARGENTINA; AUSTRALIA; Canada; CHILE; China (Taiwan); Cuba; FRANCE (Réunion); Iceland; INDIA; Indonesia; Japan; KENYA; Korea, Democratic People's Republic of; Korea, Republic of; Malaysia; Mexico; Mozambique; NORWAY; POLAND; Russian Federation; SOUTH AFRICA; SPAIN; Suriname; TANZANIA, UNITED REPUBLIC; Thailand; UNITED KINGDOM (Falkland Islands (Malvinas)); United States; URUGUAY; international waters

RED LIST RATING: EN A1abd (Cetacean Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Although the sei whale, an open ocean species (Jefferson *et al.*, 1994), is found in virtually every ocean and sea in the world, most individuals inhabit temperate and sub-tropical waters, migrating annually to the subarctic and subantarctic for summer feeding. The species is therefore less likely to occur in polar waters than other rorquals (Cetacea, 2001).

The sei whale was not traditionally a target for whalers. However, from the mid-1960s onwards when stocks in other species began to decline and then became protected, sei whales became the primary catch (Cetacea, 2001). There is good evidence that the stocks of sei whales were depleted before gaining full protection from commercial whaling in the 1970s and 1980s (Reeves *et al.*, 2003).

The extent to which stocks have recovered since then is uncertain because relatively little research on sei whales has been conducted during the past 25 years (Reeves *et al.*, 2003). Although during the period 1970 to 1990, the circumglobal population increased from an estimated 30,000 to 40,000 animals according to UNEP-WCMC (2004). Other sources claim that sei whales have recovered more successfully than other large baleen whales (Jefferson *et al.*, 1994). Watson (1988) quoted a total population size of fewer than 80,000 animals. The highest estimate for the North Atlantic is less than 3,000 while the North Pacific had no more than 20,000 whales. More recently, Cetacea (2001) puts the current total population at 65,000.

The species' classification by IUCN as Endangered in the mid-1990s (under the 1996 categories and criteria) was based on an estimated decline of around 50% in worldwide total abundance over the last three generations. This assumes a generation time of roughly 20–25 years. Most of this decline would have occurred in the Southern Hemisphere, which had a much larger original population than the North Atlantic or North Pacific. While a change in classification to Vulnerable may be appropriate, there is a distinct lack of reliable survey data that could serve as the basis for reassessment (Reeves *et al.*, 2003).

Antarctica*:

Status: Between 1975 and 1990, the estimated stock of sei whales in the Antarctic dropped

from 60,000 to 40,000 animals (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

ARGENTINA:
Status:
CMS actions: None reported.
Other actions:

AUSTRALIA:
Status:
CMS actions: None reported.
Other actions:

Brazil*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Canada:
Status: The number of fin whales taken at three whaling stations in Canada from 1965 to 1971 totalled 3,528 whales (NOAA, 2002).

CMS actions: Not a Party to CMS.
Other actions:

CHILE:
Status:
CMS actions: None reported.
Other actions:

China (Taiwan):
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Cuba:
Status:
CMS actions: Not a Party to CMS.
Other actions:

DENMARK*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:

ECUADOR*:
Status: Reported in Galapagos and off the mainland (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

FRANCE (Réunion):
Status:
CMS actions: None reported.
Other actions:

GERMANY*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
Iceland:
Status:
CMS actions: Not a Party to CMS.
Other actions:
INDIA:
Status:
CMS actions: None reported.
Other actions:
Indonesia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
IRELAND*:
Status: Occurrence reported (Berrow *et al.*, 2002).

CMS actions: None reported.
Other actions:
Japan:
Status:
CMS actions: Not a Party to CMS.
Other actions:
KENYA:
Status:
CMS actions: None reported.
Other actions:
D.P.R.Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Republic of Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Malaysia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Mexico:
Status:
CMS actions: Not a Party to CMS.
Other actions:
MOROCCO*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
Mozambique:
Status:
CMS actions: Not a Party to CMS.
Other actions:
NETHERLANDS*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
NORWAY:
Status:
CMS actions: None reported.
Other actions:
POLAND:
Status:
CMS actions: None reported.
Other actions:
PORTUGAL*:
Status: Occurrence reported in the Azores (Viallelle, 1997) and off the mainland (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
Russian Federation:
Status:
CMS actions: Not a Party to CMS.
Other actions:
SOUTH AFRICA:
Status:
CMS actions: None reported.
Other actions:
SPAIN:
Status:
CMS actions: None reported.
Other actions:
Suriname:
Status:
CMS actions: Not a Party to CMS.
Other actions:
U.R. OF TANZANIA:
Status:
CMS actions: None reported.
Other actions:
Thailand:
Status:
CMS actions: Not a Party to CMS.
Other actions:
UNITED KINGDOM (Falkland Islands (Malvinas)):
Status:
CMS actions: None reported.

Other actions: Protected in the UK by the Wildlife and Countryside Act 1981 (UNEP-WCMC, 2004).
United States:
Status: The International Whaling Commission (IWC) recognized two stocks of fin whales in the North Pacific: the East China Sea and the rest of the North Pacific (NOAA, 2000). There may be additional fin whale subpopulations in the North Pacific. The Marine

Mammal Protection Act (MMPA) stock assessment reports recognize three stocks of fin whales in the North Pacific: the California/Oregon/Washington stock, the Hawaii stock, and the Alaska stock.

California/Oregon/Washington stock
The minimum population estimate for fin whales is approximately 1,044 in this area. There is some indication that fin whales have increased in abundance in California coastal waters between 1979/80 and 1991 and between 1991 and 1996, but these trends are not significant. Although the population in the North Pacific is expected to have grown since receiving protected status in 1976, the possible effects of continued unauthorized take and incidental ship strikes and gillnet mortality make this uncertain (NOAA, 2001).

Hawaiian Stock
Fin whales are rare in Hawaiian waters with sporadic sightings in 1966, 1976, 1979 and 1994, and a single stranding on Maui. Acoustic recordings off Oahu and Midway Islands Fin indicate that whales may migrate into Hawaiian waters mainly in fall and winter. No data are available to estimate population size or current population trends. There are no reports of recent direct or incidental takes of fin whales in Hawaiian waters (NOAA, 2000).

Western North Atlantic Stock
Fin whales are common in waters of the US Atlantic Exclusive Economic Zone, principally from Cape Hatteras northward. There is little doubt that New England waters represent a major feeding ground for the fin whale. The minimum population estimate for the western North Atlantic fin whale is 2,362 (NOAA, 2002).

Reports of non-directed takes of fin whales are fewer over the last two decades than for other endangered large whales such as right and humpback whales. There was no reported fishery-related mortality or serious injury to fin whales in fisheries observed during 1995 through 1999, although anecdotal records from 1996 through 2000 indicate an average of 1.6 mortalities per year from fishery interactions/entanglements and vessel collisions (NOAA, 2002).

Northeast Pacific Stock
In the North Pacific Ocean, fin whales can be found from above the Arctic Circle to lower latitudes of approximately 20°N. Within the US waters in the Pacific, fin whales are found seasonally off the coast of North America and Hawaii, and in the Bering Sea during the summer. Recent information on seasonal fin whale distribution has been gleaned from the reception of fin whale calls by bottom-mounted, offshore hydrophone arrays along the U.S. Pacific coast, in the central North Pacific, and in the western Aleutian Islands (Watkins et al. 2000). Shipboard surveys have found relatively few animals in Hawaiian waters (Mobley *et al.* 1996). In addition, recent vessel surveys in July have documented large concentrations of fin whales in the central Bering Sea, which provides a strong indication that the Bering Sea is an important summer feeding area (Moore *et al.* in review).

The International Whaling Commission considers fin whales in the North Pacific to all belong to the same stock (Mizroch et al. 1984), although the authors cited additional evidence that supports the establishment of subpopulations in the North Pacific. Further, Fujino (1960) describes an eastern and a western group, which are isolated though may intermingle around the Aleutian Islands. Tag recoveries reported by Rice (1974) indicate that animals wintering off the coast of southern California range from central California to the Gulf of Alaska during the summer months.

Reliable estimates of current and historical abundance for the entire Northeast Pacific fin whale stock are currently not available. Ranges of population estimates for the entire North Pacific prior to exploitation and in the early 1970s are 42,000 to

45,000 and 14,620 to 18,630, respectively (Ohsumi and Wada 1974), representing 32% to 44% of the precommercial whaling population size (Braham 1984).

In the North Pacific and Bering Sea, catches of fin whales ranged from 1,000 to 1,500 animals annually from the mid-1950s to the mid-1960s. Thereafter, catches declined sharply and ended altogether in 1976 when catches became prohibited (Mizroch et al. 1984). These mortality estimates likely underestimate the actual kill as a result of under-reporting of the Soviet catches (Yablokov 1994).

The fin whale is listed as "endangered" under the Endangered Species Act of 1973, and therefore designated as "depleted" under the MMPA. As a result, the Northeast Pacific stock is classified as a strategic stock. Reliable estimates of the minimum population size, population trends, PBR, and status of the stock relative to its Optimum Sustainable Population size are currently not available. The estimated annual rate of human-caused mortality and serious injury seems minimal for this stock; however, because of the estimated annual take of 0.6 animals, the minimum estimated mortality and serious injury cannot be considered to be insignificant and approaching a zero mortality and serious injury rate. There are no known habitat issues that are of particular concern for this stock.

CMS actions: Not a Party to CMS

Other actions: ***North Atlantic actions***
Aerial surveys were conducted between Cape Hatteras and Nova Scotia during 1978-82 (NOAA, 2000).

Hawaii actions
As part of the Marine Mammal Research Program of the Acoustic Thermometry of Ocean Climate (ATOC) study, aerial surveys were conducted within about 25nmi of the main Hawaiian Islands in 1993-98 (NOAA, 2000).

URUGUAY:
Status:
CMS actions: None reported.
Other actions:

Viet Nam
Status:
CMS actions: Not a Party to CMS
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BALAENOPTERIDAE

SPECIES: *Balaenoptera musculus* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Blue Whale; Sibbald's Rorqual; Sulphur-bottom Whale (English); Baleine bleue; Baleine d'Ostende; Baleinoptère bleue; Rorqual à ventre cannelé; Rorqual bleu; Rorqual de Sibbold (French); Ballena azul; Rorcual azul (Spanish)

RANGE STATES: Angola; Antigua and Barbuda; ARGENTINA; AUSTRALIA (including Heard Island); Bahamas; Bahrain; Bangladesh; Barbados; BELGIUM; Belize; BENIN; Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; Cape Verde; CHILE; China (including Hong Kong, Taiwan); Colombia; Comoros; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Cook Islands; Costa Rica; COTE D'IVOIRE; Cuba; CYPRUS; DENMARK (Faeroe Islands); Denmark (Greenland); Djibouti; Dominica; Dominican Republic; Ecuador (including Galapagos Islands); El Salvador; Equatorial Guinea; Eritrea; Fiji; FINLAND; FRANCE (including Amsterdam Island, Clipperton Island, Corsica, Crozet Islands, French Guiana, Guadeloupe, Kerguelen, Martinique, New Caledonia, St. Paul Island, St. Pierre-et-Miquelon, Wallis and Futuna Islands); Gabon; GAMBIA; GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; Iceland; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; Jamaica; Japan (including Bonin Islands); JORDAN; KENYA; Kiribati; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; Liberia; Madagascar; Malaysia; Maldives; Marshall Islands; MAURITANIA; Mauritius; Mexico (including Cedros, Guadalupe); Micronesia (Federated States of); MOROCCO; Mozambique; Myanmar; Namibia; Nauru; NETHERLANDS (including Aruba, Bonaire, Curaçao, Saba, Sint Eustatius); NEW ZEALAND (including Antipodes Islands, Auckland Islands, Bounty Islands, Campbell Island, Chatham Islands, Kermadec Islands, Snares Islands, Solander Island, Stewart Island, Three Kings Islands, Tokelau); Nicaragua; NIGERIA; Niue; NORWAY (including Bouvet Island, Jan Mayen Island, Svalbard); Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU; PHILIPPINES; POLAND; PORTUGAL; Qatar; Russian Federation; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; SOMALIA; SOUTH AFRICA (including Prince Edward Islands); SPAIN; SRI LANKA; Sudan; Suriname; SWEDEN (?); SYRIAN ARAB REPUBLIC; TANZANIA, UNITED REPUBLIC OF; TOGO; Tonga; Trinidad and Tobago; Tuvalu; United Arab Emirates; UNITED KINGDOM (including Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Cyprus, Falkland Islands (Malvinas), Gibraltar, Montserrat, Pitcairn, St. Helena, South Georgia, South Orkney Islands, South Sandwich Islands, South Shetland Islands, Tristan da

Cunha, Turks and Caicos Islands); United States (including American Samoa, Guam, Hawaiian Islands, United States Virgin Islands, Northern Mariana Islands, Puerto Rico); URUGUAY; Vanuatu; Venezuela (including Lesser Antilles); Viet Nam; Yemen; international waters

RED LIST RATING: EN A1abd (Cetacean Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

The blue whale is found throughout every ocean in the world. They migrate to polar waters in summer for feeding and return to warmer seas in winter for breeding, covering thousands of kilometres every year. The subspecies, the pygmy blue whale (*Balaenoptera musculus brevicauda*) is found mainly in the Southern Hemisphere (Cetacea, 2001).

Southern Hemisphere blue whales tend to feed between the Antarctic pack ice and the Antarctic convergence zone during the austral summer. In the winter, the whales move northward ahead of the advancing pack ice. Little is known about exact location of breeding grounds, but these whales have been reported as far north as Madagascar and Angola, West Africa; and Brazil, Ecuador and Peru, South America (WDCS, 2004).

Once fast catcher boats and explosive harpoons became available in the latter half of the 1800s, all rorquals were catchable. Being the largest species, blue whales became the primary target. Catches were made primarily on the summer feeding grounds - the North Atlantic, North Pacific and mostly, the Antartic Ocean (Cetacea, 2001).

In 1900, Cetacea (2001) estimates that there were 250,000 blue whales, but in the Antarctic season of 1930-1 alone nearly 30,000 animals were taken and by 1967, when the species received global protection, over 350,000 had been killed in the Southern Hemisphere alone (Cetacea, 2001; Reeves *et al.,* 2003). There has been an estimated decline of at least 50% in worldwide total abundance over the last three generations, assuming a generation time of roughly 20–25 years (Reeves *et al.,* 2003).

Today although most populations of blue whale remain below pre-exploitation levels, stocks in the the North Atlantic (e.g. around Iceland and off California) and eastern North Pacific have shown signs of recovery since protection by the International Whaling Commission in 1965 (Clapham *et al.*, 1999; Jefferson *et al.*, 1994; Reeves *et al.,* 2003). According to WDCS (2004), 3,000 blue whales remain in the region. This trend of increase contrasts with the complete absence of blue whales today off southern Japan, and their apparent rarity in the Gulf of Alaska and southern Bering Sea where they were once abundant (Reeves *et al.,* 2003). In the southern hemisphere the story is even less positive, with just just 460 animals occurring. The likely global population is therefore fewer than 3,500 whales, a figure considerably lower than previous estimates of between 6,000 - 14,000 (WDCS, 2004).

Blue whales require continued protection and close monitoring into the foreseeable future. There does not appear to be any immediate intention to resume commercial whaling for them, nor is there any other well-defined threat from human activities. As noted by Clapham *et al.* (1999), however, their nearly exclusive dependence upon euphausiids, especially krill (*Euphausia superba*) in the Antarctic, could make blue whales vulnerable to large-scale changes in ocean productivity caused, for example, by climate change (IUCN, 2003).

Angola:

Status: Southern Hemisphere blue whales have been reported as far north as Angola

(WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Antarctica*:

Status: Southern Hemisphere blue whales tend to feed between the Antarctic pack ice and the Antarctic convergence zone during the austral summer (WDCS, 2004). Between 1975 and 1990, the estimated stock of blue whales in the Antarctic dropped from 44,958 to 660 animals (UNEP-WCMC, 2004). Numbers of living Blue Whales in the Antarctic remain extremely low (estimates are only in the hundreds), and it is uncertain what proportion are "true" blue whales (*B. m. intermedia*) as opposed to "pygmy" blue whales (*B. m. brevicauda*) (Reeves *et al.*, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Antigua and Barbuda:

Status:
CMS actions: Not a Party to CMS.
Other actions:

ARGENTINA:

Status:
CMS actions: None reported.
Other actions:

AUSTRALIA:

Status: The Blue whale is classified as 'Endangered' with extinction in Australian waters, as the population size is estimated to be as low as 1000. There is little or no evidence to suggest that the population size is increasing. The Blue whale has been recorded from all Australian marine areas between 20°S and 70°S. They are generally observed more than 2km off the Australian continent and islands, except off the south-western and south-eastern areas of the continent. Blue whales are known to feed in key localities, including the Rottnest Trench (Western Australia), Portland (Victoria) and Eden (New South Wales) (Australia National Report, 2002).

CMS actions: Various relevant studies on topics such as migration, surveys, feeding, pollution. Monitoring activities include Australian Coastwatch and the Australian Cetacean Sighting Database (Environment Australia). The Australian Whale Sanctuary was established in 1980. Future activities involve ongoing research and monitoring programmes, with additional habitat protection if required (Australia National Report, 2002).

Other actions: From October 2002, the Whale and Dolphin Conservation Society has been supporting a project led by Margie Morrice and Peter Gill who are studying the blue whales in the Bonney Coast upwelling region, Southern Australia (WDCS, 2004).

Bahamas:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Bahrain:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Barbados:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELGIUM:
Status:
CMS actions: None reported.
Other actions:
Belize:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BENIN:
Status:

CMS actions: There have been sea trips to observe only and there is no realistic possibility of assessing the population. (Benin National Report, 2002).
Other actions:
Brazil:
Status: Southern Hemisphere blue whales have been reported as far north as Brazil (WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Brunei Darussalam:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CAMEROON:
Status:
CMS actions: None reported.
Other actions:
Canada:
Status: Blue Whales may be seen from August – November in St Lawrence River and the Gulf (Cetacea, 2001).

CMS actions: (Cetacea, 2001).

Other actions: Not a Party to CMS.
Cape Verde:
Status: In the winter blue whales have been recorded in the Eastern Atlantic off the Cape Verde islands (WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:
CHILE:
Status: Abundance indices are provided between 0.005 animals/day and 0.51

animals/day. Moreover, currently there are about 8,000 specimens of blue whale, of which probably 5,000 are *Balaenoptera musculus brevicauda*, figures that according to Evans (1987) 11,000 correspond to the current population, of which 90% correspond to *B. m. brevicauda* (Chile National Report, 2002).

CMS actions: None reported.
Other actions:

China:

Status: ***Taiwan***
In the winter, some North Pacific blue whales head along the eastern North Pacific, where they breed off Taiwan (WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Colombia:

Status:
CMS actions:
Other actions:

Comoros:

Status:
CMS actions: Not a Party to CMS.
Other actions:

CONGO:

Status:
CMS actions: None reported.
Other actions:

D.R. CONGO:

Status:
CMS actions: None reported.
Other actions:

Cook Islands:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Costa Rica:

Status: In the winter, some North Pacific blue whales migrate south along the coast of Costa Rica (WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:

COTE D'IVOIRE:

Status:
CMS actions: None reported.
Other actions:

Cuba:

Status:
CMS actions: Not a Party to CMS.
Other actions:

CYPRUS:

Status:
CMS actions: None reported.
Other actions:

DENMARK:

Status:
CMS actions: None reported.

Other actions:

Djibouti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ecuador:

Status: Southern Hemisphere blue whales have been reported as far north as Ecuador (WDCS, 2004).

CMS actions: Not a Party to CMS.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Equatorial Guinea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Fiji:

Status:

CMS actions: Not a Party to CMS.

Other actions:

FINLAND:

Status:

CMS actions: None reported.

Other actions:

FRANCE:

Status: Occurrence reported in French Polynesia (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions:

Gabon:

Status:

CMS actions:

Other actions:

GAMBIA:

Status:

CMS actions: None reported.

Other actions:

GERMANY*:

Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
GHANA:
Status:
CMS actions: None reported.
Other actions:
GREECE*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
Grenada:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Guatemala:
Status:
CMS actions: Not a Party to CMS.
Other actions:
GUINEA:
Status: Common on the continental plateau and decreasing or increasing periodically (Guinea National Report, 2002).

CMS actions: None reported.
Other actions:
GUINEA-BISSAU:
Status:
CMS actions: None reported.
Other actions:
Guyana:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Haiti:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Honduras:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Iceland*:
Status: Trends of increase around Iceland have been reported (Reeves *et al.*, 2003).

CMS actions: Blue whales migrate up to the Arctic, to waters around and Iceland (WDCS, 2004).
Other actions:
INDIA:
Status:
CMS actions: None reported.
Other actions:
Indonesia:
Status:
CMS actions: Not a Party to CMS.

Other actions:

I.R. Iran:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ITALY*:

Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.

Other actions:

Jamaica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status: In the winter, some North Pacific blue whales head along the eastern North Pacific, where they breed off Japan (WDCS, 2004). There is a complete absence of blue whales today off southern Japan (Reeves *et al.*, 2003).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN:

Status:

CMS actions: None reported.

Other actions:

KENYA:

Status:

CMS actions: None reported.

Other actions:

Kiribati:

Status:

CMS actions: Not a Party to CMS.

Other actions:

D.P.R. Korea:

Status: In the winter, some North Pacific blue whales head along the eastern North Pacific, where they breed off Taiwan, Japan and Korea (WDCS, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status: In the winter, some North Pacific blue whales head along the eastern North Pacific, where they breed off Taiwan, Japan and Korea (WDCS, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status:
CMS actions: Not a Party to CMS.
Other actions:
Lebanon:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Liberia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Madagascar:
Status: Southern Hemisphere blue whales have been reported as far north as Madagascar (WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Malaysia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Maldives:
Status: There have also been reports of blue whales around the Maldives, but very little is known about their movements (WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Marshall Islands:
Status:
CMS actions: Not a Party to CMS.
Other actions:
MAURITANIA:
Status:
CMS actions: None reported.
Other actions:
Mauritius:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Mexico:
Status: In the winter, some North Pacific blue whales migrate south along the coast of and Baja California (WDCS, 2004).

CMS actions: Not a Party to CMS.
Other actions:
F.S. Micronesia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
MOROCCO:
Status:
CMS actions: None reported.
Other actions:
Mozambique:
Status:

CMS actions: Not a Party to CMS.
Other actions:
Myanmar:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Namibia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Nauru:
Status:
CMS actions: Not a Party to CMS.
Other actions:
NETHERLANDS:
Status:
CMS actions: None reported.
Other actions:
NEW ZEALAND:
Status: Occasional coastal New Zealand sightings in spring and early summer during migration south to Antarctic waters. No local population data, but IWC estimates less than 1,000 individuals in the Southern Hemisphere. (New Zealand National Report, 2002).

CMS actions: Aerial survey off the northeastern coast records migrating whales (New Zealand National Report, 2002).
Other actions:
Nicaragua:
Status:
CMS actions: Not a Party to CMS.
Other actions:
NIGERIA:
Status:
CMS actions: None reported.
Other actions:
Niue:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Norway*:
Status: Blue whales migrate up to the Arctic, to waters around Spitsbergen (WDCS, 2004).

CMS actions: None reported.
Other actions:
Oman:
Status:
CMS actions: Not a Party to CMS.
Other actions:
PAKISTAN:
Status:
CMS actions: None reported.
Other actions:
Palau:
Status:

CMS actions: Not a Party to CMS.
Other actions:

PANAMA:

Status: In the winter blue whales migrate south, from the waters off New York State, New Jersey, Florida and down to San Cristobel, Panama.

CMS actions: None reported.
Other actions:

Papua New Guinea:

Status:
CMS actions: Not a Party to CMS.
Other actions:

PERU:

Status: Southern Hemisphere blue whales have been reported as far north as Madagascar and Angola, West Africa; and Brazil, Ecuador and Peru, South America (WDCS, 2004).

CMS actions: None reported.
Other actions:

PHILIPPINES:

Status:
CMS actions: None reported.
Other actions:

POLAND:

Status:
CMS actions: None reported.
Other actions:

PORTUGAL:

Status: Unknown. Every year few individuals are sighted in the Azores waters (Portugal National Report, 2002).

CMS actions: ***Azores***
Project MARE. Integrated management of coastal and marine areas in the Azores. LIFE Project, contract LIFE B4-3200/98-509 (Portugal National Report, 2002).

Madeira
Project for the conservation of cetaceans in Madeira archipelago. LIFE Project, contract LIFE 99 NAT/P/6432 (Portugal National Report, 2002).

Other actions:

Russian Federation:

Status: In the summer blue whales in the North Pacific tend to feed anywhere between central California, right up to the Gulf of Alaska and the Bering Sea and as far west as the Kamchatka Peninsula (WDCS, 2004).

CMS actions: Thousands of blue whales were killed, but not reported, by Soviet whaling fleets in the 1960s and 1970s. Trends of increase of Blue Whales around Iceland and off California contrast with their apparent rarity in the Gulf of Alaska and southern Bering Sea where they were once abundant (Reeves *et al.*, 2003).

Other actions: Not a Party to CMS.

Qatar:

Status:
CMS actions: Not a Party to CMS.
Other actions:
Saint Kitts and Nevis:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Saint Lucia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Saint Vincent and the Grenadines:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Samoa:
Status:
CMS actions: Not a Party to CMS.
Other actions:
SAO TOME AND PRINCIPE:
Status:
CMS actions: None reported.
Other actions:
SAUDI ARABIA:
Status:
CMS actions: None reported.
Other actions:
SENEGAL:
Status: There is no precise information about this species (Senegal National Report, 2002).

CMS actions: Senegal would like to put in place a strategy for the preservation and protection of this species, but lacks knowledge, expertise and the financial means to facilitate good monitoring of this species.
(Senegal National Report, 2002).

Other actions:
Seychelles:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Sierra Leone:
Status:
CMS actions: Not a Party to CMS.
Other actions:
SOMALIA:
Status:
CMS actions: None reported.
Other actions:
SOUTH AFRICA:
Status:
CMS actions: None reported.

Other actions:

SPAIN:

Status:

CMS actions: None reported.

Other actions:

SRI LANKA:

Status: Between February and April Blue Whales are found around Sri Lanka (Cetacea, 2001).

CMS actions: None reported.

Other actions:

Sudan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Suriname:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SWEDEN (?):

Status:

CMS actions: None reported.

Other actions:

SYRIAN ARAB REPUBLIC:

Status:

CMS actions: None reported.

Other actions:

U.R. TANZANIA:

Status:

CMS actions: None reported.

Other actions:

TOGO :

Status:

CMS actions: None reported.

Other actions:

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Trinidad and Tobago:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Tuvalu:

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Arab Emirates:

Status:

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status:

CMS actions: None reported.

Other actions: The blue whale is protected in the UK by the Wildlife and Countryside Act 1981 (UNEP-WCMC, 2004).

United States:

Status: In the summer blue whales in the North Pacific tend to feed anywhere between central California, right up to the Gulf of Alaska and the Bering Sea and as far west as the Kamchatka Peninsula. In the winter, North Pacific blue whales either migrate south along the coast of Southern California or else head along the eastern North Pacific (WDCS, 2004). The North Pacific whales could include up to five populations, with two occurring within the US Exclusive Economic Zone (NOAA, 2000).

California/Mexico/Costa Rica population

Whales feed in California waters from June to November then migrate south to productive areas off Mexico and as far south as the Costa Rica Dome in winter/spring. An estimate of 1,940 blue whales is available for California, Oregon and Washington, based on 1991-96 surveys. Blue whales may have increased in abundance in California coastal waters between 1979/80 and 1991 and between 1991 and 1996. This may be an increase in stock or in the use of California as a feeding area (NOAA, 2000). Trends of increase off California contrast with their apparent rarity in the Gulf of Alaska and southern Bering Sea where they were once abundant (Reeves *et al.*, 2003).

Central Pacific/Gulf of Alaska population

The California population of blue whales is probably separate from the Gulf of Alaska population. Whales feeding along the Aleutian Islands are probably part of a central Pacific stock, which may migrate to offshore waters north of Hawaii in winter. Recently, however, blue whale feeding aggregations have not been found in Alaska despite several surveys. No data are available to estimate population size (NOAA, 2000).

Hawaiian population

Blue whales are extremely rare in Hawaii, and no data are available to estimate population size. The only published sighting record is from 1966, north of the Hawaiian Islands. Acoustic recordings were also made off Oahu and Midway Islands in the 1970s, 1980s and 1990s suggesting that the animals were migrating into the area in summer and winter. No estimate of annual human-caused mortality and serious injury is available as there are no reports of recent direct or incidental takes of blue whales in Hawaiian waters (NOAA, 2000).

Second California and Mexico population

One other stock of North Pacific blue whales (off California and Mexico) is recognized in the Marine Mammal Protection Act (MMPA) stock Assessment Reports. No data are available to estimate population size (NOAA, 2000).

North Atlantic population

In the winter, most blue whales in the North Atlantic migrate south, from the waters off New York State, New Jersey, Florida and down to San Cristobel, Panama (WDCS, 2004).

CMS actions: Not a Party to CMS.

Other actions:

URUGUAY:
Status: Not known (Uruguay National Report, 2002).

CMS actions: None reported.
Other actions:
Vanuatu:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Venezuela:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Viet Nam:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Yemen:
Status:
CMS actions: Not a Party to CMS.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BALAENOPTERIDAE

SPECIES: *Balaenoptera physalus* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Common Rorqual; Fin Whale; Finback; Fin-backed Whale; Finner; Herring Whale; Razorback (English); Baleine à nageoires; Baleine fin; Baleinoptère commun; Rorqual commun (French); Ballena aleta; Ballena boba; Rorcual común (Spanish)

RANGE STATES: Angola; ARGENTINA; AUSTRALIA; Bangladesh; Brazil; Canada; China (incl. Hong Kong, Taiwan); DENMARK (Faeroe Isles); Denmark (Greenland); Ecuador; FRANCE (French Polynesia, French Southern Territories); Iceland; INDIA; Indonesia; ITALY; Japan; KENYA; Korea, Democratic People's Republic of; Korea, Republic of; Madagascar; Mexico; Myanmar; Namibia; NEW ZEALAND; NORWAY (incl. Jan Mayen, Svalbard); PAKISTAN; POLAND; PORTUGAL; Russian Federation; SOUTH AFRICA; SPAIN; SRI LANKA; Suriname; TANZANIA, UNITED REPUBLIC OF; TUNISIA; UNITED ARAB EMIRATES; UNITED KINGDOM (South Georgia, South Sandwich Islands); United States; international waters

RED LIST RATING: EN A1abd (Cetacean Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

The fin whale is found throughout every ocean in the world, from the tropics to the polar regions, but is rarely seen inshore. The species migrate to polar waters in summer for feeding and return to warmer seas in winter for breeding (Cetacea, 2001).

When the stocks of blue whales became severely depleted from commercial whaling, attention turned to the other rorquals, in particular the fin whale. Hunting of this species peaked during the 1950s and 1960s, with catches in excess of 30,000 animals per year (Cetacea, 2001). Between 1904 and 1979 nearly 750,000 were reportedly taken in the Southern Hemisphere alone, which had the largest original population (IWC, 1995).

The current status is poorly known in most areas outside the North Atlantic (including the Mediterranean Sea), where recent studies indicate that there is a series of geographical "stocks" with limited genetic exchange (Bérubé *et al.* 1998), totalling more than 40,000 animals (Reeves *et al.,* 2003). Fin whales are rarely encountered today in those areas of the Southern Hemisphere where they were taken in large numbers (Reeves *et al.,* 2003). According to Cetacea (2001) the estimated current total population is 50,000 to 100,000 animals.

The fin whale suffered an estimated decline of at least 50% worldwide over the last three generations (assumed generation time was 20–25 years). Between 1970 and 1990 circumglobal numbers of fin whale continued to decrease from 124,222 animals to 24,000 (UNEP-WCMC, 2004). Whether the species will recover to original population levels is doubtful (Cetacea, 2001).

Ship-strikes remain a major cause of fin whale mortality (Laist *et al.* 2001).

Algeria*:
Status: Occurrence reported (Notarbartolo-di-Sciara *et al.*, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Angola:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Antarctica*:
Status: Fin whales occur in the Antarctic (UNEP-WCMC,2004; WDCS, 2004). Between late November and March, fin whales feed here (Cetacea, 2001).

CMS actions: Not a Party to CMS.

Other actions:
ARGENTINA:
Status:
CMS actions: None reported.
Other actions:
AUSTRALIA:
Status:
CMS actions: None reported.
Other actions:
Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELGIUM*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
Brazil:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Canada:
Status: They are one of the most commonly seen whales in the north, often seen offshore from Eastern Canada (WDCS, 2004). Between June and October fin whales visit the, Maritimes and Newfoundland, and St Lawrence at Saguenay River (Cetacea, 2001). Between 1970 and 1985, the numbers of fin whales off Newfoundland decreased from 4,483 to 2,330 animals; a decrease was also seen for the same period off Nova Scotia of 1,070 to 537 animals (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:
CHILE*:
Status: Occurrence reported (Redford and Eisenberg, 1992).

CMS actions: None reported.
Other actions:

China:
Status:
CMS actions: Not a Party to CMS.
Other actions:
COTE D'IVOIRE*:
Status: Occurrence reported (Amon Kothias and N'Goran, 1991).

CMS actions: None reported.
Other actions:
CROATIA*:
Status: Occurrence reported (Notarbartolo-di-Sciara *et al.*, 2003).

CMS actions: None reported.
Other actions:
CYPRUS*:
Status: Occurrence reported (Notarbartolo-di-Sciara *et al.*, 2003).

CMS actions: None reported.
Other actions:
DENMARK:
Status: ***Greenland***
Fin whales are currently hunted only in Greenland (Reeves *et al.,* 2003). Between 1970 and 1985, the estimated numbers of fin whales in Greenland increased from 7,043 to 7,174 (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
Ecuador:
Status:
CMS actions: Not a Party to CMS.
Other actions:
EGYPT*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
FRANCE:
Status:
CMS actions: None reported.
Other actions:
GERMANY*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
GREECE*:
Status: Occurrence reported (Notarbartolo-di-Sciara *et al.*, 2003).

CMS actions: None reported.
Other actions:

Iceland:

Status: They are one of the most commonly seen whales in the north, often seen offshore from Iceland (WDCS, 2004). Between 1970 and 1985, the numbers of fin whale reported off Iceland rose from 3,561 to 6,593 animals (UNEP-WCMC, 2004). Fin Whales would likely become a principal target in Iceland if whaling were to resume there (Reeves *et al.,* 2003).

CMS actions: Not a Party to CMS.

Other actions:

INDIA:

Status:

CMS actions: None reported.

Other actions:

Indonesia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND*:

Status: Occurrence reported (Berrow *et al.*, 2002).

CMS actions:

Other actions:

ISRAEL*:

Status: Occurrence reported (Notarbartolo-di-Sciara *et al.*, 2003).

CMS actions: None reported.

Other actions:

ITALY:

Status:

CMS actions: None reported.

Other actions:

Japan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status:

CMS actions: None reported.

Other actions:

D.P.R. Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Madagascar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Malaysia*:
Status: Possible occurrence in Sarawak (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Mexico:
Status: They are one of the most commonly seen whales in the north, often seen offshore from Baja California. Those in the Gulf of California appear to be resident all year round (WDCS, 2004). Between January and April, fin whales move into the Gulf of California (Cetacea, 2001).

CMS actions: Not a Party to CMS.
Other actions:
MONACO*:
Status: Occurrence reported (Notarbartolo-di-Sciara *et al.*, 2003).

CMS actions: None reported.
Other actions:
MOROCCO*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
Myanmar:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Namibia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
NETHERLANDS*:
Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
NEW ZEALAND:
Status:
CMS actions: None reported.
Other actions:
NORWAY:
Status:
CMS actions: None reported.
Other actions:
PAKISTAN:
Status:
CMS actions: None reported.
Other actions:
POLAND:
Status:
CMS actions: None reported.
Other actions:

PORTUGAL:
Status:
CMS actions: None reported.
Other actions:
Russian Federation:
Status:
CMS actions: Not a Party to CMS.
Other actions:
SAUDI ARABIA*:
Status: Occurrence reported (de Silva, 1987).

CMS actions: None reported.
Other actions:
SOUTH AFRICA:
Status:
CMS actions: None reported.
Other actions:
SPAIN:
Status:
CMS actions: None reported.
Other actions:
SRI LANKA:
Status:
CMS actions: None reported.
Other actions:
Suriname:
Status:
CMS actions: Not a Party to CMS.
Other actions:
U.R. TANZANIA:
Status:
CMS actions: None reported.
Other actions:
TUNISIA:
Status:
CMS actions: None reported.
Other actions:
Turkey*:
Status: Occurrence reported (Notarbartolo-di-Sciara *et al.*, 2003).

CMS actions: Not a Party to CMS.
Other actions:
UNITED ARAB EMIRATES:
Status:
CMS actions: None reported.
Other actions:

UNITED KINGDOM (South Georgia South Sandwich Islands):
Status:

CMS actions: None reported.

Other actions: Protected in the UK by the Wildlife and Countryside Act 1981 (UNEP-WCMC, 2004).

United States:
Status: ***Mainland***
They are one of the most commonly seen whales in the north, often seen offshore from New England and Baja California. Those in the Gulf of California appear to be resident all year round (WDCS, 2004). Between January and April, fin whales move into the Gulf of California (Cetacea, 2001).Between April and May fin whales can be seen off the coast of New England (Cetacea, 2001).

CMS actions: Not a Party to CMS.
Other actions:

URUGUAY*:
Status: Occurrence reported (Redford and Eisenberg, 1992).

CMS actions: None reported.
Other actions:

Venezuela*:
Status: Occurrence reported (Rodríguez and Rojas-Suárez, 1999).

CMS actions: Not a Party to CMS.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BALAENIDAE

SPECIES: *Eubalaena australis* (Desmoulins, 1822)

SYNONYMS: *Balaena glacialis australis*

COMMON NAME: Southern Right Whale (English); Baleine australe (French); Ballena franca (Spanish)

RANGE STATES: ARGENTINA; AUSTRALIA (including Heard Island); Brazil; CHILE (including Easter Island); Cook Islands; FRANCE (Amsterdam Island, Crozet Islands, Kerguelen, St. Paul Island); NEW ZEALAND (including Antipodes Islands, Auckland Islands, Bounty Islands, Campbell Island, Chatham Islands, Kermadec Islands, Snares Islands, Solander Island, Stewart Island, Three Kings Islands, Tokelau); Niue; SOUTH AFRICA (including Prince Edward Islands); UNITED KINGDOM (Falkland Islands (Malvinas), Tristan da Cunha); URUGUAY; international waters (Southern Indian Ocean, Southern Pacific Ocean)

RED LIST RATING: LR/cd (Cetacean Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Southern right whales are found seasonally around Australia, South Africa, South America and New Zealand. They favour warmer waters in winter for breeding and return to polar regions in summer for feeding. Both species of right whales were the first large cetaceans to be commercially hunted by man, possibly as early as the 10th Century. The species were granted protection in 1935 (Cetacea, 2001).

Although not as endangered as the northern species, southern right populations remain small in absolute terms (Jefferson *et al.*, 1994). Cetacea (2001) estimate the current population to be vary between 1,500 to 4,000. IWC (2001) put the figure at about 7,000 animals. Unlike their relatives in the Northern Hemisphere, several populations of Southern Right Whales (*E. australis*) have shown evidence of strong recovery (Bannister 2001, Best *et al.* 2001, Cooke *et al.* 2001).

Continued protection will allow substantial recovery of at least some of these populations according to Best (1993), although other sources are less optimistic. Cetacea (2001) doubts that right whales will ever recover to former numbers.

Current threats include entanglements in fishing gear, vessel collisions and habitat destruction. Despite full protection from the International Whaling Commission there is also probably still some hunting for right whales (Jefferson *et al.*, 1994).

Antarctica*:

Status: Southern right whales migrate to waters near Antarctica to feed during the summer months (WDCS, 2004).

CMS actions: Not a Party to CMS.

Other actions:

ARGENTINA:

Status: Southern right whales mate and calve during the winter in the inshore waters of Argentina then migrate to waters nearer Antarctica to feed during the summer months (WDCS, 2004). Between mid-July and November southern right whales can be seen at Peninsula Valdez in Patagonia (Cetacea, 2001).

CMS actions: None reported.

Other actions:

AUSTRALIA:

Status: Southern right whales mate and calve during the winter in the inshore waters of southern Australia, then migrate to waters nearer Antarctica to feed during the summer months (WDCS, 2004). Southern right whales can be found in bays along the South Australia coast between May and October, and also at the Head of Bight and Victor Harbour, South Australia, or Logan's Beach, Victoria, from mid-June to October (Cetacea, 2001).

CMS actions: None reported.

Other actions:

Brazil:

Status: Southern right whales mate and calve during the winter in the inshore waters of Brazil then migrate to waters nearer Antarctica to feed during the summer months (WDCS, 2004). Between June and September/October southern right whales can be seen around the southern part of Santa Catarina Island (Cetacea, 2001).

CMS actions: Not a Party to CMS.

Other actions:

CHILE:

Status: Southern right whales mate and calve during the winter in the inshore waters of Chile then migrate to waters nearer Antarctica to feed during the summer months (WDCS, 2004).

CMS actions: None reported.

Other actions:

Cook Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status:

CMS actions: None reported.

Other actions:

INDIA*:

Status: Occurrence reported (de Silva, 1987).

CMS actions: None reported.

Other actions:

Japan*:

Status: Occurrence reported at Bouvet Island (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

KENYA*:

Status: Occurrence reported (Davies and Vanden Berghe, 1994).

CMS actions: None reported.

Other actions:

NEW ZEALAND:

Status: Southern right whales are found seasonally around New Zealand (Cetacea, 2001). There are major breeding areas off New Zealand (Jefferson *et al.*, 1994).

CMS actions: None reported.

Other actions:

Niue:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Russian Federation*:

Status: A major factor delaying recovery in ths species was the illegal and unreported killing of more than 3,300 southern right whales by the Soviet Union between 1951/1952 and 1971/1972 (Tormosov *et al.* 1998).

CMS actions: Not a Party to CMS.

Other actions:

SOUTH AFRICA:

Status: Southern right whales mate and calve during the winter in the inshore waters of South Africa then migrate to waters nearer Antarctica to feed during the summer months (WDCS, 2004).

CMS actions: None reported.

Other actions:

U.R. TANZANIA*:

Status: Occurrence reported (Davies and Vanden Berghe, 1994).

CMS actions: None reported.

Other actions:

UNITED KINGDOM:

Status: Occurrence reported in Saint Helena, in the Malvinas (Falkland Islands) (UNEP-WCMC, 2004) and in South Georgia and the South Sandwich Islands (Bonner, 1987).

CMS actions: None reported.

Other actions:

URUGUAY:

Status:

CMS actions: None reported.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: MUSTELIDAE

SPECIES: *Lontra felina* (Molina, 1782)

SYNONYMS: *Lutra felina*

COMMON NAME: Chingungo; Chungungo; Marine Otter; Sea Cat (English); Chungungo; Loutre de mer (French); Chichimen; Chinchimen; Chungungo; Gato de mar; Gato marino; Huallaca; Nutria de mar; Nutria marina (Spanish)

RANGE STATES: ARGENTINA; CHILE; PERU

RED LIST RATING: EN A1acd (Medina, 1999)

CONSERVATION STATUS AND ACTIONS:

The marine otter is patchily distributed along the Pacific coast from northern Peru along the Chilean coast to Cape Horn and Isla de Los Estados in Argentina. from Peru to Tierra del Fuego. Its distribution north of 39°S latitude is becoming highly fragmented and the species has been nearly exterminated from some regions because of excessive hunting, pollution and increased human occupation along the seashores. There may also be competition with fishermen in some regions. Overexploitation of crabs and molluscs and pollution of some regions of the coast may be the most important threats to this species. Poaching is still present in many regions, especially south of 39°S latitude, where there is little or no control (Medina, 1999).

ARGENTINA:

Status: The Marine Otter is on the verge of extinction with three isolated populations, the most important of which is found in the Naheul Huapi National Park (Aued *et al.,* 2003). A recent report (2002) of one seen in a river on the Patagonian steppe (IOSF, 2004). It is protected (IOSF, 2004).

CMS actions: None reported.

Other actions:

CHILE:

Status: *Lutra felina* is threatened (IOSF, 2004). The largest populations of marine otters remain along the west coast of Chiloé Island and in southern parts of Chile. In this region, however, there is very little information about hunting, habitat conservation, and the status and distribution of otter populations Poaching may be another important threat south of Chiloé Island since there is very little control of such activities in this area (IUCN, 2003). It is legally protected (IOSF, 2004).

Information about population size is poor, due to the difficulties in the species habitat. However, it has been possible to determine density in terms of animals per kilometre of coast, which varies from one to ten animals/km along the 4,718km of Chilean coast (Chile National Report, 2002).

CMS actions: There is currently no funding or platforms to undertake necessary studies spanning the extensive Chilean littoral but future ecological studies are planned (Chile National Report, 2002).

Other actions: In 1994, IOSF funded a project on the 'Status of the Marine Otter on the central coast of Chile, Isla Catchagua' and in 2002 it funded a project on the Feeding ecology of the Marine Otter in southern Chile (IOSF, 2004).

PERU:

Status: Lives at its northern limit and has small isolated populations along the coast (IOSF, 2004). Fully protected (IOSF, 2004).

CMS actions: The peruvian Association for conservation of Nature, funded by CMS, is conducting a survey of marine otters along the Peruvian coast.

Other actions:

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Medina, G. (1999). *Lontra felina.* In: IUCN (2003). *2003 IUCN Red List of Threatened Species.* www.redlist.org. Downloaded on 17/02/2004.

* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BALAENOPTERIDAE

SPECIES: *Megaptera novaeangliae* (Borowski, 1781)

SYNONYMS: -

COMMON NAME: Bunch; Hump Whale; Humpback Whale; Hunchbacked Whale (English); Baleine à bosse; Baleine à taquet; Jubarte; Mégaptère; Rorqual à bosse; Rorqual du Cap (French); Ballena jorobada; Gubarte; Jorobada; Rorcual jorobado (Spanish)

RANGE STATES: Angola; Antigua and Barbuda; ARGENTINA; AUSTRALIA (including Heard Island); Bahamas; Bahrain; Bangladesh; Barbados; BELGIUM; Belize; BENIN; Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; Cape Verde; CHILE; China (including Hong Kong, Taiwan); Colombia; Comoros; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Cook Islands; Costa Rica; COTE D'IVOIRE; Cuba; CYPRUS; DENMARK; Denmark (Greenland); Djibouti; Dominica; Dominican Republic; Ecuador (including Galapagos Islands); EGYPT; El Salvador; Equatorial Guinea; Eritrea; Fiji; FRANCE (including Amsterdam Island, Clipperton Island, Corsica, Crozet Islands, French Guiana, Guadeloupe, Kerguelen, Martinique, New Caledonia, St. Paul Island, St. Pierre-et-Miquelon, Wallis and Futuna Islands); Gabon; GAMBIA; GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; Iceland; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; Jamaica; Japan (including Bonin Islands); JORDAN; KENYA; Kiribati; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; Liberia; Madagascar; Malaysia; Maldives; MALTA; Marshall Islands; MAURITANIA; Mauritius; Mexico (including Cedros, Guadalupe); Micronesia (Federated States of); MOROCCO; Mozambique; Myanmar; Namibia; Nauru; NETHERLANDS (including Aruba, Bonaire, Curaçao, Saba, Sint Eustatius); NEW ZEALAND (including Antipodes Islands, Auckland Islands, Bounty Islands, Campbell Island, Chatham Islands, Kermadec Islands, Snares Islands, Solander Island, Stewart Island, Three Kings Islands, Tokelau); Nicaragua; NIGERIA; Niue; NORWAY (including Bouvet Island, Jan Mayen Island, Svalbard); Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU; PORTUGAL; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; Singapore; Solomon Islands; SOMALIA; SOUTH AFRICA (including Prince Edward Islands); SPAIN; SRI LANKA; Sudan; Suriname; SWEDEN (?); TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO; Tonga; Trinidad and Tobago; TUNISIA; Tuvalu; United Arab Emirates; United Kingdom (Anguilla); UNITED KINGDOM (including Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Cyprus, Falkland Islands (Malvinas), Gibraltar, Montserrat, Pitcairn, St. Helena, South Georgia, South Orkney Islands, South Sandwich Islands, South

Shetland Islands, Tristan da Cunha, Turks and Caicos Islands); United States (including American Samoa, Guam, Hawaiian Islands, Northern Mariana Islands, United States Virgin Islands); URUGUAY; Vanuatu; Venezuela (including Lesser Antilles); Viet Nam; Yemen; international waters

RED LIST RATING: VU A1ad (Cetacean Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

The humpback whale is a widely distributed species, occurring seasonally in all oceans from the Arctic to the Antarctic, with distinct populations located in virtually every sea (Cetacea, 2001). All populations of humpback whale undertake vast migrations between high-latitude summer feeding grounds and tropical breeding grounds (Clapham, 2000). The longest migration is probably made by the Hawaii humpbacks, which travel to the Bering Strait and Alaska's Glacier Bay every year to feed (Cetacea, 2001). Cetacea (2001) quotes the current population at 20,000 animals.

Humpbacks were not traditionally a favourite of whalers, but their slow swimming speeds and coastal habits made them easy targets for modern large-scale commercial whaling (Jefferson *et al.*, 1994). Individuals were taken on migrations between their feeding and breeding grounds, as well as on these grounds. Between 1900 and 1940, over 100,000 humpbacks were taken in the Southern Hemisphere alone, with Northern stocks already diminishing (Cetacea, 2001).

In 1944 humpbacks received international protection from commercial whaling (Jefferson *et al.*, 1994), although they are still threatened by entrapment in fishing nets (Cetacea, 2001). They are also vulnerable to ship collisions and disturbance (even serious injury) from industrial noise. Despite this humpbacks seem able to adapt, or at least tolerate, living in close proximity to a considerable variety and amount of human activities. They are actively hunted today only in a few locations (Reeves *et al.*, 2003). With growing humpback populations, however, pressure to resume commercial whaling in at least a few areas is likely to mount (Reeves *et al.*, 2003).

Although most monitored stocks have demonstrated remarkable resilience and have shown evidence of fast recovery (Clapham *et al.*, 1999) and may have increased to more than 50% of their levels three generations ago (1930s, assuming a 20-year generation time), humpbacks have not yet attained 80% of those levels (IUCN, 2003). Between 1980 and 1995 the number of humpbacks in the central north Pacific rose from an estimated 1,234 to an estimated 3,832 animals (UNEP-WCMC, 2004). Other data seem to contrast with this: between 1970 and 1990, the populations in the combined northern oceans (Arctic Sea, Black sea, Atlantic Ocean, Indian Ocean, Mediteranean, Pacific) declined from an estimated 45,038 to an estimated 25,954 animals (UNEP-WCMC, 2004).

Humpbacks are the subjects of numerous local population studies (e.g., Steiger and Calambokidis 2000, Razafindrakoto *et al.* 2001) as well as basin-scale research programs (Baker *et al.* 1998, Smith *et al.* 1999).

Angola:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Antarctica*:
Status: Between late November and March humpback whales feed here (Cetacea, 2001). Occurrence of the species in Antarctica is also reported by UNEP-

WCMC (2004).

CMS actions: Not a Party to CMS
Other actions:
Antigua and Barbuda:
Status:
CMS actions: Not a Party to CMS.
Other actions:
ARGENTINA:
Status:
CMS actions: None reported.
Other actions:
AUSTRALIA:
Status: The humpback whale is known as a coastal species in Australian waters in winter and spring, and occurs in waters south of 15°S. Key locations include sites along the Western Australian, Queensland and New South Wales coasts. Breeding locations are known off the northern Western Australian coast and the central Great Barrier Reef area. The western Australian population is estimated to be 4-6,000, and the eastern Australian population is approximately 5,000, with population increases estimated to be in the order of 10% per annum (Australia National Report, 2002).

CMS actions: Numerous projects including research into the status of the humpack whale based on aerial surveys, estimating seasonal abundance and survival rates, predator-prey relationships, behaviour, migratory movements (Australia National Report, 2002). Monitoring activities are also carried out by Australian Coastwatch and Australian Cetacean Sighting Database (Environment Australia) and the habitat is being protected through the Australian Whale Sanctuary, established in 1980. A Recovery Plan, under federal legislation, is being developed. There will also be ongoing research and monitoring programs, with additional habitat protection if required (Australia National Report, 2002).

Other actions:
Bahamas:
Status:
CMS actions: Not a Party to CMS.
Other actions
Bahrain:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Barbados:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELGIUM:
Status:
CMS actions: None reported.
Other actions:

Belize:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BENIN:
Status:
CMS actions: None reported.
Other actions:
Brazil:
Status: In June - December humpback whales frequent the National Marine Park of Abrolhos in Brazil (Cetacea, 2001).
CMS actions:
Other actions:
Not a Party to CMS.
Brunei Darussalam:
Status:
CMS actions: Not a Party to CMS.
ther actions:
Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CAMEROON:
Status:
CMS actions: None reported.
Other actions:
Canada:
Status: Between June and October for humpback whales visit the Maritimes and Newfoundland (Cetacea, 2001).

CMS actions: Not a Party to CMS.
Other actions:
Cape Verde:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CHILE:
Status: The relative abundance index was 0.13 animals/day in May 1994 in the waters between Valparaíso and isla de Pacua, when most of the population ought to have been in warm waters. Other values are 0.1 – 0.25 animals/day for Chilean northern waters and 0.33 animals/day for the southern zone between December 1997 and January 1998, when most of the population ought to be in Antarctic waters. In Chilean Antarctic Territorial waters, the abundance index was calculated to be 28.4 to 53.7 animals/day bewtween the Bransfield strait and the Gerlache strait, thus showing an interesting recovery of the population. Cetacean migrations occur between the Southern Ocean and the South Pacific, and suggest that work is needed with the South Atlantic stocks to verify whether there is genetic interchange (Chile National Report, 2002).

CMS actions: A project on cetacean ecology, involving monitoring is being conducted (Chile National Report, 2002).

Other actions:
China:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Colombia:

Status: Humpback Whales can be seen off Colombia between August and October (Cetacea, 2001).

CMS actions: Not a Party to CMS.

Other actions: WWF is assessing the potential for establishing a new protected area around Bahia Malaga and has joined other NGOs to hold a yearly festival along the Colombia coast to raise awareness about humpbacks and other migratory species in the Pacific (WWF, 2004).

Comoros:

Status:
CMS actions: Not a Party to CMS.
Other actions:

CONGO :

Status: Intensive hunting in the Asia region has resulted in a large presence of humbpack whales in recent years, which have been observed from oil rigs (Congo National Report, 2002).

CMS actions: None reported.
Other actions:

D.R. CONGO:

Status:
CMS actions: None reported.
Other actions:

Cook Islands:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Costa Rica:

Status:
CMS actions: Not a Party to CMS.
Other actions:

COTE D'IVOIRE:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

Cuba:

Status:
CMS actions: Not a Party to CMS.
Other actions:

CYPRUS:

Status:
CMS actions: None reported.
Other actions:

Denmark (Greenland):

Status:
CMS actions: Not a Party to CMS.
Other actions:

Djibouti:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Dominica:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Dominican Republic:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Ecuador:
Status: Between June and September humpback whales can be seen off Ecuador (Cetacea, 2001).

CMS actions: Not a Party to CMS.
Other actions:
EGYPT:
Status:
CMS actions: None reported.
Other actions:
El Salvador:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Equatorial Guinea:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Eritrea:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Fiji:
Status:
CMS actions: Not a Party to CMS.
Other actions:
FINLAND*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
FRANCE:
Status: Reported in French Polynesia (UNEP-WCMC, 2004). Trends for New Caledonia are upward but are still <20% of the pre 20th century abundance. Population in New Caledonia is around 300-500 (New Zealand National Report, 2002).

CMS actions: None reported.
Other actions:
Gabon:
Status:

CMS actions: Not a Party to CMS.
Other actions:
GAMBIA:
Status:
CMS actions: None reported.
Other actions:
GHANA:
Status:
CMS actions: None reported.
Other actions:
Grenada:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Guatemala:
Status:
CMS actions: Not a Party to CMS.
Other actions:
GUINEA:
Status: Common on the continental plateau and decreasing or increasing periodically (Guinea National Report, 2002).

CMS actions: None reported.
Other actions:
GUINEA-BISSAU:
Status:
CMS actions: None reported.
Other actions:
Guyana:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Haiti:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Honduras:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Iceland:
Status: Occurrence reported (UNEP-WCMC, 2004). Humpback whales can be seen in early summer (Cetacea, 2001).

CMS actions: Not a Party to CMS.
Other actions:
INDIA:
Status:
CMS actions: None reported.
Other actions:
Indonesia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
I.R. Iran:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Iraq:
Status:
CMS actions: Not a Party to CMS.
Other actions:

IRELAND:
Status:
CMS actions: None reported.
Other actions:

ISRAEL:
Status:
CMS actions: None reported.
Other actions:

Jamaica:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Japan:
Status: Between February and April, humpback whales can be seen around Ogasawara, the Kermana Islands and Okinawa (Cetacea, 2001).

CMS actions: Not a Party to CMS.
Other actions:

JORDAN:
Status:
CMS actions: None reported.
Other actions:

KENYA:
Status: Not very populous though occasionally observed. Pass along the Kenyan coast between August and October. Last survey in September 2001 recorded one mother and calf (Kenya National Report, 2002).

CMS actions: Rapid baseline survey of large animals with special emphasis on humpback whales in Kenya (Kenya National Report, 2002). Planned activities include: monitoring, training in photo identification, DNA and song analysis (subject to funds being available) (Kenya National Report, 2002).

Other actions:

Kiribati:
Status:
CMS actions: Not a Party to CMS.
Other actions:

D.P.R. Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Republic of Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Kuwait:
Status:
CMS actions: Not a Party to CMS.

Other actions:

Lebanon:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Liberia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Madagascar:

Status: Humpback whales can be seen here between July and September (Cetacea, 2001).

CMS actions:

Other actions: Not a Party to CMS.

Malaysia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Maldives:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MALTA:

Status:

CMS actions: None reported.

Other actions:

Marshall Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MAURITANIA:

Status:

CMS actions: None reported.

Other actions:

Mauritius:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Mexico:

Status: Between January and April, humpback whales move into the Gulf of California (Cetacea, 2001).

CMS actions: Not a Party to CMS.

Other actions:

F.S. Micronesia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MOROCCO:

Status:

CMS actions: None reported.

Other actions:

Mozambique:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Myanmar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Namibia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Nauru:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS:

Status: Occurrence reported in the Netherlands Antilles (Eisenberg, 1989).

CMS actions: None reported.

Other actions:

NEW ZEALAND:

Status: Humpback whales migrate through NZ waters to breeding grounds in Tonga and New Caledonia (New Zealand National Report, 2002).

CMS actions: Ongoing monitoring and research (New Zealand National Report, 2002).

Other actions:

Nicaragua:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NIGERIA:

Status:

CMS actions: None reported.

Other actions:

Niue:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NORWAY:

Status:

CMS actions: None reported.

Other actions:

Oman:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status:

CMS actions: None reported.

Other actions:

Palau:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PANAMA:

Status:

CMS actions: None reported.

Other actions:

Papua New Guinea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PERU:

Status:

CMS actions: None reported.

Other actions:

PHILIPPINES*:

Status: Humpbacks in the Babuyan Islands area may be threatened by dynamite fishing, natural gas explorations, and Taiwanese fisheries (WWF, 2004). Occurrence reported (Heaney *et al.,* 1998).

CMS actions: None reported.

Other actions: WWF is very active in the Babuyan Islands area of the Philippines, one of the few breeding grounds for the humpback whale, and possibly the southernmost recorded in the western North Pacific (WWF, 2004).

POLAND*:

Status: Occurrence reported (Skora, 1991).

CMS actions: None reported.

Other actions:

PORTUGAL:

Status: The species is extremely rare in the Portuguese EEZ (Portugal National Report, 2002).

CMS actions: None reported.

Other actions:

Russian Federation*:

Status: Humpbacks travel to the Bering Strait every year to feed (Cetacea, 2001). This occurrence is also reported by Anon. (1980). The large illegal kills by Soviet factory ships in the Southern Hemisphere from the 1950s to the early 1970s would have delayed recovery of southern stocks (Reeves *et al.,* 2003).

CMS actions: Not a Party to CMS.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status: Humpbacks are actively hunted (Reeves *et al.*, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Samoa:
Status:
CMS actions: Not a Party to CMS.
Other actions:

SAO TOME AND PRINCIPE:
Status:
CMS actions: None reported.
Other actions:

SAUDI ARABIA:
Status:
CMS actions: None reported.
Other actions:

SENEGAL:
Status:
CMS actions: None reported.
Other actions:

Seychelles:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Sierra Leone:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Singapore:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Solomon Islands:
Status:
CMS actions: Not a Party to CMS.
Other actions:

SOMALIA:
Status:
CMS actions: None reported.
Other actions:

SOUTH AFRICA:
Status:
CMS actions: None reported.
Other actions:

SPAIN:
Status:
CMS actions: None reported.
Other actions:

SRI LANKA:
Status:
CMS actions: None reported.
Other actions:

Sudan:
Status:

CMS actions: Not a Party to CMS.
Other actions:
Suriname:
Status:
CMS actions: Not a Party to CMS.
Other actions:
SWEDEN (?):
Status:
CMS actions: None reported.
Other actions:
U.R. TANZANIA:
Status: Population size and trend is not known. The species occurs in Tanzanian coastal waters (Tanzania National Report, 2002).

CMS actions: Research and monitoring of the migration patterns in the Tanzanian territorial waters is being conducted (Tanzania National Report, 2002).

Other actions:
Thailand:
Status:
CMS actions: Not a Party to CMS.
Other actions:
TOGO :
Status:
CMS actions: None reported.
Other actions:
Tonga:
Status: Mark/recapture estimates suggest that Tongan population has grown from as few as 15-30 mature animals in the mid 1960s to 700 (+200) now. Trends are upward but are still <20% of the pre 20th century abundance (New Zealand National Report, 2002).

CMS actions: Not a Party to CMS.
Other actions:
Trinidad and Tobago:
Status:
CMS actions: Not a Party to CMS.
Other actions:
TUNISIA:
Status:
CMS actions: None reported.
Other actions:
Tuvalu:
Status:
CMS actions: Not a Party to CMS.
Other actions:
United Arab Emirates:
Status:
CMS actions: Not a Party to CMS.
Other actions:
UNITED KINGDOM:
Status: ***Bermuda***

Between 1975 and 1985 the number of humpbacks recorded off Bermuda increased from 5 to 23 (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions: Protected in the UK by the Wildlife and Countryside Act 1981 (UNEP-WCMC, 2004).

United States:

Status: ***Mainland***

Humpbacks travel to the Bering Strait and Alaska's Glacier Bay every year to feed. Between January and April, humpback whales move into the Gulf of California and between August and October the species can be seen off central California. Between April and May humpbacks can be seen off the coast of New England. By June-early September humpbacks can be seen off the coast of southeast Alaska.

Hawaiian Islands

Between late December and April for humpbacks can be seen near Hawaii (Cetacea, 2001).

CMS actions: Not a Party to CMS.

Other actions:

URUGUAY:

Status:

CMS actions: None reported.

Other actions:

Vanuatu:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Venezuela:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Viet Nam:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Yemen:

Status:

CMS actions: Not a Party to CMS.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: PHOCIDAE

SPECIES: *Monachus monachus* (Hermann, 1779)

SYNONYMS: -

COMMON NAME: Mediterranean Monk Seal (English); Phoque moine; Phoque-moine méditerranéen (French); Foca monje; Foca monje del Mediterráneo (Spanish)

RANGE STATES: ALBANIA; Algeria; BULGARIA; CROATIA; CYPRUS (Ex); EGYPT (Ex); FRANCE (Corsica); GREECE; ISRAEL (Ex); ITALY; Lebanon; LIBYAN ARAB JAMAHIRIYA; MAURITANIA; MONACO (?); MOROCCO; PORTUGAL; Serbia and Montenegro; SPAIN; TUNISIA; Turkey; UNITED KINGDOM (Cyprus) (Ex); international waters (Black Sea, Mediterranean Sea, Atlantic Ocean)

RED LIST RATING: CR C2a (Seal Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

The Mediterranean monk seal is the most threatened pinniped species in the world (Anon., 2002). At one time, the Mediterranean monk seal occupied a wide geographical range. Colonies were found throughout the Mediterranean, the Marmara and Black seas. The species also frequented the Atlantic coast of Africa, as far south as Mauritania, Senegal and the Gambia, as well as the Atlantic islands of Cape Verde, Madeira, the Canary Islands and the Azores. More recently, however, the species has disappeared from most of its former range, with the most severe contraction and fragmentation occurring during the last 50 years (Anon., 1999a). By 1966 it had been reduced to 20-30 small colonies scattered throughout its original range (Massicot, 2003).

Nations and island groups where the monk seal has been extirpated during the 20th century include mainland France and Corsica, Spain and the Balearic Islands, Italy, Sicily and the Toscana archipelago, and Egypt, Israel, Lebanon and Tunisia. The species is also thought to be on the brink of extinction in the Marmara and Black Seas and the Adriatic coasts and islands of Croatia. Despite sporadic sightings, the species also appears effectively to be extinct in Sardinia. As a result of this range contraction, the monk seal has been virtually reduced to two populations, one in the eastern Mediterranean and the other in the Northeast Atlantic, off the coast of Northwest Africa (Anon., 1999a).

The global population was estimated at around 5,000 in the 1950s (Burton and Pearson, 1987), around 400-800 in the 1970s (Israels, 1992) and 500 in the early 1980s (Nowak and Paradiso, 1983; Macdonald, 1984). Today the Mediterranean monk seal numbers between 300- 500 animals (Anon., 1999a). There are 120-250 individuals left in the Aegean Sea, 10 in the Black Sea, 20-35 in the Ionic Sea, 20 in the Adriatic Sea, 30-40 in the Mediterranean and 100-150 off the Atlantic coast (Anon., 1999a).

Hunting for its skin prior to this century reduced the population considerably. More recently, persecution by fishermen and disturbance of the seals' last remaining refuges (caves with submarine entrances) by skindivers are the greatest threats (Massicot, 2003). The Mediterranean monk seal is threatened by deliberate killings (fishers still consider the species a pest and a competitor for increasingly scarce resources), incidental capture in fishing gear,

decreased food availability, destruction of habitat, and pollution. Because the Mediterranean monk seal is sensitive to human disturbance, continued development of once isolated habitat has had a significant effect on the already fragmented and declining species. Compounding this is the animal's low reproductive rate. Pups are susceptible to inclement weather in their birth caves, and may be washed away and drowned during storms. Pressure from some quarters to promote *ex-situ* conservation measures - such as captive breeding and translocation - continues, despite serious doubts over the wisdom of such initiatives. Other threats to the species include disease and toxic algae (Anon., 1999a).

Many countries have introduced laws protecting the Mediterranean monk seal in the last 30 years. Thus, in theory the protection of the monk seal has been much improved. But, implementation of these laws usually leaves much to be desired. In reality therefore, little has changed (Israels, 1992).

ALBANIA:

Status: In 1997, the population was estimated at 20 individuals (WCMC/WWF, 1997).

CMS actions: None reported.

Other actions:

Algeria:

Status: In 1997, the population was estimated at 10-30 individuals (WCMC/WWF, 1997).

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: Extinct (Bulgaria National Report, 2002).

CMS actions: None reported.

Other actions:

CROATIA:

Status: In 1997, the population was estimated at 25 individuals (WCMC/WWF, 1997).

CMS actions: None reported.

Other actions:

CYPRUS (Ex):

Status: In 1997, the population was estimated at 20-50 individuals in Cyprus and Turkey (WCMC/WWF, 1997).

CMS actions: None reported.

Other actions:

EGYPT (Ex):

Status:

CMS actions: None reported.

Other actions:

FRANCE (Corsica):

Status:

CMS actions: None reported.

Other actions: As early as 1985, and again in 1994, the French government initiated an experimental captive breeding project which was abandoned on both occasions due to protests from the international monk seal scientific and conservation communities (Anon., 1999a).

GEORGIA (Ex?)*:

Status: Occurrence reported (Bannikov and Sokolov, 1984).

CMS actions: None reported.
Other actions:

GREECE:

Status: The Greek waters are home to the species' largest population, which is estimated at around 250 individuals (MOm, 2004).

CMS actions: None reported.

Other actions: MOm/Hellenic Society for the Study and Protection of the Monk Seal, a non-profit, non-governmental environmental organization was founded in 1988 by a team of marine biologists and environmental researchers. Its aims are to research and study the biology, ecology and behaviour of the species and to conserve it through any legal means (MOm, 2004).

ISRAEL (Ex):

Status:
CMS actions: None reported.
Other actions:

ITALY:

Status:
CMS actions: None reported.

Other actions: There exists a Monk Seal Group (Gruppo Foca Monaca, 2004).

Lebanon:

Status:
CMS actions: None reported.
Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: In 1997, the population was estimated at 0-20 individuals (WCMC/WWF, 1997).

CMS actions: None reported.
Other actions:

MALTA*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

MAURITANIA:

Status: In 1997, the population was estimated at 130 individuals (WCMC/WWF, 1997).

CMS actions: None reported.
Other actions:

MONACO (?):

Status:
CMS actions: None reported.
Other actions:

MOROCCO:

Status: Morocco is one of the four range states for this species in the Atlantic. This seal is threatened with extinction and has been a subject of concern since 1986 (Morocco National Report, 2002). In 1997, the was estimated at 10-20 individuals (WCMC/WWF, 1997).

CMS actions: An international strategy for action has been developed, "The Plan for the Care of the Monk Seal". A committee for the safeguard of the species was established following a meeting on 2 March 2000 regarding the implementation of the Barcelona Convention. The aim of this meeting was to identify the resources needed to safeguard this species on the Moroccan coast. Recommendations designed to reverse the decline of the Monk Seal were put forward (Morocco National Report, 2002).

Other actions:

PORTUGAL:

Status: In Portugal, the Madeira archipelago is the only place where monk seals can be found. There is a resident colony in the Deserta. The population of the Deserta Islands is estimated at 24 individuals and is increasing. The number of births per year, presently three, is also increasing (Portugal National Report, 2002). In 1997, the population was estimated at 8-10 individuals (WCMC/WWF, 1997).

CMS actions: In the Desertas Islands the monk seal study and monitoring programme, which was initiated in 1989, is maintained. A system to monitor the seals inside the caves is in preparation (Portugal National Report, 2002).

Other actions:

ROMANIA*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Russian Federation*:

Status:

CMS actions: None reported.

Other actions:

Serbia and Montenegro:

Status:

CMS actions: None reported.

Other actions:

SYRIAN ARAB REPUBLIC (ex?)*:

Status: Occurrence reported (Kumerloeve, 1975).

CMS actions: None reported.

Other actions:

SPAIN:

Status:

CMS actions: None reported.

Other actions:

TUNISIA:

Status: Very rare (Tunisia National Report, 2002).

CMS actions: None reported.

Other actions:

Turkey:

Status: In 1997, the population was estimated at 20-50 individuals in Cyprus and Turkey (WCMC/WWF, 1997).

CMS actions: Not a Party to CMS.

Other actions: There is a Turkish monk seal conservation and research organisation, SAD-AFAG, the Underwater Research Society – Mediterranean Seal Research Group. (SAD-AFAG, 2004).

UKRAINE (ex?)*:

Status: Occurrence reported (Bannikov and Sokolov, 1984).

CMS actions: None reported.

Other actions:

UNITED KINGDOM (Cyprus) (Ex):

Status:

CMS actions: None reported.

Other actions:

Additional information - Western Sahara*:

Status: Occurrence reported (Sarro and Oliveras, 1968; Valverde, 1957). In the summer of 1997, two thirds of the largest surviving population of Mediterranean monk seals were wiped out within the space of two months on the Côte des Phoques in the Western Sahara.

Actions: None reported.

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: PHYSETERIDAE

SPECIES: *Physeter macrocephalus*

SYNONYMS: *Physeter catodon*

COMMON NAME: Cachelot; Pot whale; Sperm Whale; Spermacet whale (English); Cachalot (French); Ballena esperma; Cachalote (Spanish)

RANGE STATES: ARGENTINA; AUSTRALIA; BELGIUM; Brazil; Canada; CHILE; China; Colombia; Costa Rica; DENMARK (incl. Greenland); Eritrea; FRANCE (French Polynesia); INDIA; Indonesia; IRELAND; Japan; KENYA; Korea, Democratic People's Republic of; Korea, Republic of; Liberia; Mexico; Mozambique; Myanmar; NETHERLANDS; NEW ZEALAND; NORWAY; PANAMA; PORTUGAL; SOUTH AFRICA; SPAIN; SRI LANKA; Suriname; TANZANIA, UNITED REPUBLIC OF; Thailand; UNITED KINGDOM (incl. Falkland Islands (Malvinas), St. Helena); United States; URUGUAY; Venezuela; international waters

RED LIST RATING: VU A1bd (Cetacean Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

The Sperm Whale is found in all oceans of the world, and, although well-known in the Mediterranean, rarely enters semi-enclosed or shallow seas. In summer they migrate to higher latitudes in both hemispheres but return to lower latitudes in winter, though some populations are resident all year round (Cetacea, 2001).

In the North Pacific, sperm whales are distributed widely with the northernmost boundary extending from Cape Navarin (62 °N) to the Pribilof Islands (Omura, 1955). The shallow continental shelf apparently bars their movement into the north-eastern Bering Sea and Arctic Ocean (Rice, 1989). Females and young sperm whales usually remain in tropical and temperate waters year-round, while males are thought to move north in the summer to feed in the Gulf of Alaska, Bering Sea, and waters around the Aleutian Islands. In the winter, sperm whales are typically distributed south of 40 /N (Gosho et al.,1984). However, discovery tag data from the days of commercial whaling revealed a great deal of east-west movement between Alaska waters and the western North Pacific (Japan and the Bonin Islands),with little evidence of north-south movement in the eastern North Pacific (Ferrero *et al.*, 2000).

The global population size has been estimated at around 2 million individuals (Cetacea, 2001). However, according to Obley (2004), although the worldwide population may have once been about 2 million, it is now around 500,000, although exact estimates are difficult because of the deep diving nature of these whales. Recently, however, sperm whale numbers seem to be increasing (Obley, 2004). As a species, the Sperm whale is not immediately threatened, but some regional populations require close evaluation and monitoring. For example, in the Mediterranean Sea, deaths from ship strikes and entanglement occur relatively frequently, and in the eastern tropical Pacific the most recent phase of whaling was particularly intensive and current birth rates are low (Whitehead *et al.*, 1997).

The total number of sperm whales in the Atlantic is not known, but according to the September 2000 stock report by the National Oceanic and Atmospheric Administration,

estimates are about 3,500 (Obley, 2004). It is estimated that there are 102,112 individuals in the western North Pacific (Kato and Miyashita, 1998) and 39,200 individuals in the eastern temperate North Pacific (Barlow and Taylor, 1998). Between 1970 and 1980 the number of sperm whales in the Bering Sea decreased from an estimated 9,100 to 6,600 animals (UNEP-WCMC, 2004).

Recent summer/fall surveys in the eastern tropical Pacific show that although sperm whales are widely distributed in the tropics, their relative abundance tapers off markedly westward towards the middle of the tropical Pacific (near the IWC stock boundary at 150° W) and tapers off northward towards the tip of Baja California. On the basis of total abundance, current distribution, and regulatory measures that are currently in place, it is unlikely that the North Pacific stock is in danger of extinction or threatened with becoming endangered in the foreseeable future. Reliable estimates of the minimum population, population trends and status of the stock relative to its Optimum Sustainable Population size are currently not available, although the estimated annual rate of human-caused mortality and serious injury seems minimal for this stock (Anon., 2000).

Sperm whales have a long history of commercial exploitation and continuing economic value (mainly as meat in Japan) (Reeves *et al.*, 2003). The IWC's moratorium has protected sperm whales from deliberate hunting since the 1980s, except at Lamalera in Indonesia (Rudolph *et al.*, 1997), and the Lesser Antilles, where the St. Vincent and St. Lucia whalers take them occasionally (Price, 1985; Reeves, 1988).

Sperm whales die fairly often from entanglement in fishing gear, especially pelagic driftnets, including "ghost nets" (Notarbartolo di Sciara, 1990; Haase and Félix, 1994, Barlow *et al.*, 1994, Félix *et al.*, 1997), and as a result of vessel collisions (Cagnolaro and Notarbartolo di Sciara, 1992, André *et al.*, 1994, Laist *et al.*, 2001). There is also concern about the residual effects of whaling. The selective removal of large males may have reduced pregnancy rates, and the loss of adult females within matricentric pods may have made these groups less well equipped to survive (Whitehead and Weilgart, 2000).

ARGENTINA:
Status:
CMS actions: None reported.
Other actions:
AUSTRALIA:
Status:
CMS actions: None reported.
Other actions:
BELGIUM:
Status:
CMS actions: None reported.
Other actions:
Brazil:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Canada:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Cape Verde*:
Status: Occurrence reported (Hazevoet and Wenzel, 2000).

CMS actions: Not a Party to CMS.

Other actions:

CHILE:

Status:

CMS actions: None reported.

Other actions:

China:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Colombia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Costa Rica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

COTE D'IVOIRE*:

Status: Occurrence reported (Amon Kothias and N'Goran, 1991).

CMS actions: None reported.

Other actions:

DENMARK:

Status:

CMS actions: None reported.

Other actions:

Djibouti*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

ECUADOR*:

Status: Occurrence reported in Galapagos and the mainland (UNEP-WCMC, 2004).

CMS actions:

Other actions: None reported.

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

FRANCE (French Polynesia):

Status: Occurrence reported in New Caledonia (Garrigue and Greaves, 2001).

CMS actions: None reported.

Other actions:

GERMANY*:

Status: Occurrence reported (Boye and Plaisier, 1989).

CMS actions: None reported.

Other actions:

GREECE*:

Status: Occurrence reported (Nowak, 1981).

CMS actions: None reported.
Other actions:
INDIA:
Status:
CMS actions: None reported.
Other actions:
Indonesia:
Status: At Lamalera, a few to a few tens are taken each year with hand harpoons (612 landed from 1959 to 1994) (Rudolph *et al.*, 1997).

CMS actions: Not a Party to CMS.
Other actions:
IRELAND:
Status:
CMS actions: None reported.
Other actions:
ITALY*:
Status: Occurrence reported (di Natale and Mangano, 1983).

CMS actions: None reported.
Other actions:
Japan:
Status: Japan killed five out of a quota of 10 sperm whales it set itself in 2000 in the North West Pacific and Japanese whalers are currently out hunting another 10 in 2001 (WDCS, 2004).

CMS actions: In 2000, Japan initiated a "scientific research" hunt for sperm whales in the North Pacific (Reeves *et al.,* 2003).

Other actions: Not a Party to CMS.
KENYA:
Status:
CMS actions: None reported.
Other actions:
Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:
D.P.R. Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Republic of Liberia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Malaysia*:
Status: Occurrence reported Peninsular Malaysia (Harrison, 1966) and Sarawak (Beasley and Jefferson, 1997).

CMS actions: Not a Party to CMS.
Other actions:
Maldives*:
Status: Occurrence reported (UNEP-WCMC, 2004).
CMS actions:

Other actions: Not a Party to CMS.

Mexico:
Status:
CMS actions: Not a Party to CMS.
Other actions:
MOROCCO*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
Mozambique:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Myanmar:
Status:
CMS actions: Not a Party to CMS.
Other actions:
NETHERLANDS:
Status:
CMS actions: None reported.
Other actions:
NEW ZEALAND:
Status: Sperm whales are now common whale-watching attractions in the waters around New Zealand (Cetacea, 2001).

CMS actions: None reported.
Other actions:
NORWAY:
Status:
CMS actions: None reported.
Other actions:
Oman*:
Status: Occurrence reported (de Silva, 1987).

CMS actions: Not a Party to CMS.
Other actions:
PANAMA:
Status:
CMS actions: None reported.
Other actions:
PHILIPPINES*:
Status: Occurrence reported (Heaney *et al.*, 1998).

CMS actions: None reported.
Other actions:
PORTUGAL:
Status:
CMS actions: None reported.
Other actions:
Solomon Islands*:
Status: Occurrence reported (Shimada and Pastene, 1995).

CMS actions: Not a Party to CMS.

Other actions:

SOUTH AFRICA:

Status:

CMS actions: None reported.

Other actions:

SPAIN:

Status:

CMS actions: None reported.

Other actions:

SRI LANKA:

Status:

CMS actions: None reported.

Other actions:

Suriname:

Status:

CMS actions: Not a Party to CMS.

Other actions:

TANZANIA:

Status:

CMS actions: None reported.

Other actions:

Thailand:

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Arab Emirates*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM :

Status: Occurrence reported in Grenada (Romero *et al.*, 2002).

CMS actions: None reported.

Other actions:

United States:

Status: It is possible that the sperm whale passes through waters just off South Carolina's coast. During winter in the Atlantic, sperm whales concentrate near Cape Hatteras, North Carolina, heading northward in spring. The sperm whale has been listed as federally endangered and protected in the U.S. since 1970 (Obley, 2004). Sperm whales of the eastern North Pacific have been divided into three separate stocks as dictated by the U.S.waters in which they are found: Alaska (North Pacific stock), California/Oregon/Washington and Hawaii. The number of sperm whales of the North Pacific occurring within Alaska waters is unknown (Ferrero *et al.*, 2000).

Sperm whales are found year-round in California waters (Dohl *et al.*, 1983; Barlow, 1995; Forney *et al.*, 1995), but they reach peak abundance from April through mid-June and from the end of August through mid-November (Anon., 2000). They were seen in every season except winter (Dec.-Feb.) in Washington and Oregon (Green *et al.*, 1992). Barlow (1997) estimates 1,191 sperm whales along the coasts of California, Oregon, and Washington during summer/fall based on ship line transect surveys in 1991, 1993, and Forney *et al.* (1995) estimate 892

sperm whales off California during winter/spring based on aerial line-transect surveys. Sperm whale abundance appears to have been rather variable off California between 1979/80 and 1996 but does not show any obvious trends (Anon., 2002). Occurrence reported in American Samoa (Craig, 2002). Occurrence reported in Puerto Rico (Mignucci Giannoni, 1989).

CMS actions: Not a Party to CMS.

Other actions: Ship line transect surveys have been conducted in 1991 and 1993 (Barlow, 1997).

URUGUAY:
Status:
CMS actions: None reported.
Other actions:
Venezuela:
Status:
CMS actions: Not a Party to CMS.
Other actions:

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REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: PLATANISTIDAE

SPECIES: *Pontoporia blainvillei* (Gervais and d'Orbigny, 1844)

SYNONYMS: -

COMMON NAME: Franciscana; La Plata River Dolphin (English); Dauphin de la Plata (French); Delfín de la Plata; Tonina (Spanish)

RANGE STATES: ARGENTINA; Brazil; URUGUAY; international waters (Southwest Atlantic Ocean)

RED LIST RATING: DD (Cetacean Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Pontoporia blainvillei is a small cetacean endemic to coastal waters of eastern South America and is found mainly in marine waters and only occasionally in estuaries (Praderi, 1986). It ranges from Itaúnas (Espirito Santo, Brazil, 18°25'S) (Moreira and Siciliano, 1991) to Golfo San Matías (northern Patagonia, Argentina, 41°10'S) (Crespo *et al.*, 1998). Based on the distribution of sightings and catches, it seems to inhabit a narrow strip of coastal waters between the surf line and the 30m isobath. It is ecologically tied to areas that receive large volumes of nutrient-rich continental runoff and are influenced by subtropical shelf waters (Reeves *et al.,* 2003). It does not appear to undergo large seasonal migrations and little is known about daily movements (Bordino *et al.* 1999; Bordino 2002a).

The Fransiscana is not distributed continuously throughout its range although the reasons for these gaps are unclear, but because the species prefers shallow, turbid waters (Pinedo *et al.*, 1989; Brownell, 1989), water transparency and depth may be among the factors responsible (Siciliano *et al.*, 2002).

Two Franciscana populations are recognized based on differences in skull morphology and genetic and parasite markers: a smaller northern form occurring between Rio de Janeiro and Santa Catarina; and a larger southern form in Rio Grande do Sul, Uruguay, and Argentina (Pinedo, 1991, Secchi *et al.*, 1998). Recent aerial surveys indicate that there may be about 42,000 franciscanas in the waters of Rio Grande do Sul and Uruguay (95% confidence interval: 33,047–53,542) between the shore and the 30m isobath – an area of about 64,000km^2 (Secchi *et al.*, 2001). There is a lack of information to allow assessment of the status of the Fransiscan from most regions in its range (Secchi and Wang, 2002).

The Franciscana is a particular conservation concern because of its restricted distribution and vulnerability to incidental capture in fishing gear. Large numbers are killed in gillnets. Although the largest documented catches in the 1970s were in Uruguay, catches in recent decades have also been high in southern Brazil and Argentina (Praderi *et al.*, 1989; Pérez Macri and Crespo, 1989; Monzón and Corcuera, 1991; Secchi *et al.*, 1997; Secchi, 1999). Available evidence suggests that mortality rates are excessive and unsustainable (Crespo, 1998; Secchi *et al.*, 2002; Secchi and Wang, 2002). About 1,500-2000 franciscana dolphins are killed annually in the nets of fishermen seeking to catch sharks (de Guia, 2000). CMS is funding a project, implemented by the Fundacion Vida Silvestre Argentina, involving aerial surveys to obtain abundance estimates, studies of habitat use and stock identity.

ARGENTINA:

Status: In total 338 sightings were recorded between 1993 and 1999 at Bahia Anegada. It is estimated that at least 500 dolphins are accidentally caught every year during fishing operations along the Argentinean coast (Bordino, 2002b).

CMS actions: None reported.

Other actions: Research into the effects of acoustic deterrents for reducing bycatch in this species has been conducted, as has work on population health and genetic and on the general ecology of the Plata Dolphin. (Bordino, 2002b). A project is planned to discover knowledge required for timely conservation action, and especially to investigate the impact of human activities on the survival chances of the species. It includes a study of the natural habitat and ecology of this species as well as a Conservation Campaign based on the findings (Bordino, 2002b).

Brazil:

Status: The conservation status of one franciscana stock inhabiting waters off Rio Grande do Sul State (southern Brazil and Uruguay), was assessed and based on the available information the stock was classified as Endangered under IUCN sub-criterias 1d and 2d of criterion A (EN A1d+2d) (Secchi and Wang, 2002).

CMS actions: Not a Party to CMS.

Other actions: Three research groups have been collecting information about marine mammal stranding events, including the Fransiscana, along portions of São Paulo State coast (Santos *et al.,* 2002).

URUGUAY:

Status: Information about population size, trends and distribution is not available in the Uruguay National Report (2002). Apparently mortality would have fallen to 20-30 specimens per year, given that shark fishing activities with big nets has decreased (Uruguay National Report, 2002). However, according to Praderi (1986), Fransiscanas are relatively common in the Uruguayan part of the La Plata River estuary. The conservation status of one franciscana stock inhabiting waters off Rio Grande do Sul State (southern Brazil and Uruguay), was assessed and based on the available information the stock was classified as Endangered under IUCN sub-criterias 1d and 2d of criterion A (EN A1d+2d) (Secchi and Wang, 2002).

CMS actions: None reported.

Other actions:

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* Range State not yet included in the CMS range list for this species.

RAPID REVIEW OF CONCERTED ACTION SPECIES

ANNEX C: MARINE TURTLES

CONTENTS

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Caretta caretta* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Loggerhead (English); Caouanne; Cayunne; Coffre; Tortue à bahut; Tortue Caouanne; Tortue caret (French); Cayuma; Tortuga boba (Spanish)

RANGE STATES: ALBANIA; Algeria; ARGENTINA; Angola; Antigua and Barbuda; AUSTRALIA; Bahamas; Bahrain; Bangladesh; Barbados; Belize; BENIN; Brazil; Brunei Darussalam; Canada; Cambodia; CAMEROON; Cape Verde; CHILE; China; Colombia; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Costa Rica; Comores; COTE D'IVOIRE; CROATIA; Cuba; CYPRUS; Djibouti; Dominica; Dominican Republic; Ecuador; EGYPT; El Salvador; Equatorial Guinea; Eritrea; Fiji; FRANCE (including Corsica, French Guiana, New Caledonia, Réunion); GAMBIA; Gabon; GHANA; GREECE; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA; Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; ITALY; Jamaica; Japan; KENYA; Korea Democratic People's Republic of; Korea, Republic of; Kuwait; Lebanon; Liberia; LIBYAN ARAB JAMAHIRIYA; Madagascar; Malaysia; Maldives; MALTA; MAURITANIA; Mauritius; Mexico; MONACO; MOROCCO; Mozambique; Myanmar; Namibia; NETHERLANDS (Aruba, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND; Nicaragua; NIGERIA; Oman; PAKISTAN; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Seychelles; Sierra Leone; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA (Natal); SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; TANZANIA, UNITED REPUBLIC OF; Thailand; Tonga; TOGO; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; United Kingdom (Anguilla); UNITED KINGDOM (Cyprus); United States (including Puerto Rico); URUGUAY; Vanuatu; Venezuela; Viet Nam; Yemen; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: EN A1abd (Marine Turtle Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Loggerheads are widely distributed in coastal waters, mainly in subtropical and temperate regions and travel large distances following major warm currents such as the Gulf Stream and California Current. Loggerheads are highly migratory, making some of the longest journeys known of all marine turtle species. Nesting beaches are distributed in more temperate latitudes than those of other marine turtles (McLellan *et al.*, 2004). They are also the most common species in the Mediterranean, with nesting reported from numerous countries in the region. The species also nests in Oman in the Indian Ocean and throughout southeast Asia to Australia, but rarely in the Pacific islands (Keinf, *et al.*, 2000).

Although world wide population numbers for sea turtle species do not exist, there are an estimated 60,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). Other sources put the figure at perhaps 100,000 adult females (NatureServe, 2003).

Loggerheads are less likely to be hunted deliberately than other marine turtles: their meat is considered less desirable than that of the green turtle, and the shell is less prized than that of the hawksbill. However there is some direct exploitation, and loggerheads' eggs are collected and eaten in many parts of the world. The main cause of mortality is believed to be through fisheries by-catch (McLellan *et al.*, 2004). Populations of loggerheads are sometimes threatened with disease, particularly tumours, which may be caused by pollution (Kemf, *et al.*, 2000). Other threats include loss of habitat due to coastal development, artifical light on coasts causing disorientation of nesting females, beach sand mining, collision with motorboats (Animal Diversity Web, 2004; EuroTurtle, 2004).

ALBANIA:
Status:
CMS actions: None reported.
Other actions:
Algeria:
Status:
CMS actions: Not a Party to CMS.
Other actions:
ARGENTINA:
Status:
CMS actions: None reported.
Other actions:
Angola:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:
Status:
CMS actions: Not a Party to CMS.
Other actions:
AUSTRALIA:

Status: The Australian nesting populations are genetically distinct from those in other countries. Within Australia there are two genetically independent breeding populations. The eastern Australian population is the only significant population for the species for the entire South Pacific Ocean. This population is centred in the southern Great Barrier Reef and adjacent mainland near Bundaberg with an estimated population size of 1,000 females, with 300 breeding annually (Australia National Report, 2002).

The western population is estimated to contain among 1,500-2,000 females, with breeding mainly centred on Dirk Hartog Island within Shark Bay, and

Muiron Islands (North West Cape). A small population feeds within Northern Territory waters, and the loggerhead is known as an occasional visitor to the island state of Tasmania (Australia National Report, 2002).

The population has declined by 50-80% since the 1970s, from about 1,000 breeding females, to a few hundred. This combined with their long maturation and low reproductive rate, means that the remaining loggerhead population is at serious risk of extinction from any increases in mortality. An annual loss of only a few loggerhead turtles could result in the extinction of the Queensland population (Great Barrier Reef Marine Park Authority, 2004).

CMS actions: Nesting sites are being monitored and research has been carried out on GIS-based models for indigenous management, effects of commercial fishing activities and ecotourism. In future additional habitat protection will be provided if required (Australia National Report, 2002).

Other actions: The GBR Marine Park, until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR, which will benefit marine turtle conservation enormously (McLellan *et al.*, 2004).

A principal focus of WWF's work in the Great Barrier Reef is the prevention of unregulated land-based pollution, caused by agricultural land clearing and poor land management practices upstream in the rivers that discharge into the Marine Park. A report released by WWF in 2001 entitled "Clear? ... or Present Danger" was pivotal in raising government and public awareness of this issue (McLellan *et al.*, 2004).

Over 80% of the northern coastline of Australia is owned and managed by indigenous Aboriginal people. WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. This enables Aboriginal communities, via their Sea Rangers, to monitor their own marine turtle resources and in so doing, provide valuable scientific data about the turtles in their region. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

WWF's involvement with marine turtle conservation at Ningaloo Reef, one of the longest fringing coral reefs in the world, began with its participation in a campaign to halt a proposed beachside marina and hotel. WWF has supported a community monitoring project involving the local community, local government, and state government conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

Bahamas:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bahrain:

Status:

CMS actions: Not a Party to CMS.
Other actions:
Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Barbados:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELGIUM (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
Belize:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BENIN:
Status:
CMS actions: None reported.
Other actions:
Brazil:
Status:
CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and protect marine turtles through research, conservation actions and community involvement. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).
Brunei Darussalam:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Canada:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CAMEROON:
Status:
CMS actions: None reported.
Other actions:
Cape Verde:
Status: Boa Vista, is one of the most important loggerhead nesting beaches in the East

Atlantic Ocean, but is currently under threat from the increasing and currently poorly regulated tourism boom happening in these islands (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF is suppporting loggerhead tagging and monitoring at Boa Vista. The site is likely to be eventually designated as a marine protected area, but requires proactive planning and regulation development now. This will be beneficial to not only safeguard the turtle nesting beaches, but also to set in place initiatives that can capitalize on the economic benefits of turtlerelated tourism (McLellan *et al.*, 2004).

CHILE:

Status: It is relatively abundant (Chile National Report, 2002).

CMS actions: There has been research on marine turtles in the Chilean littoral and their interaction with sword fish. SERNAPESCA and CPPS 2001 Workshop was held in Valparaíso to define priority action guidelines of a programme for the conservation of marine turtles. Future plans include determining the distribution of the various species and, once known, initiating more complex research (Chile National Report, 2002).

Other actions:

China:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Colombia:

Status:

CMS actions: Not a Party to CMS.

Other actions: As part of its trans-Pacific marine turtle conservation efforts, WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

CONGO:

Status:

CMS actions: None reported.

Other actions:

D.R.C. CONGO:

Status: None reported.

CMS actions:

Other actions:

Costa Rica:

Status: Tortuguero, on the Atlantic coast of Costa Rica, is a nesting site for loggerhead turtles. There have been recent increases in turtle numbers at Tortuguero (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Comores:
Status:
CMS actions: Not a Party to CMS.
Other actions:
COTE D'IVOIRE:
Status: None reported.
CMS actions:
Other actions:
CROATIA:
Status:
CMS actions: None reported.
Other actions:
Cuba:
Status: Some direct exploitation (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology (CIM) at Guanahacabibes (McLellan *et al.*, 2004).
CYPRUS:
Status: *Caretta caretta* breeds here (Anon., 2002).

CMS actions: None reported.
Other actions:
DENMARK (v)*: Occurrence reported (UNEP-WCMC, 2004).
Status:
None reported.
CMS actions:
Other actions:
Djibouti:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Dominica:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Dominican Republic:
Status: Not a Party to CMS.
CMS actions:
Other actions:
Ecuador:
Status:
CMS actions: Not a Party to CMS.

Other actions: Working closely with the IATTC and NOAA, WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-

hooks to circular hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status: Fisheries in this country have been responsible for killing large numbers of turtle over many years. Bottom trawls operated by Egyptian fleets also kill large numbers (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Fiji:

Status:

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: **French Guiana**

The loggerhead nests in French Guiana (McLellan et al.*, 2004).*

Guadeloupe*

Breeding reported (Fretey, 1984).

New Caledonia

Knowledge of the loggerhead populations in southern New Caledonia has been identified as a major information gap in the management and conservation of Pacific populations of loggerheads — which are possibly down to as few as 2,000 nesting females. New nesting sites have been located. A few hundred loggerhead females were estimated from the monitoring of nesting sites (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: **French Guiana**

Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally (McLellan *et al.*, 2004).

It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine

turtle conservation in the Guianas (McLellan *et al.*, 2004).

New Caledonia
Monitoring has been conducted (McLellan *et al.*, 2004). WWF conducted a turtle tagging programme on the Entrecasteaux Reefs in 2002 and produced educational materials for local communities. WWF is working with various provinces to improve the conservation legislation aimed at protecting endangered species such as marine turtles (McLellan *et al.*, 2004).

GAMBIA:
Status:
CMS actions: None reported.
Other actions:

Gabon:
Status: All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) in Gabon (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.
Other actions:

GHANA:
Status:
CMS actions: None reported.
Other actions:

GREECE:
Status: Loggerhead turtles breed here – specifically in western Greece and Crete (Anon., 2002). The nesting density of turtles on Zakynthos Island (3,000 per sq. km) is among the highest in the world. Bottom trawls operated by Greek fleets kill large numbers of loggerheads (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: There is a LIFE Project 99/72588 on the conservation and management of the wetlands of Amvrakikos in Greece involving *Caretta caretta*. WWF and IUCN have been highly active in Greek Islands since the early 1980s, especially Zakynthos, surveying the beaches for turtles and promoting ecologically sound tourism (Kemf, *et al.*, 2000).

In 1999, the Greek government declared a Marine National Park in Zakynthos. WWF contributed to the completion of restoration works for the long term protection of this important loggerhead marine turtle nesting beach in the Mediterranean against erosion and siltation (McLellan *et al.*, 2004).

Guatemala:
Status:
CMS actions: Not a Party to CMS.
Other actions:

GUINEA:
Status: The species is plentiful in the coastal area, particularly on the shores of the Islands of Loos (Kassa, Tamara, Room, Soro, Rogbanè, Rio Pongo and in the north west of the country) (Guinea National Report, 2002).

CMS actions: Future plans include restoration of the habitat following the guidelines of the National Strategic Action Plan for Biological Diversity concerning species of Marine Turtle; training administrators of said habitats; raising the awareness of fishermen and sailors who must assist with the conservation of Marine Turtles, and raising the awareness of local coastal communities (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status: There are important nesting and feeding grounds for loggerhead turtles in the region (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: Nesting and feeding grounds for loggerheads in the region have been supported by WWF since 1976. A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Guyana:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Haiti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

INDIA:

Status:

CMS actions: None reported.

Other actions:

Indonesia:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has been involved in various turtle conservation projects in Indonesia. In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included Berau Island (Kemf, *et al.*, 2000).

I.R. Iran:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ISRAEL:

Status: In the 2000 nesting survey, 69 nests were found along the Mediterranean coast, and about 4200 hatching turtles were released. In 2001, 65 nests were found (Israel National Report, 2002).

CMS actions: Nesting surveys are being conducted along the Mediterranean coast. Nest sites are protected and stranded and injured turtles are rehabilitated (Israel National Report, 2002).

Other actions:

ITALY:

Status: Fisheries in this country have been responsible for killing large numbers of turtle over many years (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: There is a LIFE projects dealing with the conservation of *Caretta caretta,* which concerns urgent conservation measures on the islands of Lampedusa and Linosa (99/72198) (Anon., 2002). WWF is conducting a campaign to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Along most areas of the Kenyan coast, with higher concentrations in the northern parts and there is strong seasonal variations in distribution (Kenya National Report, 2002).

CMS actions: *Caretta caretta* is monitored and its habitat protected within the framework of coastal zone and biodiversity monitoring and management strategies (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve.The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season (McLellan *et al.*, 2004).

The community has also actively participated in ongoing monitoring of

marine turtles and their habitats. In order to broaden this expertise base, WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

D.P.R. Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Republic of Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Kuwait:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Lebanon:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Liberia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

LIBYAN ARAB JAMAHIRIYA:
Status:

Caretta caretta nests here (Anon., 2002). Between 1995 and 1998 WWF survey teams found unknown and significant loggerhead turtle nesting beaches, especially alongh the northeast coast. Fisheries in this country have been responsible for killing large numbers of turtle over many years (Kemf, *et al.*, 2000).

CMS actions: None reported.
Other actions:

Madagascar:
Status: This species nests in Madagascar (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Community-based conservation projects have been set-up in the Fort Dauphin area (Kemf, *et al.*, 2000). In 2002/2003 WWF initiated tagging activities in northern Madagascar, and commenced a trade assessment at two high-risk sites together with small scale awareness activities (McLellan *et al.*, 2004).

Malaysia:
Status:
CMS actions: Not a Party to CMS.

Other actions: In 1993, an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region.

The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

Maldives:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MALTA:

Status:

CMS actions: None reported.

Other actions:

MAURITANIA:

Status: The Banc d'Arguin National Park is an important nesting and feeding ground for this species of turtle. Several thousand turtles per year are killed as by-catch in the local shark fishery (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: Turtles enjoy some protection in the Banc d'Arguin National Park which is supported by WWF (Kemf, *et al.*, 2000). This important nesting and feeding ground for loggerhead turtles has been supported by WWF since 1976. A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Mauritius:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Mexico:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

F.S. Micronesia*:

Occurrence reported (Herring, 1986).

Status:

CMS actions:

Other actions:

MONACO:

Status: *Caretta caretta* is rarely and fleetingly present (Monaco National Report, 2002).

CMS actions: None reported.

Other actions:

MOROCCO:

Status:

CMS actions: None reported.

Other actions:

Mozambique:

Status: Loggerhead turtles are found in the waters of Mozambique and also come ashore to nest (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Namibia:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

NETHERLANDS:
Status:
CMS actions: None reported.
Other actions:

NEW ZEALAND:
Status: None reported.
CMS actions:
Other actions:

Nicaragua:
Status:
CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA:
Status:
CMS actions: None reported.
Other actions:

NORWAY (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

Oman:

Status: The world's largest nesting aggregation (30,000 nesting females/year) is on Masirah Island (NatureServe, 2003). The principal threats to loggerheads on Masirah were flooding of nests and lights near the beach distracting hatchlings.

CMS actions: Not a Party to CMS.
Other actions:

PAKISTAN:

Status:
CMS actions: None reported.
Other actions:

PANAMA:

Status:
CMS actions: None reported.
Other actions:

Papua New Guinea:

Status: Few quantitative data are available about important marine turtle habitats in Papua New Guinea.

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

PERU:

Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: None reported.
CMS actions:

Other actions: In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held funded by WWF which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was

recommended. Areas proposed included the Phillippine-Sabah Turtle Islands, Sipadan Islands, and the Berau Island (Kemf, *et al.*, 2000).

POLAND (v)*:

Status:

CMS actions: None reported.

Other actions:

PORTUGAL:

Status: Individuals observed in Portuguese waters are mainly juveniles. The EEZs of the Azores and Madeira harbour mainly US-born animals (Atlantic population). Population size seems to be increasing slightly. The origin and status of the Algarve (southern Portugal) population is unknown: animals can originate from the Atlantic (US), from Cape Verde or from the Mediterranean populations and are probably a mixture, with predominant Atlantic (US) origin (Portugal National Report, 2002).

CMS actions: Research is conducted at Madeira into the behaviour, ecology, population structure of loggerheads, and the effects of fisheries. On the mainland, stranded animals are rehabilitated. Plans for the future include a central database; a stranding and rescue network; a tagging program and satellite telemetry project; and genetic sampling to separate the three populations (Atlantic, Mediterranean and Cape Verde) (Portugal National Report, 2002). This species is present at Natura 2000 protected sites in the Macaronesian region (Anon., 2002).

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Russian Federation (v)*:

Occurrence reported (UNEP-WCMC, 2004).

Status:

Not a Party to CMS.

CMS actions:

Other actions:

Saint Kitts and Nevis:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions: The Samoan Government has declared its political commitment to

establishing its 120,000km^2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary in 2002 (McLellan *et al.*, 2004).

SAUDI ARABIA:

Status:

CMS actions: None reported.

Other actions:

SENEGAL:

Status: *Caretta caretta* is common in the centre of the country and it has been spotted in the north in the Park of the Barbary Coast, but there has been no precise information about the size of the population (Senegal National Report, 2002). Feeding grounds in Sine Saloum are considered to be regionally important for marine turtles. However, turtles are under many threats here, including local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan *et al.*, 2004).

CMS actions: A national strategy for the conservation of turtles will be put in place (Senegal National Report, 2002).

Other actions: WWF has funded a number of protected areas for turtles in Senegal (Kemf, *et al.*, 2000). WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, which will protect regionally important feeding and nesting grounds for five species of marine turtles (McLellan *et al.*, 2004).

Serbia and Montenegro:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Seychelles:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Sierra Leone:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SLOVENIA:

Status:

CMS actions: None reported.

Other actions:

Solomon Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SOMALIA:

Status:

CMS actions: None reported.

Other actions:

SOUTH AFRICA (Natal):

Status: The species nests on Northern Natal (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: The loggerhead turtles of the Tongaland beaches of KwaZulu-Natal have been the subject of a monitoring and patrol programme, led by KZN, that has been running since 1969 (McLellan *et al.*, 2004).

WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:

Status: Fisheries in this country have been responsible for killing large numbers of turtle over many years, especially as a bycatch in Spanish longline fisheries which were estimated to kill 4,000 animals per year (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: There is a LIFE project (00/7303) dealing with the conservation of *Caretta caretta,* which foresees measures to manage the habitats of this species around the Balearic islands, while giving particular attention to incidental catches. This species is present at Natura 2000 protected sites in the Macaronesian region (Anon., 2002).

SRI LANKA:

Status:

CMS actions: None reported.

Other actions:

Sudan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Suriname:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers,

supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

SYRIAN ARAB REPUBLIC: *Caretta caretta* breeds here (Anon., 2002).

Status:

None reported.

CMS actions:

Other actions:

U.R. TANZANIA:

Status: Population size and trends are not known. There is no nesting record of loggerhead turtle in Tanzania. Three loggerhead turtles tagged in South Africa in 1985, 1992 and 1999 have been captured in Mafia over past two years (U.R. Tanzania National Report, 2002).

CMS actions: Mortalities are monitored in Mafia Islands. A technical committee will be formed to coordinate all turtle conservation programmes in Tanzania (U.R. Tanzania National Report, 2002).

Other actions: Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000). WWF is working with local communities on Mafia Island on a variety of natural resource management topics, including fisheries management, alternative non-destructive fishing ventures and marine turtle conservation. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and Born Free Foundation, amongst others (McLellan *et al.*, 2004).

Over the last nesting season on Mafia Island, over 10,000 hatchlings were produced from nest protection, and the rate of human poaching fell to 4% of previous levels. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were, and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various WWF sponsored conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

TOGO:

Status:

CMS actions: None reported.
Other actions:

Trinidad and Tobago:

Status:
CMS actions: Not a Party to CMS.
Other actions:

TUNISIA:

Status: *Caretta caretta* nests here (Anon., 2002). Fisheries in this country have been responsible for killing large numbers of turtle over many years (Kemf, *et al.*, 2000).

CMS actions: None reported.
Other actions:

Turkey:

Status: Surveys indicate that there are 17 important loggerhead nesting beaches on Turkey's Mediterranean coast. Fisheries in this country have been responsible for killing large numbers of turtle over many years. Bottom trawls also kill significant numbers of loggerheads (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1978 there have been nesting surveys initiated by WWF and IUCN. In 1987 the Turkish Society for the Protection of Nature (DHKD) launched a successful campaign to prevent a huge tourism development project for the Dalyan/Koycegiz region (Kemf, *et al.*, 2000). WWF is working to establish a fully representative network of protected areas in the Mediterranean and is collaborating with governments and local conservation organizations to protect loggerhead nesting beaches in Turkey and Greece (McLellan *et al.*, 2004).

The first systematic surveys of nesting beaches for the two marine turtle species breeding on the Turkish coasts of the Mediterranean Sea — the loggerhead and green turtle — started in 1979 with the support of WWF and IUCN. In 1988, 17 sites were designated as Marine Turtle Nesting Sites. However, a recent report from WWF indicated that 64 per cent of these sites are not adequately protected (McLellan *et al.*, 2004).

The First Turkish National Marine Turtle Symposium, was held in December 2003 in Istanbul, Turkey and organized by WWF-Turkey. A draft National Action Plan for Marine Turtles was formulated during the Symposium. It included recommendations to prepare a final National Action Plan for the conservation of marine turtles and their habitats as soon as possible; to establish marine turtle rescue and rehabilitation centres; and to standardize methods employed in conservation and monitoring of the nesting sites (McLellan *et al.*, 2004).

Tuvalu:

Status:
CMS actions: Not a Party to CMS.
Other actions:

United Arab Emirates:

Status:
CMS actions: Not a Party to CMS.
Other actions:

United Kingdom (Anguilla):

Status:

CMS actions: Anguilla is not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status:

British Virgin Islands*
Breeding reported (UNEP-WCMC, 2004).

Cayman Islands*
Occurrence reported (Parsons, 1984).

Cyprus

Grenada*
Breeding reported (Finley, 1984).

Montserrat*
Breeding reported (UNEP-WCMC, 2004).

Turks and Caicos islands*
Breeding reported (Fletemeyer, 1984).

CMS actions: None reported.

Other actions:

United States (including Puerto Rico):

Status: Nesting range in the United States is mainly the Atlantic coast from North Carolina to southern Florida, with about 90% of individuals in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward counties, Florida. Indian River and Brevard counties contain the second densest aggregations of nesting loggerheads in the world (about 6,000-15,000 females nesting/year) (NatureServe, 2003).

The major nesting grounds are off the coast of Florida and South Carolina (Kemf *et al.,* 2000). These Florida loggerheads migrate to the Bahamas in the winter. Small populations of the Atlantic loggerhead are also found on barrier islands off of the Texas coast (Animal Diversity Web, 2004).

The most concentrated population is in the Greater Antilles and the eastern United States with about 15,000 individuals frequenting the eastern U.S. yearly. However, the Carolinas record a three percent decrease in the occurence of *C. caretta* each year (Animal Diversity Web, 2004).

CMS actions: Not a Party to CMS.

Other actions

URUGUAY:

Status: No information available (Uruguay National Report, 2002).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions:

Vanuatu:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. As a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Viet Nam:

Status: Populations of loggerhead turtles are in serious decline (Kemf, *et al.*, 2000).

CMS actions:

Not a Party to CMS.

Other actions:

There are proposals for a network of protected areas (Kemf, *et al.*, 2000).

Yemen:

Status:

CMS actions: Not a Party to CMS.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Chelonia mydas* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Green Turtle (English); Tortue comestible; Tortue franche; Tortue verte (French); Tortuga blanca; Tortuga verde (Spanish)

RANGE STATES: Algeria; Angola; Antigua and Barbuda; AUSTRALIA; Bahamas; Bahrain; Bangladesh; Barbados; Belize; BENIN (?); Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; Cape Verde (?); CHILE (including Easter Island); China (including Taiwan); Colombia; Comoros; CONGO (?); CONGO, DEMOCRATIC REPUBLIC OF THE (?); Cook Islands; Costa Rica; Cuba; CYPRUS; Djibouti; Dominica; Dominican Republic; Ecuador (including Galapagos Islands); EGYPT; El Salvador; Equatorial Guinea; Eritrea; Fiji; France* (including French Guiana, French Polynesia, Guadeloupe, Martinique, New Caledonia, Réunion, Society Islands, Tuamotu Islands, Wallis and Futuna Islands (?)); Gabon (?); GAMBIA (?); GHANA; GREECE; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; ITALY; Jamaica; Japan; KENYA; Kiribati; Kuwait; Lebanon; Liberia; LIBYAN ARAB JAMAHIRIYA; Madagascar; Malaysia; Maldives; MALTA; Marshall Islands; MAURITANIA; Mauritius (including Rodrigues); Mexico; Micronesia (Federated States of); MOROCCO (?); Mozambique; Myanmar; Namibia; Nauru (?); NETHERLANDS (Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND (Tokelau); Nicaragua; NIGERIA (?); Niue (?); Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL (?); Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; Singapore; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO (?); Tonga; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; United Kingdom (Anguilla); UNITED KINGDOM (Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Cyprus, Montserrat, Pitcairn (?), Turks and Caicos Islands); United States (including American Samoa, Caroline Islands, Guam, Hawaiian Islands, Northern Mariana Islands, Puerto Rico, United States Virgin Islands); URUGUAY; Vanuatu; Venezuela; Viet Nam (?); Yemen; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: EN A1bd (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

The species is widely distributed in the tropics, particularly near continental coasts and around islands. They have also been recorded in temperate waters. Females migrate huge distances between nesting and feeding grounds. Nesting occurs throughout the range including on Pacific islands where few other turtles now occur (Kemf, *et al.*, 2000).

Although world wide population numbers for sea turtle species do not exist, there are an estimated 203,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). As a result of the various pressures that threaten this species, populations have, and continue to, decline worldwide (McLellan *et al.*, 2004). although in a few areas, strong conservation measures have led to a recovery in the species (e.g. Sabah, Malaysia and Florida, USA) (Kemf, *et al.*, 2000). There has been a decrease of 80% or more in the Mediterranean population (IUCN, 2003).

Although this species is classified as Endangered by the Red List Standards and Petitions Subcommittee (1996) a petition has been produced, challenging that there is evidence of large and increasing or stable populations. (1996). However, neither the Marine Turtle Specialist Group (MTSG) nor the petitioner provides either decline rate estimates or population size estimates for all populations (IUCN, 2003).

The green turtle has been prized for its meat since the 1500s, especially in the Caribbean (Kemf, *et al.*, 2000). An estimated 100,000 green turtles are killed around the Indo-Australian archipelago each year. There is a near total egg removal in several countries (e.g. in excess of 90% egg harvest in south-east Asia (IUCN, 2003)) and disease threatens populations elsewhere (McLellan *et al.*, 2004).

Algeria:
Status:
CMS actions: Not a Party to CMS.

Other actions: Between 1989 and 1993, WWF supported a project to survey the extent of mortality and to identify key breeding, feeding and overwintering areas for green turtle (Kemf, *et al.*, 2000).

Angola:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME).The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:
Status:
CMS actions: Not a Party to CMS.
Other actions:

AUSTRALIA:
Status: The Australian nesting populations of green turtles are genetically independent stocks. In addition, there are green turtles that feed in Australia that are part of

stocks that breed in other countries (eg. Indonesia, Papua New Guinea, New Caledonia and Pacific Mexico). Green turtles are found in Australian waters off the Northern Territory, Queensland, and Western Australia; and are occasional visitors to the island state of Tasmania. Green turtles are the most predominant species within foraging populations of 3,250 at Nigaloo, 4,250 at Exmouth Gulf and 84,00 at Shark Bay (Australia National Report, 2002). There is reasonable evidence to indicate that the Australian population may be declining.(IUCN, 2003)

CMS actions: Numerous research papers on subjects including monitoring nesting sites, GIS-based models for indigenous management, effects of commercial fishing activities, ecotourism (Australia National Report, 2002).

Other actions: Despite its World Heritage status, the Great Barrier Reef Marine Park (GBRMP), until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR. (McLellan *et al.*, 2004).

Firstly, GBRMPA has adopted a scientific recommendation that a minimum of 25-30% of the Marine Park be protected from fishing, and that the green zones network will protect critical nesting, foraging and migration habitats of marine turtles, amongst other endangered species. WWF has been actively involved at the policy level on advocacy for the no fishing zones, and has conducted a high-profile public campaign urging people to become involved in the rezoning plan. WWF considers the final zoning and the RAP to be an exemplary achievement for conservation of this globally significant coral reef system and endangered species such as marine turtles (McLellan *et al.*, 2004).

A principal focus of WWF's work in the Great Barrier Reef is the prevention of unregulated land-based pollution, caused by agricultural land clearing and poor land management practices upstream in the rivers that discharge into the Marine Park. Over the past 150 years, the volume of sediment and nutrients flowing into the Marine Park has quadrupled, and has been shown to degrade many inshore marine ecosystems, including marine turtle habitats (McLellan *et al.*, 2004).

A report released by WWF in 2001was pivotal in raising government and public awareness of this issue. The Australian and Queensland governments recently jointly released a Reef Water Quality Plan. This plan sets out measures to reduce land-based sources of sediment, nutrient and pesticide pollution that threaten in-shore reefs and critical habitats (McLellan *et al.*, 2004).

Over 80% of the northern coastline of Australia is owned and managed by indigenous Aboriginal people. WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. Sea Rangers are Aboriginal community representatives who have the responsibility of managing their natural resources. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. This enables Aboriginal communities, via their Sea Rangers, to monitor their own marine turtle resources and in so doing, provide valuable scientific data about the turtles in their region. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

At Ningaloo Reef, WWF has supported a community monitoring project involving the local community, local government, and state government

conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

Tracking studies will investigate the post- nesting movements of green turtles in the southern Gulf of Carpentaria and will build on previous telemetry studies (McLellan *et al.*, 2004).

Bahamas:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bahrain:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Barbados:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BELGIUM (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Belize:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BENIN (?):

Status:

CMS actions: Sites that are thought to be egg-laying areas are being protected against anthropological pressures such as lighting, housing-development and the taking of sand. Future activities will include raising the awareness of the public at large, and the installation of "Eco-gardes" (Eco-monitors) over the whole of Benin (Benin National Report, 2002).

Other actions:

Brazil:

Status: There is a distinct green turtle population breeding in Suriname and feeding occurs in waters off the Brazilian coast (Kemf, *et al.*, 2000), notably in the Island Fernando de Noronha Marine National Park (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and

protect marine turtles through research, conservation actions and community involvement. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).

Since the 1980s WWF has supported research and successful antipoaching projects in Suriname and Brazil. Protected areas have been set up (Kemf, *et al.*, 2000). WWF supports Project TAMAR for activities related to tourism and the conservation of green turtles in the Island Fernando de Noronha Marine National Park (McLellan *et al.*, 2004).

Brunei Darussalam:
Status: Not a Party to CMS.
CMS actions:
Other actions:

BULGARIA (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

CAMEROON:
Status:
CMS actions: None reported.
Other actions:

Canada:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Cape Verde (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:

CHILE:
Status: Its distribution range in the Chilean Pacific goes from Africa to Chilé, Region X; however, the southern limit has been identified for Desolación island, in Region XII. It is a common species in Chilean waters. The population size is unknown (Chile National Report, 2002).

CMS actions: A SERNAPESCA and CPPS 2001 Workshop was held in Valparaíso to define priority action guidelines of a programme for the conservation of marine turtles. There is no future activity planned, however the desire to conduct research is always present (especially research into green turtle distribution and migration) through satellite monitoring (Chile National Report, 2002).

Other actions:

China:
Status:
CMS actions: Not a Party to CMS.

Other actions:

Colombia:

Status:

CMS actions: Not a Party to CMS.

Other actions: As part of its trans-Pacific marine turtle conservation efforts, WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

Comoros:

Status:

CMS actions: Not a Party to CMS.

Other actions:

CONGO (?):

Status:

CMS actions: None reported.

Other actions:

D.R. CONGO:

Status: None reported.

CMS actions:

Other actions:

Cook Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF is working with communities in the Cook Islands to ensure that local people do have access to the information they require to sustainably manage their natural resources, including marine turtles. Part of this is through supplying tags to those communities in the outer islands who want to participate in a tagging programme, as well as directly tagging and releasing turtles caught in Rarotonga Lagoon. Additionally, WWF has run awareness programmes including through a migrating green turtle tagged in Palmerston Atoll. The whole community became involved with the schoolchildren plotting the migration route of the turtle as it travelled across the sea (McLellan *et al.*, 2004).

Costa Rica:

Status: Tortuguero, on the Atlantic coast of Costa Rica, is the largest nesting site of the green turtle in the Atlantic Ocean (Kemf, *et al.*, 2000). The species also nests at Playa Naranjo on the Pacific Coast. During the 1980s The apparent increase in Leatherback nesting at Playa Naranjo occurred in parallel with a decrease in nesting by green turtle *Chelonia mydas*. In 1989-1990, 466 tracks of this species were registered, in 1990-1991 there were 1,212 tracks, and in a short period in 1993-1994 there were 152 tracks. It is uncertain whether the current increase in the nesting female numbers in Tortuguero, Costa Rica, will be hampered by the ongoing catch of thousands of green turtles for their meat in Nicaragua (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000). After a time in the 1960s when nearly every green turtle coming to nest there was taken for the export market for turtle soup, Tortuguero is now a success story in demonstrating the economic benefits of live turtles

versus dead ones. Each year, some 50,000 tourists visit Tortuguero to see the nesting turtles and other wildlife. The local community benefits directly from the tourism, for example through serving as certified guides to lead tourists on nightly turtle watching excursions (McLellan *et al.*, 2004).

COTE D'IVOIRE (br?)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Cuba:

Status: Cuba and Dominica are proposing to reopen international trade in green turtle products (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF is active in marine turtle conservation in Cuba on a number of fronts. WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology at Guanahacabibes (McLellan *et al.*, 2004).

CYPRUS:

Status:

CMS actions: None reported.

Other actions:

Djibouti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status: Cuba and Dominica are proposing to reopen international trade in green turtle products (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ecuador:

Status: Marine turtles were threatened by foreign fishing fleets (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF funded research is conduceted at the Galapagos Islands (Kemf, *et al.*, 2000). Studies carried out by NOAA in the Atlantic Ocean suggest that adaptations to the fishing gear can significantly reduce bycatch of marine turtles. Working closely with the IATTC and NOAA,WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-hooks to circular

hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status: Green turtle comprise one in every three turtles killed for human consumption (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Fiji:

Status: The waters off Fiji provide important foraging grounds for marine turtles, especially green turtles which have been recorded travelling from as far afield as French Polynesia, American Samoa and Eastern. Turtle hunting was a traditional activity and many Fijians, Indians and Rotumans now consider turtles to be common property. Turtles are targeted for general consumption as well as for sale in local markets. The eggs are also targeted for subsistence purposes. In addition, turtle shells are still sold for both ornamental curios and jewellery McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Export of turtle shells has been prohibited since 1990, although a number of exemptions have been granted. A five year moratorium was imposed on the killing of turtles, the taking or destroying of eggs, and the trade of turtle meat and eggs from 1995 to December 2000. This was not totally renewed immediately, after the first five years. However, partly through WWF's recent participation in a collaborative national survey of the status of marine turtles, and lobbying of the government by WWF, other organisations and community members, the government has extended the moratorium from 2004 for another five years (McLellan *et al.*, 2004).

In Fiji, WWF is helping the customary resource owners of Ono Island to set up a community-based Marine Protected Area (MPA). Through this support, local people have acquired new skills in monitoring the health of their reefs. There is also a current ban on the catching of turtles within their MPA. To enforce the rules developed by the community, a number of villagers have been appointed and trained as honorary fisheries'wardens (McLellan *et al.*, 2004).

The same approach is being used to develop a strategy to integrate turtle conservation into community-based marine protected areas in the Great Astrolabe Reef, Kadavu. WWF has carried out marine conservation awareness programmes targeted at customary resource owners, and will be working with

them to establish an MPA to protect hawksbill turtle nesting sites at Qasibale Island. As part of establishing the MPA, WWF will assist customary resource owners with an assessment of their current marine turtle hunting practices (traditional and non-traditional), and
with developing and implementing management measures to protect and conserve turtle populations in the area (McLellan *et al.*, 2004).

France:

Status:

French Polynesia

Numbers of green turtle have decreased by more than half in French Polynesia since the 1940s (Kemf, *et al.*, 2000).

French Guiana

Green turtles nest on French Guiana's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS for this species.

Other actions:

French Guiana

Since 2000,WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally (McLellan *et al.*, 2004).
It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

New Caledonia

WWF conducted a green turtle tagging programme on the Entrecasteaux Reefs of New Caledonia in 2002. New nesting sites were located and 232 green turtles were tagged. Approximately 1,500 green turtle females and a few hundred loggerhead females were estimated from the monitoring of nesting sites. Knowledge of the loggerhead populations in southern New Caledonia has been identified as a major information gap in the management and conservation of Pacific populations of loggerheads — which are possibly down to as few as 2,000 nesting females (McLellan *et al.*, 2004).
To accompany the tagging effort, educational materials for local communities were produced, and WWF is working with various provinces to improve the conservation legislation aimed at protecting endangered species such as marine turtles (McLellan *et al.*, 2004).

Gabon (?):

Status: Offshore seagrass is important green turtle feeding ground (Kemf, *et al.*, 2000).
All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) in Gabon (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

GAMBIA (?):

Status:

CMS actions: None reported.

Other actions:

GHANA:

Status:

CMS actions: None reported.

Other actions:

GREECE:

Status:

CMS actions: None reported.

Other actions:

Grenada:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Guatemala:

Status:

CMS actions: Not a Party to CMS.

Other actions:

GUINEA:

Status: From the third quarter of the rainy season (July to mid-October), green turtles are plentiful and spread out over the whole of the coastal area of Guinea (Guinea National Report, 2002).

CMS actions: Preliminary research has been carried out by The Boussara National Centre of Halieutic Research (CNRHB) (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status: Satellite telemetry studies in Guinea Bissau with the support of the International Foundation for the Banc D'Arguin (FIBA), indicate that green turtles move between nesting areas in Guinea Bissau and feeding grounds in The Banc D'Arguin National Park in Mauritania (McLellan *et al.*, 2004).

CMS actions: CMS has funded a study of the distribution and migration pattern of green turtle populations nesting at Poilao. This study is being implemented by the Marine Turtle Research Group, University of Wales, Swansea.

Other actions: Important nesting and feeding grounds for green turtles in the region have been supported by WWF since 1976.A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Guyana:

Status: Green turtles nest on this country's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation

and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Shell Beach in Guyana is the last remaining section of natural coastline and mangrove forests in the country. It hosts green turtle nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve (McLelland *et al.*, 2004).

Under the coordination of the Guyana Marine Turtle Conservation Society, WWF has, over the years, supported most marine conservation initiatives including monitoring, beach protection, and enforcement of fishing bans during the nesting season. In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project — an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

INDIA:

Status:

CMS actions: None reported.

Other actions:

Indonesia:

Status: Numbers of green turtle in Indonesia have decreased tenfold since the 1940s (Kemf, *et al.*, 2000) and the population is just a fraction of its former size (IUCN, 2003).

Bali

Bali has been called "the centre of the most intensive exploitation of green marine turtles for human consumption in the world". The total number of green turtles traded in Bali during 1969 – 1994 averaged about 20,000 per year. WWF, amongst other international organisations, raised international awareness of this situation and undertook an initial investigation into the turtle trade in Bali in 1984. Despite local and national laws and regulations being issued in the late 1980s, the turtle harvest did not change markedly from the mid 1980s to the mid 1990s (McLellan *et al.*, 2004).

Other species of marine turtle were afforded complete protection, but the green turtle was still subject to a quota system of 5,000 turtles per year, officially for religious purposes only. However, more than 20,000 green turtles were still caught each year. Recent research has indicated that this turtle fishery affects most of the genetically distinct populations of green turtles in the Indo-Australasian region (McLellan *et al.*, 2004).

Berau

The Berau islands support the largest aggregations of the species in the Asia Pacific region (Kemf, *et al.*, 2000).

Kalinuantan

The nesting population of green turtles in the Derawan Islands, East Kalimantan, Indonesia, with more than 5,000 females per year, is one of the largest in Southeast Asia. However, numbers of turtles have been decimated (over a 90% decline) in the last 50 years, mainly due to egg collection. The sale of egg concessions is under local government control and is one of the major sources of income for the local government. Despite this dramatic decline in the nesting population, the numbers of eggs harvested annually have been rising, but this simply reflects an increase in collecting effort. Unfortunately, this increasing egg collection, and the regular presence of turtles in the water around the Islands, masks the fact that the population faces an imminent and irreversible crash (McLellan *et al.*, 2004).

CMS actions:

Not a Party to CMS.

Other actions:

Bali

WWF initiated a large marine turtle campaign in 1995, focusing on awareness raising and education using traditional daily events to deliver the messages. Additionally, WWF formed an alliance with the Hindu High Council to investigate the roles of marine turtles to other life on earth, in the Veda (the holy Hindu script). The Hindu High Council has undertaken much work to persuade Balinese people to replace turtle meat with alternatives during religious festivals (McLellan *et al.*, 2004).

The green turtle was finally totally protected by law in 1999, and the earlier Governor's Decree setting the quota was repealed. However, when the law was enforced through turtle confiscations and fines, the fishermen protested. WWF and the Bali government have collaborated on many recent initiatives to curb the consumption level and provide alternatives, including developing a national action plan and local turtle monitoring and enforcement teams — the Turtle Task Forces (McLellan *et al.*, 2004).

WWF is now concentrating on developing a sustainable financing scheme for the Turtle Task Forces, protected areas for critical habitats and a network of turtle based tourism that includes Bali, Berau and East Java.WWF, the government and several other conservation organisations are working towards a target of 90% reduction of current green turtle trade levels by 2005 (McLellan *et al.*, 2004).

Berau

In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held funded by WWF which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included Berau Island (Kemf, *et al.*, 2000).

Kalimantan

Existing conservation measures included a requirement for setting aside 10% of nests and a government supervised head-start programme, however these are considered insufficient to stabilize or restore the population levels (McLellan *et al.*, 2004). In 2000, WWF started a monitoring and outreach programme on

Sangalaki Island, to build local support for conservation through partnerships and to demonstrate that an ageing female population with little current recruitment will not support any turtle based industry into the future, whether egg-collection or tourism. After six months of data-collection and lobbying, WWF succeeded in having the set-aside quota for conservation doubled to 20% and was invited to provide technical advice on turtle resource management efforts (McLellan *et al.*, 2004).

Additionally, a multi stakeholder workshop conducted recently by WWF Indonesia and partners developed a common vision, strategies and action plans for sustainable use of marine turtles in the islands. The most critical outcome was the target of full protection from turtle egg harvesting for Sangalaki (the major turtle rookery) and Derawan Islands (McLellan *et al.*, 2004).

Currently, WWF and the local government are working to strengthen and expand the partnership between key local government decision makers, the private sector, including local and national tourism industries, to create a sustainable financing scheme for managing the turtle population in the region, and to promote the designation of 70,000 hectares of waters surrounding Sangalaki and Panjang Island (in Derawan Islands) as marine turtle sanctuary areas (McLellan *et al.*, 2004).

I.R. Iran:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ISRAEL:

Status: Eight nests were found in the Mediterranean shore during the 2000 season, and about 800 hatchlings were released. In 2001, three nests were found (Israel National Report, 2002).

CMS actions: Nesting surveys are being conducted and nests are being translocated locally to protected enclosures. Hatching turtles are then released. Stranded and injured turtles are cared for at a rehabilitation centre (Israel National Report, 2002).

Other actions:

ITALY:

Status:

CMS actions: None reported.

Other actions: WWF is conducting a campaign in Italy to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment,

rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status: The green turtle has been prized for its meat since the 1500s, especially in Caribbean islands like Jamaica (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Green turtles are found along entire Kenyan coastline though with seasonal variations in the distributions (Kenya National Report, 2002).

CMS actions: Green turtles are monitored by aerial surveys. Fishermen have been detailed in some areas to file reports on sighting. Hatchlings reintroduced. Future plans include protection of nesting sites through community participation and enforcement of relevant laws and more public education and awareness (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

Kiribati:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Lebanon:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Liberia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: None reported.

CMS actions:

Other actions:

Madagascar:

Status: This species nests in Madagascar (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Community-based conservation projects have been set-up in the Fort Dauphin area. In 2002/2003 WWF initiated tagging activities in northern Madagascar, and commenced a trade assessment at two high-risk sites together with small scale awareness activities (McLellan *et al.*, 2004).

Malaysia:

Status: There is near total egg harvest in this country (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: ***Sarawak***

Annual egg production in Sarawak dropped from 2,200,000 eggs in the mid 1930s to 175,000 in 1995 (McLellan *et al.*, 2004).

Sabah

Strong conservation management regimes in Sabah Turtle Islands National Park has led to a recovery in numbers (Kemf, *et al.*, 2000). In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

The Turtle Islands are major rookeries for green and hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have shown that this group of islands is a single well-defined marine turtle rookery with one population of green turtles. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. In 1996, a bilateral agreement was signed, establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

Peninsular Malaysia

WWF conducts the Community Education and Awareness Programme on Turtle Conservation in partnership with the Department of Fisheries at the recently established Ma' Daerah Turtle Sanctuary Centre, a hatchery and interpretation centre, in the Terengganu state on the east coast of peninsular Malaysia. This Sanctuary is a nesting site primarily of green turtles, although some olive ridley and leatherback also nest here. The programme aims to establish local community interest and action groups for the conservation of turtles in Ma'Daerah, to build the capacity of local communities on turtle conservation, and to lobby for the gazettal of Ma'Daerah as a turtle sanctuary (McLellan *et al.*, 2004).

Maldives:

Status:
CMS actions: Not a Party to CMS.
Other actions:

MALTA:
Status:
CMS actions: None reported.
Other actions:

Marshall Islands:
Status: Not a Party to CMS.
CMS actions:
Other actions:

MAURITANIA:
Status: The Banc d'Arguin National Park is an important nesting and feeding ground for this species of turtle. Several thousand turtles per year are killed as by-catch in the local shark fishery (Kemf, *et al.*, 2000). Satellite telemetry studies in Guinea Bissau with the support of the International Foundation for the Banc D'Arguin (FIBA), indicate that green turtles move between nesting areas in Guinea Bissau and feeding grounds in The Banc D'Arguin National Park in Mauritania (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: Turtles enjoy some protection in the Banc d'Arguin National Park which is supported by WWF (Kemf, *et al.*, 2000). This important nesting and feeding ground for green turtles has been supported by WWF since 1976. A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Mauritius (including Rodrigues):
Status:
CMS actions: Not a Party to CMS.
Other actions:

Mexico:
Status: All species of Mexican sea-turtle are under threat. The East Pacific green (or black) turtle had almost disappeared by the 1977 (Kemf, *et al.*, 2000). There has been a more than 80% decrease in the population in Pacific Mexico (IUCN, 2003).

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

F.S. Micronesia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

MOROCCO (?):
Status:
CMS actions: None reported.

Other actions: Between 1989 and 1993, WWF supported a project to survey the extent of mortality and to identify key breeding, feeding and overwintering areas for green turtle (Kemf, *et al.*, 2000).

Mozambique:

Status: Shallow coastal areas such as the Sofala Bank, rich in sea grasses, are prime feeding grounds for green turtles which make them especially vulnerable to bycatch in the shrimp trawl fishery (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Myanmar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Namibia:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Nauru (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS:

Status: Reported as breeding in the Netherlands Antilles (van Buurt, 1984).

CMS actions: None reported.

Other actions:

NEW ZEALAND (Tokelau):

Status: Reported as breeding (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Nicaragua:

Status: It is uncertain whether the current increase in the nesting female numbers in Tortuguero, Costa Rica, will be hampered by the ongoing catch of thousands of green turtles for their meat in Nicaragua (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA (?):

Status:

CMS actions: None reported.
Other actions:
Niue (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:
Oman:
Status: The Masirah Channel and Sawqirah Bay were major green turtle nesting areas. The harvest of eggs and meat which had proceeded for generations was in severe decline (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: The government of Oman has been concerned to protect the remaining green turtle. Surveys have been undertaken (Kemf, *et al.*, 2000).
PAKISTAN:
Status:
CMS actions: None reported.
Other actions:
Palau:
Status:
CMS actions: Not a Party to CMS.
Other actions:
PANAMA:
Status:
CMS actions: None reported.
Other actions:
Papua New Guinea:
Status:

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).
PERU:
Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen,
villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale

of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: None reported.

CMS actions:

Other actions: The Turtle Islands are major rookeries for green and hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have shown that this group of islands is a single well-defined marine turtle rookery with one population of green turtles. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. WWF was instrumental in the facilitation of cooperation between the two countries, leading to the signing in 1996 of a bilateral agreement establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

PORTUGAL (?):

Status: *Chelonia mydas* is a rare visitor to Portuguese waters. Most individuals observed at Madeira and the Azores are juveniles (Portugal National Report, 2002).

CMS actions: Monitoring activities for *Caretta caretta* will detect *Chelonia mydas.* Future activities targeting *Caretta caretta* will benefit this species indirectly (Portugal National Report, 2002).

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions: The Samoan Government declared its political commitment to establishing its 120,000km2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary

in 2002 (McLellan *et al.*, 2004).

SAO TOME AND PRINCIPE:

Status: None reported.
CMS actions:
Other actions:

SAUDI ARABIA:

Status: None reported.
CMS actions:
Other actions:

SENEGAL:

Status: This species is present in abundance in the National Park of Delta of the Saloum. There is also a presence in the north of the country in the National Park of the Barbary Coast (Senegal National Report, 2002).

Feeding grounds in Sine Saloum, are considered to be regionally important for marine turtles. However, turtles are under many threats here as elsewhere, including through local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan *et al.*, 2004).

CMS actions: Intensive conservation and protection work is carried out. There will be in future, consolidation of current work by putting in place a national strategy for the conservation of turtles (Senegal National Report, 2002).

Other actions: WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

Through consultation with WWF and other NGOs and the local communities, the Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, effectively protecting fisheries and biodiversity covering more than 7,500 sq. km. These represent a doubling of the marine protected areas for Senegal, and will protect regionally important feeding and nesting grounds for five species of marine turtles. Local communities strongly support the protected areas as a means to safeguard these important natural resources for the future (McLellan *et al.*, 2004).

Seychelles:

Status:
CMS actions: Not a Party to CMS.

Other actions: WWF funded a field study of green turtle in the 1980s, leading to a number of government conservation measures (Kemf, *et al.*, 2000).

Sierra Leone:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Singapore:

Status:
CMS actions: Not a Party to CMS.
Other actions:

SLOVENIA:

Status:
CMS actions: None reported.
Other actions:

Solomon Islands:
Status:
CMS actions: Not a Party to CMS.
Other actions:

SOMALIA:
Status:
CMS actions: None reported.
Other actions:

SOUTH AFRICA:
Status:
CMS actions: None reported.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:
Status:
CMS actions: None reported.
Other actions:

SRI LANKA:
Status:
CMS actions: None reported.
Other actions:

Sudan:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Suriname:
Status: There is a distinct green turtle population breeding in Suriname and feeding in waters off the Brazilian coast (Kemf, *et al.*, 2000). Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since the 1980s WWF has supported research and successful antipoaching projects in Suriname and Brazil. Protected areas have been set up (Kemf, *et al.*, 2000). Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan

et al., 2004).

In Suriname, WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations, such as the community-based Stidunal, are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

SYRIAN ARAB REPUBLIC:

Status:

CMS actions: None reported.

Other actions:

U.R. TANZANIA:

Status: The population size is not known. It was estimated to be about 300 individuals nesting annually in 1982 in Tanzania. The population trend is not known, however, there is much evidence that a number of former turtle nesting areas have been vacated and those suitable nesting sites are in decline. Reported to be breeding at Saadani, Bagamoyo, Kilwa (?), Mtwara, Pemba, Zanzibar and Mafia Islands and adjacent smaller islands. Recent estimates in two sites are of 50 nesting females in Mafia and 30 in Mnemba Island, Zanzibar (U.R. Tanzania National Report, 2002).

CMS actions: Seventeen active nesting beaches on Mafia Island are monitored regularly by Mafia Island Turtle and Dugong Conservation Programme. A proposal has been developed by the Mafia Island District with assistance from the Mafia Island Turtle and Dugong Conservation Programme to close Nyoro, Shung-mbili and Mbarakuni Islands adjacent to Mafia for temporary settlements part or whole year for turtle nesting to recover. A technical committee that will coordinate all turtle conservation programmes in The United Republic of Tanzania has been formed (U.R. Tanzania National Report, 2002).

Other actions: WWF is working with local communities on Mafia Island on a variety of natural resource management topics, including fisheries management, alternative non-destructive fishing ventures and marine turtle conservation. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and Born Free Foundation, amongst others (McLellan *et al.*, 2004).

Over the last nesting season on Mafia Island, over 10,000 hatchlings were produced from nest protection, and the rate of human poaching fell to 4% of previous levels. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: There is near total egg harvest in this country (Kemf, *et al.*, 2000). By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were,

and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various WWF sponsored conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

TOGO (?):
Status:
CMS actions: None reported.
Other actions:

Tonga:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Trinidad and Tobago:
Status:
CMS actions: Not a Party to CMS.
Other actions:

TUNISIA:
Status: The extensive seagrasses of the Gulf of Cabes are a major foraging area for green turtle. Until the late 1980s around 3,000 were being killed annually in the Gulf, and a total of 6,000 in Tunisia as a whole (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: Between 1989 and 1993, WWF supported a project to survey the extent of mortality and to identify key breeding, feeding and overwintering areas (Kemf, *et al.*, 2000).

Turkey:
Status: Green turtles breed on the Turkish coasts of the Mediterranean Sea (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF and other NGOs are working to protect Turkey's nesting turtles. Many of the nesting beaches are now protected areas (Kemf, *et al.*, 2000). The first systematic surveys of nesting beaches for the two marine turtle species breeding on the Turkish coasts of the Mediterranean Sea — the loggerhead and green turtle — started in 1979. In 1988, 17 sites were designated as Marine Turtle Nesting Sites. however, a recent report from WWF indicated that 64 per cent of these sites are not adequately protected. The report, In the Tracks of Marine Turtles: Assessment of Marine Turtle Nesting Sites 2003,was distributed during the First Turkish National Marine Turtle Symposium, which was held in December 2003 in Istanbul, Turkey and organized by WWF-Turkey. A draft National Action Plan for Marine Turtles was formulated during the Symposium. It included recommendations to prepare a final National Action Plan for the conservation of marine turtles and their habitats as soon as possible; to establish marine turtle rescue and rehabilitation centres; and to standardize methods employed in conservation and monitoring of the nesting sites (McLellan *et al.*, 2004).

Tuvalu:
Status:
Not a Party to CMS.

CMS actions:
Other actions:
United Arab Emirates:
Status:
CMS actions: Not a Party to CMS.
Other actions:
United Kingdom (Anguilla):
Status: Reported as breeding (Richardson and Gumbs, 1984). Numbers of green turtle are starting to recover in Anguilla since a 5 year moratorium on harvesting the species was imposed in 1995 (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.
Other actions:
UNITED KINGDOM:
Status: ***Grand Cayman***

The green turtle has been prized for its meat since the 1500s, especially in Caribbean islands like Grand Cayman (Kemf, *et al.*, 2000).

Saint Helena*

Breeding reported (Mortimer and Carr, 1987).

CMS actions: None reported.
Other actions:
United States:
Status: The incidence of tumours in green turtle populations started to rise dramatically in Hawaii and Florida in the 1980s where over half the animals were found to be affected (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: In the United States, green turtles are protected by the Endangered Species Act (Animal Diversity Web, 2004). Strong conservation management regimes in Florida have led to a recovery in green turtle numbers (Kemf, *et al.*, 2000).

URUGUAY:
Status: No information available (Uruguay National Report, 2002).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions:
Vanuatu:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of

people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. Before the performances, many people were unaware of the endangered status of marine turtles, yet as a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:

Status: Aves Island is the site of the only known major green turtle rookery in the eastern Caribbean (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF has funded a survey at Aves Island which is now a sanctuary (Kemf, *et al.*, 2000).

Viet Nam (?):

Status: Populations of loggerhead, leatherback, green and hawksbill turtles are in serious decline (Kemf, *et al.*, 2000). Up to 300 green turtles nest in Con Dao National Park annually (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF has been working at one of the biggest nesting sites of green turtles since 1995, in Con Dao National Park, an archipelago 60km off the south coast of Viet Nam. WWF commenced its work with a marine turtle monitoring project, and broadened the training over successive years to include 'reef check' monitoring training (in 1998), MPA management and ecosystem monitoring (from 1998), and sponsoring visits by Park personnel to other ASEAN MPAs. In 2000, a national Asian Development Bank (ADB) /WWF project used Con Dao National Park as a demonstration site aimed at integrating marine biodiversity conservation into the overall environmental management of the island system. Following this and other studies, a formal plan for the establishment of a representative system of MPAs (covering a proposed 17% of the EEZ) was drafted by the Ministry of Fisheries, in consultation with national specialists and other organisations including WWF and IUCN. The network currently comprises 15 proposed sites, with a focus on tropical island ecosystems, some of which host other turtle nesting populations, and provide critical offshore turtle habitats. This system is expected to be approved in early 2004, and WWF will advocate Con Dao National Park, with its history of trained personnel and ecosystem monitoring, as a model of management for the rest of the network (McLellan *et al.*, 2004).

Yemen:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Additional information - Western Sahara (br?)*:

Reported as possibly breeding here (UNEP-WCMC, 2004).

Status:

None.

Actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Dermochelys coriacea* (Vandelli, 1761)

SYNONYMS: -

COMMON NAME: Leatherback; Leathery Turtle; Luth; Trunkback turtle (English); Tortue luth (French); Canal; Tinglada; Tortuga laud (Spanish)

RANGE STATES: ALBANIA; Algeria; Angola; Antigua and Barbuda; ARGENTINA; AUSTRALIA; Bahamas; Bahrain; Bangladesh; Barbados; Belize; BENIN; Brazil; Brunei Darussalam; Cambodia; Canada; CAMEROON; CHILE; China; Colombia; Comores; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Costa Rica; COTE D'IVOIRE; CROATIA; Cuba; CYPRUS; Djibouti; Dominica; Dominican Republic; Ecuador; EGYPT; El Salvador; Eritrea; Equatorial Guinea; Fiji; FRANCE (including Corsica, French Guiana, Guadeloupe); Gabon; GAMBIA; GHANA; GREECE; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; Iceland; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; ITALY; Jamaica; Japan; KENYA; Kiribati; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; Lebanon; Liberia; LIBYAN ARAB JAMAHIRIYA; Madagascar; Malaysia; Maldives; MALTA; Marshall Islands; MAURITANIA; Mauritius; Mexico; Micronesia (Federated States of); MONACO; MOROCCO (?); Mozambique; Myanmar; Namibia; Nauru; NETHERLANDS (Aruba); NEW ZEALAND; Nicaragua; NIGERIA; NORWAY; Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU (?); PHILIPPINES; PORTUGAL; Russian Federation; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Seychelles; Sierra Leone; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO; Tonga; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; UNITED KINGDOM (including British Virgin Islands); United States (including Alaska, Hawaiian Islands, Puerto Rico, United States (Virgin Islands); URUGUAY; Vanuatu; Venezuela; Viet Nam; Yemen; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: CR A1abd (Sarti Martinez, 2000)

CONSERVATION STATUS AND ACTIONS:

The leatherback turtle has a worldwide distribution. Very little is known about the distribution of post-hatchlings and juveniles (IUCN, 2003). Nesting occurs on beaches of tropical seas in the Atlantic, Indian and Pacific oceans and occasionally in the subtropics and Mediterranean (Pritchard, 1980). Most sites are located between 30°N and 20°S (Groombridge, 1982). Away from the nesting site, individuals are known to move into temperate waters to feed. Major non-breeding leatherback areas include, the New England area of north-east U.S.A., including the Gulf of Maine (Lazell, 1980); the eastern Atlantic, notably parts of the Bay of Biscay (Duron and Duron, 1980); the east Pacific between Peru and Ecuador (G. M. Hurtado, pers. comm. to M. R. Márquez in Groombridge, 1982), and the east coast of Australia (Cogger, 1979; Limpus and McLachlan, 1979).

The Leatherback turtle was widely considered to be on the brink of extinction in the mid 20th century. However, in the early 1980s, although the total population of leatherbacks was found to be much larger than had previously been thought, and no evidence for an overall decline in the species was found, breeding populations were mostly of relatively small size (with only a few hundred, or fewer, females nesting annually), were widely scattered through the tropics, and were often subject to heavy exploitation for food (Pritchard and Cliffton, 1981; Ross, 1982a). Perhaps half a dozen sites appeared to hold a few hundred females per year, and many held only a few individuals.

The first attempt to evaluate the world population was done by Ross in 1979 (Ross 1982), estimating than 29,000 to 45,000 adult leatherback existed in the world, not counting the rookeries of the Eastern Pacific which had not been discovered yet. Pritchard estimated in 1982 that the world population consisted of 115,000 adult females, and considered that the Mexican population supports up to 60% of the global total. In 1996, Spotila and collaborators provided the most recent global estimation, compiling published data, unpublished information and personal comments from 28 leatherback nesting sites, estimating that 20,000 to 30,000 adult females existed at that time in the world. This represents a reduction of the global population of 78% from Pritchard's estimation in 14 years, less than a single generation.

Recently, there have been only four major Leatherback nesting areas where over 1,000 females have been recorded nesting annually: the Pacific coast of Mexico, French Guiana (with a population that is apparently partly shared with Suriname), Trengganu (Peninsular Malaysia) (which has experienced huge declines), and the Kepala Burung (Vogelkop) region of Irian Jaya, Indonesia. A nesting population on the coast of Gabon would appear to be a fifth nesting population of global significance (UNEP-WCMC, 2003).

Regional population estimates for nesting adult leatherback turtles are as follows: 18,800 in the Western Atlantic, 4,021 in the Caribbean, 4,787 in the Eastern Atlantic, 445 in the Indian Ocean, 1,838 in the Western Pacific (Spotila *et al.,* 1996) and 1,690 in the Eastern Pacific (Spotila *et al.,* 2000).

ALBANIA:

Status: One specimen was caught in the 1960s (Haxhiu, 2002).

CMS actions: None reported.

Other actions: The University of Tirana and the Natural Sciences Museum are updating information on marine turtles in Albania, including their status along the Albanian coasts, and are developing awareness programmes among Albanian people and fishermen (Hazhiu, 2002)

Algeria:

Status: Leatherback turtles have been recorded here (Groombridge, 1990)

CMS actions: Not a Party to CMS.

Other actions:

Angola:

Status: Nesting leatherback turtles have been recorded here (Huntley, 1972). At least 30 leatherback nests were reported on one beach in the Parque Nacional da Quicama in December 1971 (Huntley, 1972).

CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ARGENTINA:

Status: Leatherback turtles have been reported to occur here (Chebez, 1987; Richard, 1988).

CMS actions: None reported.

Other actions: The Peyu Project is an NGO that promotes community education and awareness of the issues marine turtles are facing, as well as scientific research on Argentinean coasts. The project also seeks to promote research funding for people and institutions interested in the conservation of marine turtles. The Peyu Project also integrates with other regional projects, such as Kerumbé in Uruguay and Tamar in Brazil (Proyecto Peyu, 2003).

AUSTRALIA:

Status: Only a small population of leatherback turtles have been found breeding and nesting in eastern Australia, mainly from December to January, and they do not nest in Australia in any significant numbers. Animals from populations in Papua New Guinea, Malaysia and Indonesia use the continental waters of Australia to feed and migrate to temperate waters. While a small number of females nest in scattered sites in Queensland, New South Wales and the Northern Territory, there have only been a small number of sightings off the mid-west coast of Australia, and very rarely there are sightings off Victoria and Tasmania (Australia National Report, 2002).

While a small number of females nest in scattered sites in Queensland, New South Wales and the Northern Territory, there have only been a small number of sightings off the mid-west coast of Australia, and very rarely there have been sightings off Victoria and Tasmania (Australia National Report to CMS, 2002).

Only one or two females were recorded nesting annually along l00km of Queensland coast from Mon Repos beach at Bundaberg north to Round Hill Head (Limpus, 1982, 1984, 1994a; Limpus and McLachlan, 1979). Leatherbacks were also recorded as nesting in northern New South Wales by Tarvey (1993).

CMS actions: Various research topics including development of GIS-based models for indigenous management, monitoring the impact of trawling and other commercial fisheries, populations studies are mentioned in the Australia National Report (2002).

Other actions: Despite its World Heritage status, the Great Barrier Reef Marine Park (GBRMP), until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR. (McLellan *et al.*, 2004).

Firstly, GBRMPA has adopted a scientific recommendation that a minimum of 25-30% of the Marine Park be protected from fishing, and that the green zones network will protect critical nesting, foraging and migration habitats of marine turtles, amongst other endangered species.

WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. Sea Rangers are Aboriginal community representatives who have the responsibility of managing their natural resources. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

Bahamas:

Status: Leatherback turtle nesting has been recorded here (Anon., 2001), but in small numbers (Anon., 2001).

CMS actions: Not a Party to CMS.

Other actions:

Bahrain:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status: Leatherback nesting has been recorded here (Islam, 2002). One confirmed nest was observed in Shill Banyar Gula in May 2001 (Islam, 2002).

CMS actions: Not a Party to CMS.

Other actions:

Barbados:

Status: Leatherback nesting has been recorded here, but only a few each year (Horrocks, 1987, 1992).

CMS actions: Not a Party to CMS.

Other actions: In 1992, the NGO Widecast produced the 'Sea Turtle Recovery Plan for Barbados' for the UNEP- Caribbean Environmental Program. The plan was produced in response to the objectives of the Specially Protected Areas and Wildlife Protocol (SPAW protocol), an instrument derived from the Cartagena Convention (a regional convention for the Great Caribbean region), and was part of a series of plans developed in the Caribbean for the protection and conservation of marine turtles. The plan determines the status and distribution of marine turtles in Barbados, identifies threats to marine turtles in the region and proposes solutions for such threats; it also sets out recommendations for governmental and non-governmental organisations (Horrocks, 1992).

BELGIUM (v)*:

Status: Leatherback turtles have been reported from Belgium (UNEP-WCMC, 2004). The first record was noted by van Gompel (1990) and the species was subsequently recorded by Haelters and Kerckhof (1999).

CMS actions: None reported.

Other actions:

Belize:

Status: Leatherback turtles have been reported here (Stafford, 1998). This species is rare, found in low densities it is unlikely to be seen, and only known from a few localities (Ministry of Natural Resources' Land Information Centre, 1998).

CMS actions: Not a Party to CMS.

Other actions:

BENIN:

Status: Leatherback turtles are second most frequently observed species of marine turtle after the olive ridley (Benin National Report, 2002). Nesting has been confirmed in Benin (Dossou-Bodirenou *et al.,* 1999; Abdoulaye, pers. comm.).

CMS actions: According to the Benin National Report (2002), conservation activities include safeguarding of supposed egg-laying sites. Future activities will involve raising the awareness of the public.

Other actions:

Brazil:

Status: The species has been recorded nesting in Espirito Santo (Carr *et al.*, 1982; Sternberg, 1981), Rio Grande do Sul and Santa Catarina (Soto *et al.*, 1997), and Rio de Janeiro (Barata and Fabiano, 2002). Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: The TAMAR project, initiated by the Brazilian Institute of Forestry in 1980, aims to produce information for the preservation and conservation of turtles. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).

Currently the project involves research on the behaviour and population genetics of turtles, research on turtle reproduction, incubation, and hatchlings as well as on other aspects of their biology (Projeto Tamar, 2003).

Brunei Darussalam:
Status:

CMS actions: Not a Party to CMS.
Other actions:

Cambodia:
Status: One leatherback was recorded in May 2001 (Stuart *et al.*, 2002).

CMS actions: Not a Party to CMS.
Other actions:

CAMEROON:
Status: Nesting remains to be confirmed on beaches in northern Cameroon in the area between Kribi and the Nigerian border (Fretey, 2001). Leatherbacks used to nest in Cameroon in greater numbers according to local sources (Fretey, 1999).

CMS actions: During 2000, inventories of nesting sites of marine turtles that visit Cameroon's coasts were undertaken in southern Cameroon; tagging activities have been also developed in the Campo-Ma'an and Douala-Edea reserves (UNEP/CMS, 2000).

Other actions:

Canada:
Status: The species occurs in Canada regularly (Goff, 1988; James, 2000a and b).

CMS actions: Not a Party to CMS.

Other actions: The Canada Wildlife Service is currently developing a recovery plan for this species in the Atlantic Coast. The Strategy of the plan includes the identification of critical habitats for Pacific population recovery and areas of potential conflict, the development of a database and the reporting all sightings of this species sightings. Other activities involving tagging, telemetry and workshops have also been undertaken (Species at Risk, 2003).

On a more local level, the Nova Scotia Leatherback Turtle Working Group is a collaborative conservation and research initiative that involves scientists, fishermen, coastal communities, boat operators and other people interested in the conservation of Llatherbacks. It has operated since 1997 and recuperation and conservation of the species are its aims. Part of the conservation effort is the involvement of commercial fishermen as partners in the research (LTWG, 2003). The Nova Scotia Leatherback Turtle Working Group (LTWG) conducts research in the Canadian Atlantic coast focused in the species' distribution and movement, genetics, necropsy, and histopathology

(LTWG, 2003).

Cape Verde*:

Status: The species has been recorded here by UNEP/CMS (2000) and Lazar and Holcer (1998). López-Jurado *et al.* (2000) noted that there were isolated sightings by fishermen and some non-confirmed references that it nests on Boavista.

CMS actions: Not a Party to CMS.

Other actions:

CHILE:

Status: The species is a regular non-breeding visitor to Chile. The population size of leatherbacks in Chile is unknown. Published work indicates that "this is the most abundant marine turtle species in Chilean seas, as it is the most frequently caught by fishermen". In March and April 1990, 14 specimen adults were recorded, one in Valdivia and 13 in Region VIII (Chile National Report, 2002).

Brito (1998) reported on an initiative to collect information on sea turtles and their relationship with the swordfish drift net fishery. A total of 82 new records of this species were obtained for Chilean waters, including four marked individuals from Central America and Mexico, thus indicating the origin of Chilean animals; in addition, the range of the species was extended to 41°S. Frazier (1990) noted an estimate of at least 250 individuals caught annually by the San Antonio swordfish fishery (Brito, 1998).

CMS actions:

SERNAPESCA and CPPS Workshop 2001 was held in Valparaíso, Chile to define priority action guidelines of a programme for the conservation of marine turtles (Chile National Report, 2002).

Other actions:

The National History Museum and the National Fisheries Service are promoting the protection of marine turtles by providing information on the protection and care of turtles to artisanal fisheries organisations and small industries. This does not involve specific legal measures (UNEP-WCMC, 2003).

China:

Status: Leatherback turtles are rarely recorded here – one individual was caught in a set-net between 1991-1994 (UNEP-WCMC, 2003). The species is reported as nesting in the South China Sea, and occasionally as far north as the Yellow Sea (Huang 1982, Zhou 1983). Márquez (1990) noted that nesting occurred in the provinces of Kuangtung, Fukien, Chekiang, Kiangsu, Shangtung and Liaoning. Leatherback turtles have been recorded in Taiwan (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions: The Leatherback Turtle is listed as Critically Endangered in the Chinese Red Data Book and as Category II in the State Protected Wildlife (Zoological Division of Chinese Biodiversity Information Center, 2001).

Colombia:

Status: Madaune (2002) considered Acandi and Playona beaches as the most important nesting sites for leatherback turtles in Colombia. Pinzon (2000) reported that there is biannual nesting of the species in the north of the Colombian Caribbean between Gauchaca Beach and the Buritaca mouth. About 100 (Ross, 1982a) or 200-250 (Anon., 1981a) females were reported as nesting annually along the Gulf of Uraba, but in 1997 a survey in the Caribbean found only 8 nesting Leatherbacks (Amorocho *et al.*, 1999).

CMS actions: Not a Party to CMS.

Other actions: There are several conservation initiatives ongoing in Colombia, including the initiatives of the Ministry of the Environment that denominated the marine turtle as a species whose conservation is a priority. A protection program of the Leatherback has been based here since 1993, which focuses on education, research and protection activities, and on increasing awareness in local communities and national authorities (Madaune, 2002). Other initiatives for turtle conservation include technical workshops to update the information produced in the country. Although mostly targeted at Colombian researchers and conservation authorities, these workshops are international (Amorocho, 2002).

On the Caribbean coast of Colombia, WWF is providing support to a community-based leatherback turtle conservation project in the Urabá Gulf. This project includes environmental education on the conservation status of marine turtles and support to protected areas important for the turtles. The Colombian government released its National Marine Turtle Conservation Strategy in 2003, in which WWF played a part in drafting, and facilitating discussion by relevant parties and stakeholders. Building upon the National Strategy and current project work, WWF is initiating a proposal to safeguard important nesting beaches and wetland feeding areas of marine turtles in the Chocó and Urabá region (McLellan *et al.*, 2004).

Comoros:

Status:

CMS actions: Not a Party to CMS.

Other actions:

CONGO :

Status: The 100km section of South Atlantic, between Mayumba (Gabon) and Conkouati (Congo) constitutes the world's second most important egg-laying area for the leatherback turtle. Leatherback turtles have been observed near the beaches of Pointe-Noire. The species is present in the Conkouati National Park (Congo National Report, 2002). An average of 1,000 Leatherbacks nests have been found here each year according to UNEP/CMS (2000).

CMS actions: The Program for the Protection of Marine Turtles in Central Africa (PROTOMAC) included a campaign in 2001 to observe marine turtle nesting sites on the Congolese coastline. It concentrated on three areas: south of Pointe-Noire, the beaches of Pointe-Noire, and North Kouilou. South of Pointe-Noire there was substantial evidence that egg-laying sites had been raided and that the shells of turtles had been taken. On the beaches of Pointe-Noire and north of Pointe-Noire, the PROTOMAC team has observed the landing of netted or live turtles by self-employed fishermen who claim that they have been caught accidentally (Congo National report to CMS, 2002).

Other actions: The 'Association Congolaise de l'Education pour l'Environnement et la Nature' (ACEN) [Congolese Association for Education on Nature and the Environment] has monitored and evaluated the violation of turtle nests by poachers in the Conkouati National Park. (Congo National report to CMS, 2002).

D.R. CONGO:

Status: Past literature refers to the leatherback in the country, and there is a museum specimen of an embryo (UNEP/CMS, 2000). Minor and solitary nesting has been recorded (Márquez, 1990). Beaches situated between Mayumba (Gabon) and the Noumbi River in the Democratic Republic of Congo represent some of

the most important nesting sites for the leatherback turtle in the world (McLellan *et al.*, 2004).

None reported.

CMS actions:

IUCN has proposed a trans-border marine reserve between the two countries to include all of the most significant nesting sites (McLellan *et al.*, 2004).

Other actions:

Costa Rica:

Status:

Some nesting occurs along much of the Caribbean coast of the country (Carr *et al.*, 1982). A moderate-sized leatherback rookery comprising around 500 females per year is situated at Matina beach (Carr *et al.* 1982). An estimated 150-368 females nested in the Parque Nacional Tortuguero in 1990-1991 (Leslie *et al.*, 1996), but in 1995 just 70 clutches were deposited along 35km of beach (Campbell *et al.*, 1996). On the Pacific coast, the species nests on Playa Naranjo, a 6km beach within Santa Rosa National Park (Groombridge, 1982) and in Las Baulas National Park (Steyermark *et al.*, 1996).

The species appeared to have undergone an increase in abundance on Playa Naranjo. During September-November 1971, 18 females were tagged and 106 nesting emergences were recorded over 50 days. In November 1981, during only two nights, 22 and 10 females were tagged in 8.5 and 2.0 hours, respectively. During the first night 44 Leatherbacks emerged and tracks of 118 that had emerged over the previous 3-4 nights were counted (UNEP-WCMC, 2003).

In Las Baulas National Park on the Pacific coast leatherback numbers nesting at Playa Grande reached a peak of 1,600 in 1988 and 1989 but declined to 469 in 1994-1995. This was perhaps due to the recent increase in development in the area surrounding nesting beaches, as well as incidental catch of leatherbacks in offshore fisheries (Steyermark *et al.*, 1996). In 1991-1992 a total of 229 Leatherbacks were tagged at the nearby Playa Langosta beach (Chaves *et al.*, 1996).

CMS actions: Not a Party to CMS.

Other actions: Ecology Project International, established an education and monitoring program in the Pacuare Natural Reserve in 2000, in collaboration with university students from the USA, Costa Rica and other countries of Central and South America, as well as with community participation. The program has trained several students and has created awareness in the community regarding the importance of conserving this species (Ecology Project International, 2003).

There are also several NGOs working specifically in marine turtle conservation and education programmes that are focused on both Costa Rica and other Central American countries. These include PRETOMA and the Parismina Turtle Commission. In Costa Rica, research has been undertaken on the predation of sea turtle by jaguars, fertility assessment projects, nesting activities, reproduction and emergence success (Mosier *et al.*, 2002), reproductive biology and tagging programmes (Byles and Fernandez, 1998).

COTE D'IVOIRE:

Status: Leatherback nesting has been recorded (UNEP/CMS, 2000).

CMS actions: A preliminary inventory of nesting sites between Abidjan and the border with Liberia has been undertaken. Nesting sites are monitored and protected in the Azagny National Park (UNEP/CMS 2000).

Other actions:

CROATIA:

Status: The species is recorded as an occasional visitor to this country (Lazar and Tvrtkovic, 1998).

CMS actions: None reported.

Other actions:

Cuba:

Status: The species nests at Guantanamo Bay (Anon., 2003a) and occasionally in the Peninsula de Guanahacabibes, Cayo Blanco and Cayo Caguama (Moncada and Rodriguez, 1996).

CMS actions: Not a Party to CMS.

Other actions: Research has been undertaken on turtle interactions with fisheries and on occasional catches of leatherback turtles by Cuban fishermen (Keinath *et. al*, 1996).

CYPRUS:

Status: Several individuals have been recorded off the west coast (Demetropoulos and Hadjichristophorou, 1989).

CMS actions: None reported.

Other actions:

Djibouti:

Status: Djibouti is listed as a Range State by CMS (2003).

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status: Leatherbacks have been recorded nesting in the Dominican Republic (Ross and Ottenwalder, 1983), although this is reportedly uncommon according to local informants. The species was thought to nest occasionally in very low densities on suitable beaches anywhere in the Republic, but four areas of more concentrated Leatherback nesting were identified on information from locals: Playa del Muerto, Playa Macao (both in Altagracia Province), Playa San Luis and Playa des Aguilas (Pedernales Prov.). Based on interviews with local informants, and assuming that each turtle nests three times during a 60 day season, it was tentatively estimated that 300 *Dermochelys* nested annually in the Dominican Republic (Ross and Ottenwalder, 1983). An estimate of 500 nests per year was given by Márquez (1990).

CMS actions: Not a Party to CMS.

Other actions:

Ecuador:

Status: ***Mainland***

The species is recorded nesting in small numbers along most of the mainland coast (Green and Ortiz-Crespo, 1982).

Galapagos Islands
Leatherback turtles reportedly occur in the Galapagos Islands (UNEP-WCMC, 2003), and nesting is reporded (Green and Ortiz-Crespo, 1982).

CMS actions: Not a Party to CMS.
Other actions:

EGYPT:
Status: Leatherback turtles reportedly occur in Egypt (Frazier and Salas, 1984)

CMS actions: None reported.
Other actions:

El Salvador:
Status: Low density leatherback nesting probably occurs sporadically (Hasbún and Vásquez, 1999).

CMS actions: Not a Party to CMS.

Other actions: The Project Ayutzin for the conservation of marine turtles has worked, since 1994, for the protection of the species that visit Playa Toluca in La Libertad Department. The project is a joint effort between the community inhabiting the coast and the NGO, CESTA (CESTA, 2003). CESTA and the University of El Salvador have conducted research into the hatching success of marine turtles at the Toluca Beach (CESTA, 2003).

Equatorial Guinea:
Status: Leatherback turtles reportedly nest both on the continent to the south (Mba *et al.*, 1998a; 1998b) and on Bioko island (Tomás *et al.*, 1999). Nesting has been confirmed on the islands of Corisco Bay, but not on Annobón (Fretey, 2001). The species nests regularly and in significant numbers in Equatorial Guinea, both on the continent (Mba *et al.*, 1998a, b) and on Bioko island (Tomás *et al.*, 1999).

CMS actions: Not a Party to CMS.

Other actions: Conservation activities developed by CUREF-Cardiff University and ECOFAC include coastal surveys, captures, turtle consumption monitoring, awareness campaigns and park guards training (Formia *et al.*, 2003).

Eritrea:
Status:
CMS actions: None reported.
Other actions:

Fiji:
Status: Leatherback turtles nest here according to Márquez (1990). Leatherback nestings and sightings have been recorded for Savusavu region, Qoma, Yaro passage, Vatulele and Tailevu (WWF Pacific, 2003). The number of leatherbacks is likely to be around 20-30 individuals (WWF Pacific, 2003). According to WWF Pacific (2003) this species is not common in Fiji but there have been recorded sightings and four nesting attempts in Fiji. Although the numbers are low in Fiji, the significance of the population is likely to be high, due to the very low numbers in the region. It has been suggested that most leatherbacks are merely passing through Fiji on westerly moving ocean currents, and may represent the remains of a relic population.

CMS actions: Not a Party to CMS.

Other actions: In 1998, the Government, in collaboration with the University of the South Pacific and NGOs, developed "The Fiji Sea Turtle Conservation Strategy" This is being used to manage the species' conservation efforts although it has not been formally adopted by the government. The strategy identifies a number of actions for turtle conservation, namely institutional capacity building, limitation and regulation of the harvest, education and awareness, marine conservation workshops, protection of nesting sites and nesting turtles, protection of foraging areas and foraging turtles, captive turtles, pollution, bycatch, and a regional strategy (WWF Pacific, 2003).

FRANCE:

Status:

French Guiana

Eight beaches between the estuaries of the Maroni (Marowijne) River on the Suriname border and the Organabo River in the east provided a major nesting area for Leatherback (J. Fretey, *in litt.* to IUCN CMC, 26 May 1981; Pritchard, 1971a; Pritchard, 1979).

The historically most important leatherback nesting beach in the world is located at Awala-Yalimapo beach. One of the continual natural disturbances to nesting beaches is coastal erosion. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

About c 4,500-6,500 nesting females have been recorded annually in French Guiana, although this number only represents a fraction of the total population as not all females breed in every season (Fretey and Lescure, 1979). This population is apparently partly shared with Suriname. The annual number of nesting females was estimated at 15,000 in 1971 (Pritchard, 1971a). This very large population was thought to be by far the most important leatherback nesting area in the world prior to the discovery of major nesting in Pacific Mexico. Due to marine action, the major Organabo beach moved westwards during the 1970s, and by 1979 was reduced to a sandspit washed over at high tide. Nesting may have decreased to some extent during this period (Schulz, 1979).

However, at least some of the French Guiana leatherbacks have shifted their nest sites westward toward the Suriname border, and most nesting subsequently occurred at Les Hattes-Awara (at the junction of the Maroni and Mana Rivers), with some nesting occurring on beaches that did not exist in 1960-1970 (Fretey and Lescure, 1979; P. C. H. Pritchard, *in litt.* to IUCN CMC, 2 February 1982).

The 1979 population was of approximately the same size as that reported in 1971, with an estimated total mature female population of 13,996-19,596 (J. Fretey, *in litt.* to IUCN CMC, 26 May 1981; Fretey and Lescure, 1979). Only a fraction of the total population will nest in a given year (P. C. H. Pritchard, *in litt.* to IUCN CMC, 2 February 1982) and between 4,500-6,500 females in a season (Fretey and Lescure, 1979). It was reported (Schulz, 1979) that the nest sites were so crowded that a considerable number of nests were destroyed by later-nesting females, also there was massive disturbance of nesting turtles since cars could be driven right onto the beach (Schulz, 1979).

Girondot and Fretey (1996) summarised the nesting records for the period 1978-1995. More than 50,000 nestings were recorded annually in 1988 and 1992, but only 10,000-15,000 annually in 1978-1986, 1993, and 1995, with intermediate numbers of 20,000-30,000 annually in 1987, 1989, 1991 and 1994. In 1998, 7,800 nestings were counted on the Hattes beach (Talvy *et al.*, 2002). Girondot *et al.* (2002) examined density-dependent nest destruction of Leatherbacks in French Guiana and Suriname. They found that the proportion of successful nests was very low (10%) on the Yalimapo-Awala (= Hattes)

beach, compared with Costa Rica (57%), Puerto Rico (75%) and the US Virgin Islands (67%), but the reasons for this were not clear.

French Polynesia
Leatherback turtles are recorded from French Polynesia (Fretey, 1987; Fretey and Lebeau, 1985)

Guadeloupe
Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

Martinique
Occasional to sporadic leatherback turtle nesting has been recorded in Martinique according to UNEP-WCMC (2003), although others claim it is frequent (Delaugerre, 1988; Duguy, 1989; Fretey, 1996; Oliver, 1986; National Marine Fisheries Service and U.S. Fish and Wildlife Service, 2001; Thiebaut and le Milinarie, 1992).

New Caledonia Leatherback turtles are rarely recorded in New Caledonia (IFRECOR, 1998).

CMS actions: None reported.

Other actions: ***French Guiana***
According to WWF-Guianas, in French Guiana there are several initiatives being undertaken by universities, NGOs, governmental agencies, research centres and in protected areas that involve marine turtle conservation. Indigenous communities and fishermen are involved in the projects' activities. These activities include: raising of awareness in tourists and school children, tourism management, tagging female turtles, producing surveys of nesting activities, patrolling and assessing turtle and fisheries interactions (WWF-Guianas, 2003). Girondot (2000) has carried out research on the influence of temperature in sex determination in marine turtles. French Guiana: Research has been carried out on sea turtle nesting activity and behaviour (Mosier *et al.*, 2002), nesting seasons (Kalb and Wibbels, 2000) and density dependence and sex-ratio of hatchlings (Byles, *et al.* 1998).

In French Guiana, WWF works with a local Amerindian organisation, Kulalasi, in monitoring, poaching mitigation, tourist management, and reinforcing the Amana Nature Reserve management. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Gabon (?):
Status: Beaches situated between Mayumba (Gabon) and the Noumbi River in the Democratic Republic of Congo represent some of the most important nesting sites for the leatherback turtle in the world (McLellan *et al.*, 2004). *D. coriacea* frequents all of the beaches in Gabon, from the Pointe-Pongara across from Libreville all the way to the Congo (Fretey and Girardin, 1988, 1989).

During the 1999/2000 nesting season, monitoring of a site stretching between Mayumba and the border resulted in the counting of nearly 30,000 nests, representing the coming to shore of between 4,222 and 7,096 females (Billes *et al.*, 2000). These new data place Gabon and the Conkouati region in a

position of primary importance, along with French Guiana, for the worldwide conservation of *D. coriacea* (Fretey, 2001).

CMS actions: Not a Party to CMS.

Other actions: The Smithsonian National Zoological Park conducts health assessments and conservation programmes as part of the FVP's Caribbean/Atlantic Sea Turtle Health Assessment Program (WCS, 2002; Deem, 2003). A tagging programme to study reproductive success, as well as *in situ* protection systems and awareness campaigns have been developed. It has been proposed that the conservation efforts of several agencies, including IUCN, should extend into the Congo in order to protect a greater area. The WCS has also realised conservation activities in Corisco Bay and Pointe Pongara as well as monitoring programmes on the trade of sea turtle meat and eggs in the markets (Formia, 2003).

IUCN has proposed a trans-border marine reserve between the two countries to include all of the most significant nesting sites. Until recently none of the beaches in the protected areas of Gabon had been monitored consistently during the nesting season. WWF, together with a suite of local project partners under the coordination of the regional marine turtle organisation, Kudu, made the first estimate of nesting turtles near the city of Gamba in the 2002- 2003 season (McLellan *et al.*, 2004).

Important baseline data on the number of leatherbacks which came ashore to nest was collected, and will form the basis for repeat monitoring and tagging programmes in the future. The project partners also undertook environmental education activities, aimed at increasing the awareness of the endangered status of the turtles, and initial conservation measures to protect them (McLellan *et al.*, 2004).

GAMBIA (?):

Status: Only one Leatherback shell has been found on the Gambian coast (UNEP/CMS, 2000).

CMS actions: According to UNEP/CMS (2002) four coastal protected areas have been identified as being very important for marine turtles. However, UNEP/CMS (2002) do not report any monitoring activities or research undertaken nor do they mention community or NGO participation in conservation.

Other actions:

GHANA:

Status: Márquez (1990) referred to minor and solitary nesting, whereas Carr and Campbell (1995) stated that nesting occurred all along the coast.

CMS actions: Community based training programmes have been organised to build national capacity and to set up institutional infrastructure for sea turtle conservation programmes (UNEP/CMS, 2000).

Other actions:

GREECE:

Status: Leatherback turtles have been recorded in Greece (Margaritoulis, 1986).

CMS actions:

Other actions: None reported.

Guatemala:

Status: Leatherback turtles reportedly nest here on the Caribbean coast between Cabo de Tres Puntas and Rio Montagua (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: The Wildlife Rescue and Rehabilitation Association is a Guatemalan non-profit organisation created for the preservation of wildlife and wild habitats in the country. Near the village of Hawai, this Association has developed community-based projects on the conservation of *D. coriacea*, which include the protection of hatcheries against theft and other threats (Juarez and Muccio, 1997). Studies have been carried out on the pivotal temperatures in the production of sexes in leatherback turtles (Mosier *et al.*, 2002).

GUINEA:

Status: Leatherback turtles are frequently observed and encountered in fishing nets between October and December (the last three months of the rainy season). (Guinea National Report, 2002). Leatherback turtles nests and eggs have been recorded (UNEP/CMS, 2000).The Leatherback occurs widely, particularly in the north-west (Guinea National Report to CMS, 2002).

CMS actions: Future activities include restoration of the habitat following the guidelines of the National Strategic Action Plan for Biological Diversity in respect of Marine Turtles, training of administrators of the said habitats, raising the awareness of fishermen and sailors so that they can contribute to the conservation of marine turtles and strengthening of institutional powers (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status: Leatherback turtles reportedly nest on the Bijagos Islands in the Orango National Park (Barbosa *et al.*, 1998), but only a few individuals/nests were recorded during two years of surveying (Barbosa *et al.*, 1998). UNEP/CMS (2000) estimate 10 or so leatherbacks nest in the Bijagos Islands

CMS actions: None reported.

Other actions:

Guyana:

Status: The beaches of the Guianas (French Guiana, Suriname and Guyana) host the largest Atlantic leatherback turtle nesting beaches in the world. One of the continual natural disturbances to nesting beaches is coastal erosion. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004). Small numbers were found nesting at Shell Beach (Groombridge, 1982) although, according to Márquez (1990), up to 500 nests per year have been recorded. There have been significant increases in nesting (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: The Guyana Marine Turtle Conservation Society was formed in 2000 with the aim of promoting conservation, management and restoration of marine turtles in Guyana. It develops surveys and protection patrols, education awareness, community empowerment and research. (Guyana Marine Turtle Conservation Society, 2003).

Shell Beach hosts leatherback turtle nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve. The Guyana Marine Turtle Conservation Society, has conducted monitoring, beach

protection, and enforcement of fishing bans during the nesting season (McLellan *et al.*, 2004).

In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project - an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:

Status: The species has been recorded in Haiti (Ottenwalder, 1996).

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions: Projects monitoring the nesting and hatching of *D. coriacea* have been developed in the Plapaya beach by the NGO Mopawi (UNEP-WCMC, 2003).

Iceland (v)*:

Status: Leatherback turtles have been reported from Iceland (Petersen, 1984; UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

INDIA:

Status: Moderate-scale nesting has been recorded in the Union Territory of the Andaman and Nicobar Islands (Bhaskar, 1979a; Sivasundar, 1996). In April 1979 about 80 Leatherback excavations were found on Great Nicobar Island and about 70 in January 1979 on Little Andaman (Bhaskar, 1979a). Isolated Leatherbacks occasionally nested on the mainland, including part of the west coast, south to Kerala, and the central east coast (Bhaskar, 1979b; Frazier, 1982). Mainland nesting reportedly occurred more frequently around the turn of the century, for example around Quilon in southern Kerala (Bhaskar, 1979b). Granite blocks and embankments, designed as defences against sea erosion, prevent turtles approaching beaches on much of the Kerala coast (Anon., 1981b). *Dermochelys* has been recorded nesting in small numbers in Lakshadweep (Bhaskar, 1979b).

CMS actions: None reported.

Other actions: The National Sea Turtle Conservation Project in India was launched in 1998 with the aim of protecting *Lepidochelys olivacea*, but it also has conservation and protection strategies for all the other turtle species nesting in the country. A project undertaken by the Indian government includes activities which encompass critical habitats for sea turtles both on-shore and offshore. Its activities include surveys, monitoring programmes, fisheries interactions, community and NGOs participation, awareness raising and education, research support and other support for regional and international co-operation and

collaboration for sea turtles conservation (Choudhury *et al.*, 2001).

Indonesia:

Status: Leatherback populations underwent dramatic declines from the 1970s onwards (Spotila *et al.*, 2000).

Halmahera
Some leatherback turtle nesting was recorded at the northern tip of P. Morotai (near Halmahera) (Groombridge, 1982).

Irian Jaya
Leatherback turtles nest on the north coast of the Kepala Burong (Vogelkop) part of Irian Jaya (Polunin and Nuitja, 1995; Márquez, 1990). This is reported to be a major nest site (R. V. Salm, *in litt.* to IUCN CMC, 1 October 1981; Salm, 1981). Suárez *et al.* (2000) reported that there were 3,000-5,000 nests annually along the north Vogelkop coast of Irian Jaya, and Putrawidjaja (2000) reported a total of 2,983 nestings on Jamursba-Medi beach in 1999. Additionally, fewer than 20 nested at Inggresau (on P. Yapen, Irian Jaya) (R. V. Salm, *in litt.* to IUCN CMC, 1 October 1981; Salm, 1981).

Java
Leatherback turtles occasionally nest on beaches on the south coast of Java (Polunin and Nuitja, 1995; Márquez, 1990). Sukamade Beach in south-east Java is regarded as the most important sea turtle nesting area in Java (Blouch *et al.*, 1981) 16 nests were recorded between June-August 1980, after an absence of four years, and 21 nests were found in 1981 (Anon., 1982a; R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982). Additionally, about one female a year might have nested on Citerem and Cibuniaga Beaches in south-east Java (R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982).

Sulawesi
Fewer than five female leatherback turtles a year nest in south-east Sulawesi (R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982).

Sumatra
Leatherback turtles nest in West Sumatra and Bengkulu Provinces in Sumatra (Polunin and Nuitja, 1995; Márquez, 1990). Possibly fewer than 20 female nest per year near Bengkulu (R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982).

CMS actions: Not a Party to CMS.

Other actions: ***Irian Jaya***
There are tagging and genetic studies of the last large leatherback nesting population in the Pacific at Irian Jaya, Indonesia (McLellan *et al.*, 2004).

I.R. Iran:

Status: Leatherback turtles have been recorded here (Kinunen and Walczak, 1971).

CMS actions: Not a Party to CMS.
Other actions:

Iraq:

Status:
CMS actions: Not a Party to CMS.
Other actions:

IRELAND:

Status: Vagrant leatherback turtles have been recorded here (Smiddy, 1993, 1996,

1999). Migrations of this species along Irish coasts peak in late summer (August-October), but no hard data on numbers are available. Most sightings are off the west and south-west coasts (Ireland National Report to CMS, 2002).

CMS actions: None reported.

Other actions:

ISRAEL:

Status: This species is rare. In 2001, one female got stranded and injured in a fisherman net. She was treated at the rehabilitation center but died (Israel National Report, 2002). Although emergence crawls, or apparent nesting have been recorded no adequately documented instance of *Dermochelys* nesting in the Mediterranean is known (Groombridge, 1990).

CMS actions: Israel has turtle rehabilitation centres (Israel National Report, 2002).

Other actions:

ITALY:

Status: Leatherback turtles have been recorded here by Pastorelli (1999), but there is no confirmed instance of the species nesting in the Mediterranean (Groombridge, 1990).

CMS actions:

Other actions: None reported.

Jamaica:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status: The Leatherback Turtle was first recorded nesting in Japan in 2001 (Kamezaki *et al.*, 2002).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN*:

Status: Leatherback turtles have been recorded here (UNEP-WCMC, 2004). The first record was noted by Kinzelbach (1986) and summarised by Disi (1998).

CMS actions: None reported.

Other actions:

KENYA:

Status: Leatherback turtles occur regularly in small numbers along most areas of the Kenyan coast, with higher concentrations in the northern parts. Seasonal variations in distribution is a major factor (Kenya National Report, 2002). The species was recorded by Wamukoya and Haller (1996), but no indication of numbers was provided. Although occasional nesting was noted by Márquez (1990) there is no evidence of this from other sources.

CMS actions: Monitoring activities have been undertaken within the framework of coastal zone and biodiversity monitoring. However, habitat protection activities within the framework of coastal zone and marine protected areas management and habitat restoration activities have been conducted only when oil spills and pollution are being addressed (Kenya National Report to CMS, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

Kiribati:
Status:
CMS actions: Not a Party to CMS.
Other actions:

D.P.R. Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Republic of Korea:
Status: Not a Party to CMS.
CMS actions:
Other actions:

Kuwait:
Status: Leatherback turtles were first recorded here only very recently (Al Mohanna and Meakins, 2000).

CMS actions: Not a Party to CMS.
Other actions:

Lebanon:
Status: Leatherback turtles have been recorded here according to Groombridge (1990).

CMS actions: Not a Party to CMS.
Other actions:

Liberia:
Status: Solitary leatherback turtles have been reported to nest here (Márquez, 1990), but this has not been confirmed according to UNEP/CMS (2000).

CMS actions: Not a Party to CMS.
Other actions:

LIBYAN ARAB JAMAHIRIYA:
Status: Leatherback turtles have been recorded here (Groombridge, 1990).

CMS actions: Not a Party to CMS.
Other actions:

Madagascar:
Status: Leatherback turtles have been recorded here as vagrants only (Glaw and Vences, 1994). Three decades of strong protection have led to more than fourfold increases in the small annual nesting population of leatherbacks in neighbouring South Africa. This population is believed to be representative of a larger nesting population in Mozambique and turtles nesting in South Africa

are known to forage in the waters between Mozambique and Madagascar. (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Malaysia:

Status:

Peninsular Malaysia

Leatherback nesting was noted as concentrated along a 20km beach at Rantau Abang Trengganu State on the east coast, where c. 1,500 females nested annually. However, this population was found to be declining (Siow and Moll, 1982). The yield of *Dermochelys* eggs in Trengganu declined by 66% from 1956 to 1982 (because the number of eggs collected was not the same as the number laid, and because of different sampling techniques, this figure can only be an approximation of population decline). Between 1,000-2,000 females nested annually (1974 data quoted in Ross, 1982a). By 1995 the population was severely depleted, with nestings representing less than 1% of levels recorded in the 1950s (Chan and Liew, 1995, 1996). In 2002 no eggs were laid although three landings were detected. There was a calamitous collapse of the colony at Trengganu, from more than 3,000 females in 1968, to 20 in 1993, and just two in 1995 (UNEP-WCMC, 2003).

Sabah

Leatherbacks are not known to nest in Sabah, but have been occasionally sighted at sea in the area (K. Proud, *in litt.* to IUCN CMC, 12 May 1982; De Silva, 1978).

Sarawak

Noted as nesting (Tisen and Bali, 2002).

CMS actions: Not a Party to CMS.

Other actions:

Peninsular Malaysia

WWF conducts the Community Education and Awareness Programme on Turtle Conservation in partnership with the Department of Fisheries at the recently established Ma' Daerah Turtle Sanctuary Centre, a hatchery and interpretation centre, in the Terengganu state on the east coast of peninsular Malaysia.This Sanctuary is a nesting site primarily of green turtles, although some leatherback also nest here.The programme aims to establish local community interest and action groups for the conservation of turtles in Ma'Daerah, to build the capacity of local communities on turtle conservation, and to lobby for the gazettal of Ma'Daerah as a turtle sanctuary (McLellan *et al.*, 2004).

Sarawak

Sarawak has one of the oldest programmes in the world for sea turtle conservation and management; various government agencies as well as five laws are relevant for turtle conservation; despite this the population has decreased by 90% in the past 50 years. The government has undertaken several major steps to avoid further declines, including extensive scientific studies, total protection of turtle nesting beaches and strengthening of existing laws (Braken and Bali, 2000).

Maldives:

Status: Leatherback turtles have been recorded as occasional visitors here (Anon., 2003b).

CMS actions: Not a Party to CMS.

Other actions: Recently the Government of the Maldives has imposed a total ban on catching and selling any marine turtle in the Maldives. However, egg collection is still not regulated (Inmaldives, 2003).

MALTA:

Status: Leatherback turtles have been recorded here according to Lanfranco (1983), but there is no confirmed evidence for *Dermochelys* nesting anywhere in the Mediterranean (Groombridge, 1990).

CMS actions: None reported.

Other actions:

Marshall Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MAURITANIA:

Status: Solitary Leatherback turtles have been recorded nesting here (Márquez 1990) although there is little information (UNEP/CMS, 2000). Leatherbacks have been observed several times in Lévrier Bay (UNEP/CMS, 2000) and numerous sightings at sea or on beaches in Mauritania have been made since the 1970s (Maigret, 1983). If regular nesting in Lévrier Bay is confirmed, then this would be the most northern location for the eastern Atlantic. Females, which nested in northern South America, may have visited these waters (Eckert, 1998).

CMS actions: According to the UNEP/CMS (2000), preliminary inventories of nesting sites have been developed.

Other actions:

Mauritius:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Mexico:

Status: Leatherback turtles have been recorded nesting in good numbers on parts of the Pacific coast of Mexico (Groombridge, 1982; Márquez *et al.*, 1981, Márquez, 1978) such as the c.1,000km of coast from Maruata (Michoacan) south to the Isthmus of Tehuantepec (Oaxaca) (Pritchard and Cliffton, 1981). Major nesting beaches were located on the south-east coast of Guerrero between Bahia Dulce and Barra de Teconapa and at Bahia de Chacahua. Other localities included Mexiquillo, Colola, Maruata and Boca de Apiza in Michoacan; Mismaloya in Jalisco; Cuyutlan in Colima; Petacalo and Piedra de Tlacoyunque in Guerrero; La Escobilla and Bahia Blanca in Oaxaca. A secondary nesting beach was discovered on the south-west coast of Baja California (Márquez *et al.*, 1981).

Mexico had c.30,000 females annually, and a total female population of between 50,000 (M. R. Márquez, *in litt.* to IUCN CMC, 26 February 1982) and 75,000 (Pritchard and Cliffton, 1981). This latter figure was more than twice the estimate for the previous world population. Extensive aerial surveys on 31st October and 1st November, 1980, along approximately 1,000 km of coast from Maruata (Michoacan) south to the Isthmus of Tehuantepec (Oaxaca) revealed significant to high density Leatherback nesting along much of the coast. Hundreds of kilometres of Leatherback nesting beaches were surveyed on which nesting density was about one nest per 50m at maximum (Pritchard and Cliffton, 1981).

Major nesting beaches were located on the south-east coast of Guerrero

between Bahia Dulce and Barra de Teconapa (an estimate of 5,000 females nesting per season) and at Bahia de Chacahua. Other localities included Mexiquillo, Colola, Maruata and Boca de Apiza in Michoacan; Mismaloya in Jalisco; Cuyutlan in Colima; Petacalo and Piedra de Tlacoyunque in Guerrero; La Escobilla and Bahia Blanca in Oaxaca. A secondary nesting beach was discovered on the south-west coast of Baja California (Márquez *et al.*, 1981).

Sarti *et al.* (1996, 1998) estimated that fewer than 1,000 females nested on the Pacific coast during the 1995-1996 nesting season, based on counts of 5,222 nests and an average annual frequency of 5.3 nests per female. Kemf *et al.* (2000) report that the number of females reported as nesting on the Pacific beaches of Mexico has declined tenfold in less than a decade.

CMS actions: Not a Party to CMS.

Other actions: Due to a drastic decline of the nesting population of *D. coriacea* in the Mexican Pacific, the Fishing National Institute, in co-ordination with the National University of Mexico (UNAM), started a research project aimed at understanding the causes of such decline and intensifying protection activities. Protection of females and eggs and monitoring activities are constantly maintained at Llano Grande Beach (the third densest Leatherback nesting site). In the five major rookeries for the Leatherback an intensive tagging programme has been implemented (Arenas *et al.*, 1998).

Other activities in the Pacific Coast consist of aerial surveys of the entire Pacific coast of Mexico, workshops for standardisation of terms, definitions and methods, and training of personnel (Arenas *et al.*, 1998).

Research undertaken includes studies on mortality rates, fibropapillomas case studies (Mosier *et al.*, 2002), nest management (Kalb *et al.* 2000), genetic stock identification, genetic population structure (Abreu-Grobois *et al.* 1998), nesting population size in the Mexican pacific (Epperly and Braun, 1998), and analysis of egg composition (Byles, *et al.* 1998).

F.S. Micronesia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MOROCCO (?):

Status: Leatherback turtles have been recorded here (UNEP/CMS, 2000), although there is little information available on the presence of Leatherback turtles along the Moroccan coast (Bons and Geniez, 1996). Two females tagged in French Guiana were found in this area (Fretey, 2001).

CMS actions: None reported.

Other actions:

Mozambique:

Status: The leatherback turtle is found in Mozambique waters and also come ashore to nest. Shallow coastal areas such as the Sofala Bank, rich in sea grasses, are prime feeding grounds for green turtles which make them especially vulnerable to bycatch in the shrimp trawl fishery (McLellan *et al.*, 2004).

Three decades of strong protection have led to increases in the small annual nesting population of leatherbacks (in neighbouring South Africa) more than fourfold. This population is believed to be representative of a larger nesting population in Mozambique and turtles nesting in South Africa are known to forage in the waters between Mozambique and Madagascar. (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:

Status: One leatherback nesting attempt is reported (Maxwell, 1911) but no recent data are available. Leatherbacks are very rare; a female attempted to nest near the mouth of the Ye River in Tenasserim in 1862, and the species was apparently familiar to inhabitants of the Arakan coast at the turn of the century (Maxwell, 1911).

CMS actions: Not a Party to CMS.

Other actions:

Namibia:

Status: Leatherback turtles have been recorded along the entire coast of Namibia and are concentrated in West Bay (UNEP/CMS, 2000).

CMS actions: Ninety per cent of the Namibian coast is protected, there does not appear to be any interference between indigenous Namibians and turtles in this country (UNEP/CMS 2000). No conservation actions undertaken by the government or NGOs are reported by UNEP/CMS (2000).

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME).The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Nauru:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS:

Status:

Aruba

Leatherback turtles have been recorded possibly nesting in Aruba (Anon., 1995).

Netherlands Antilles

There is evidence of occasional nesting on Bonaire and St Maarten (Sybesma, 1992).

CMS actions: None reported.

Other actions: ***Netherlands Antilles***
In 1992, the NGO Widecast produced the 'Sea Turtle Recovery Plan for the Netherlands Antilles' for the UNEP-Caribbean Environmental Program. The plan was part of a series of plans developed in the Caribbean for the protection and conservation of marine turtles. The plan's objective is to help marine turtle population recovery in the Antilles and to collect as much information as possible regarding their distribution; the plan also aims to promote public awareness on the species conservation and recovery (Sybesma, 1992).

NEW ZEALAND:

Status: Leatherback turtles have been recorded here (Gill, 1997).

CMS actions: None reported.

Other actions:

Nicaragua:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA:

Status: Leatherback turtles have been recorded here (UNEP/CMS, 2000).

CMS actions: None reported.

Other actions:

NORWAY:

Status: Leatherback turtles have been recorded here (Brongersma, 1982; Gulliksen, 1990).

CMS actions: None reported.

Other actions:

Oman:

Status: Although occasional nesting was noted by Márquez (1990) there is no evidence of this from other sources.

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status: One dead leatherback was recorded here in 1988 (Firdous, 1989).

CMS actions: None reported.

Other actions:

Palau:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PANAMA:

Status: Low density leatherback nesting probably occurs sporadically on the Pacific coast (Cornelius, 1982; Meylan, 1985). In 1979, two important nesting localities were discovered on the Caribbean coast, at Playa Chiriqui and Playa

Changuinola; in addition, a site was already known at Bahia Aglatomate, in the San Blas Islands (Carr *et al.*, 1982). Ordoñez *et al.* (2002) recorded 735 Leatherback tracks on Chiriqui Beach, Bocas del Toro province in 1999. Ordoñez et al. (2000) have carried out research into the nesting populations in Bocas the Toro Archipelago where Leatherbacks are the most common species.

CMS actions: None reported.

Other actions:

Papua New Guinea:

Status: Leatherbacks have nested regularly, but in small numbers, on many parts of the north coast and on some of the larger islands, including sites in West and East Sepik Provinces, Madang, and Milne Bay Province, and on Manus Island, New Britain, New Ireland and others. Although sea turtle populations in general were reported to be slowly declining in most areas of Papua New Guinea (PNG), there appear to be no specific data on Leatherbacks (Spring, 1982). In 1989 a minimum of 76 clutches were laid on a beach near Piguwa (Hirth *et al.*, 1993). Few quantitative data are available about important marine turtle habitats in PNG (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

As a first step in this programme, a national population survey of leatherbacks in collaboration with the PNG government and the Village Development Trust (a national community conservation organisation) is planned for the next nesting season. The survey aims to identify population distribution and the impacts of coastal development on leatherback feeding and breeding grounds (McLellan *et al.*, 2004).

PERU (?):

Status: The leatherback turtle possibly nests in Peru (Pritchard, 1971a; Márquez, 1990). The distribution of the species is still unknown in Peru (Peru National Report to CMS, 2002).

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: Alfaro-Shigueto *et al.* (2000) have studied the mortality of marine turtles in fisheries and results have shown this species to be in 16% of the captures between 1993 and 1994, being mostly caught by gillnets.

WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and

sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: Leatherback turtles have been listed as occurring here by CMS and by Kadir (2002).

CMS actions: Protection of marine turtle habitats and nesting sites is addressed through a much broader programme on the establishment and management of protected areas. Currently, there are about 31 marine areas being managed as protected areas by the Department of Environment and Natural Resources. In the Philippine Biodiversity Conservation Priority-Setting Program, 12 marine areas have been identified as priority areas for conservation to protect marine turtles (Philippines National Report to CMS, 2002).

Regarding law enforcement, PAWB's Wildlife Monitoring Team is closely monitoring trade and apprehending traders of marine turtle by–products. Trade in this species has been greatly reduced thanks to these measures. The Philippines have also been active in pursuing international partnership for the conservation of marine turtles through a Memorandum of Understanding with the Malaysian government on the joint management of TIHPA. Field-work for the expansion of the coverage of the TIHPA to include the Berao Islands of Indonesia has been initiated together with Malaysian government. Training and conservation planning with Indonesian groups had been undertaken. These initiatives will lead to the formalisation of a partnership with the government of Indonesia through a tripartite agreement, which will be done in the near future (Philippines National Report to CMS, 2002).

Other actions:

PORTUGAL:

Status:

Mainland

Leatherbacks are rare, though regular visitors. (Portugal National Report, 2002).

Azores

Leatherbacks are occasionally captured accidentally at the Azores where they are a regular visitor (Portugal National Report to CMS, 2002).

Madeira

Leatherbacks are regular visitors (Portugal National Report to CMS, 2002).

CMS actions: Onboard observation at the Azores fishing fleet is being carried out (Portugal National Report to CMS, 2002). According to UNEP-CMS (2000) research projects win the Azores and Madeira Islands include tagging, collection of information on turtle by-catch and its effects, satellite tracking, heavy metal analysis and analysis of stomach contents, autopsies, and growth studies.

Other actions:

Russian Federation:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status: Small-scale leatherback nesting has been reported here (Groombridge, 1982), with 120 nesting events (crawls and pits) recorded in 1999 (Butler, 2002).

CMS actions: None reported.

Other actions: In 1992, the NGO Widecast produced the 'Sea Turtle Recovery Plan for Saint Kitts and Nevis' for the UNEP-Caribbean Environmental Program. The plan was part of a series of plans developed in the Caribbean for the protection and conservation of marine turtles. The plan determines the status and distribution of marine turtles in Saint Kitts and Nevis, identifies threats to marine turtles in the region and proposes solutions to such threats; the plan enhances information exchange at national and regional levels (Eckert and Honebrink, 1992; Orchard, 1994).

Saint Lucia:

Status: Leatherback nesting here has been described as "sporadic to occasional" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SAO TOME AND PRINCIPE:

Status: Leatherback nesting sites have been recorded on Sao Tome (Graff, 1996) and Principe (UNEP/CMS, 2000; Rosseel in Fretey, 1998). Three juvenile Leatherbacks were accidentally captured on the island of Principe in March (Fretey, 2001). Since 1988, heavy exploitation of sea turtles for meat, eggs, and scutes has been reported (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: In 1994, a collaborative project between the European programme ECOFAC and the Peace Corps confirmed the non-sustainable exploitation of sea turtles and their by-products on the island of São Tome. Following this survey, ECOFAC initiated regular monitoring efforts, relocation of threatened nests, and public awareness programmes. From 1998 to 2001, a specific project dedicated to the conservation of sea turtles called 'Projeto Tàtô' and funded by a national program (PIN) STP/CE took over this study. Projecto Tàtô carried out complete coastline surveys, regular monitoring of significant nesting beaches and of turtle captures at sea, nest relocation in protected hatcheries, as well as awareness campaigns among locals, students, tourists, government officials and tortoiseshell artisans

(Formia *et al.*, 2003). It is now known that *D. coriacea* lays eggs on the beaches of the archipelago and has been observed at sea (males and females are present) (UNEP-WCMC, 2003).

Unfortunately, due to lack of funding and a national institution willing to take over the project, 'Projeto Tàtô' stopped its activities in May 2001. All the actions concerning sea turtles on the archipelago are now being revised, and the goal is to set up a local organization that can carry out these various activities. A local NGO called "Marapa" has been identified to implement all the turtle work (Fretey *et al.*, 2002). Marapa built two new egg hatcheries at the end of 2002 (Formia *at al* 2003).

SAUDI ARABIA:

Status:

CMS actions: None reported.

Other actions:

SENEGAL:

Status: Leatherback turtles are common in central Senegal in the Saloum Delta National Park, and reported in the north in the Barbary Coast National Park. No precise information about the size of the population is available (Senegal National Report to CMS, 2002). Feeding grounds in Sine Saloum, Senegal, are considered to be regionally important for marine turtles. However, turtles are under many threats here as elsewhere, including through local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan et al., 2004).

CMS actions: There are plans for a national strategy for the conservation of turtles (Senegal National Report, 2002).

Other actions: According to Fretey *et al.* (2002), there are successful conservation projects in the Joal-Fadiouth and Palmarin region that have stopped the consumption of turtle meat and the sale of carapaces. Local radio stations have contributed broadcasting conservation messages. It has also been proposed that the knowledge of marine turtles in Senegalese waters and their nesting behaviour and the monitoring of beaches should be improved in the near future. Communities should be involved in all processes (McLellan *et al.,* 2004).

WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal.As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, effectively protecting fisheries and biodiversity covering more than 7,500 sq. km. These represent a doubling of the marine protected areas for Senegal, and will protect regionally important feeding and nesting grounds for five species of marine turtles. Local communities strongly support the protected areas as a means to safeguard these important natural resources for the future (McLellan *et al.*, 2004).

Serbian and Montenegro:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Seychelles:

Status: Leatherback turtles have been recorded nesting here occasionally by Márquez, (1990) but there is no evidence of this from other sources.

CMS actions: Not a Party to CMS.
Other actions:

Sierra Leone:

Status: Although there have been no sightings of the species off the Sierra Leone mainland, a small nesting zone has been confirmed on the island of Sherbro (Fretey and Malaussena, 1991).

CMS actions: Not a Party to CMS.
Other actions:

SLOVENIA:

Status:

CMS actions: Not a Party to CMS.
Other actions:

Solomon Islands:

Status: Leatherback turtles have been recorded nesting on several islands of the group. The most important areas are on Choiseul and New Georgia, and Ysabel each with 50-100 nests annually, and Ysabel, with over 100 nests (Vaughan, 1981).

CMS actions: Not a Party to CMS.
Other actions:

SOMALIA:

Status: Leatherback turtles have been recorded nesting here occasionally by Márquez, (1990) but there is no evidence of this from other sources.

CMS actions: None reported.
Other actions:

SOUTH AFRICA:

Status: Medium density leatherback nesting has been recorded along the Kwa Zulu coast (Tongaland) of Natal (Frazier, 1982; Hughes, 1982a). The numbers of nesting females increased from five in 1966 to 70 in 1977/78 (Hughes, 1982a). Further increases to over 100 per season were observed in 1995 (Hughes, 1996).

CMS actions: None reported.

Other actions: Three decades of strong protection have led to increases in the small annual nesting population of leatherbacks more than fourfold. This population is believed to be representative of a larger nesting population in Mozambique and turtles nesting here are known to forage in the waters between Mozambique and Madagascar. This makes the importance of marine protected areas such as the recently extended Bazaruto National Park and newly created Quirimbas National Park in Mozambique extremely important for protecting developmental and feeding grounds of these turtles (McLellan *et al.*, 2004).

As part of the region plan to implement the Sodwana Declaration, The Natal Parks Board initiated a turtle research program at the Turtle Beaches/Coral Reefs of Tongaland, and designated a Ramsar site in October 1986 (Wetlands International, 2003). WWF South Africa has also developed a conservation management project along the coastline of St Lucia Marine Reserve (WWF-ZA, 2003). The Conservation Management and Monitoring is the longest running research project of its kind in southern Africa. It carries out annual surveys, and seeks to determine the size and distribution of nesting populations of Loggerhead and Leatherback Turtles (WWF-ZA. 2003).

The leatherback turtles of the Tongaland beaches of KwaZulu-Natal, South Africa, have been the subject of a monitoring and patrol programme, led by KZN Wildlife and supported by WWF and others, that has been running since 1969 (McLellan *et al.*, 2004).

WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:

Status: Leatherback turtles have been recorded here(Pascual, 1985; Pino, 1996a and b).

Ceuta

Stranded leatherback turtles have been recorded here in 1980, 1982 and 1983 (Fernandez and Moreno, 1984).

Canary Islands

Leatherback sightings in Macaronesia are rare, except perhaps in the Canary Islands where the bodies of turtles caught accidentally in industrial fishing nets wash up on the shore (Brongersma, 1968; Fretey, 2001).

CMS actions: None reported.

Other actions: A programme in the Canary Islands is currently being developed for the study and conservation of this species. The 'Centro Oceanografico de Malaga' has been studying marine turtles for over 20 years. The interactions of *D. coriacea* with fisheries and its migratory patterns have been studied and genetic analysis and tagging programmes have been undertaken (Kasparek, 2001).

SRI LANKA:

Status: Historically, Sri Lanka was the major breeding ground for the leatherback in the Indian Ocean (Deraniyagala, 1953). Leatherback populations underwent dramatic declines from the 1970s onwards (Spotila *et al.*, 2000). Frazier (1982) reported turtles nesting mainly in the south-east on the Yala coast, with probably less than 100 females nesting annually.

Widespread nesting was recorded in the south in 1997-1998 (Amarasooriya, 2001; Amarasooriya and Jayathilaka, 2002). Leatherbacks were noted as nesting on the beaches of Induruwa, Kosgoda, Mavela, Usangoda, Ambalantota, Bundala and Yala (Mutukumara, 1998).

CMS actions: IUCN, in collaboration with the Department of Wildlife Conservation, has produced a National Marine Turtle Conservation Action Plan for Sri Lanka and declared a marine sanctuary (Sri Lanka National Report to CMS, 2002).

Other actions: Amarasooriya and Jayathilaka (2000) studied marine turtle nesting in the north-western, western and southern part of the country. Results indicate that leatherback turtle nesting occurs on the majority of the beaches surveyed.

Sudan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Suriname:

Status: The beaches of the Guianas (French Guiana, Suriname and Guyana) host the largest Atlantic leatherback turtle nesting beaches in the world. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

Nesting occurs in the Galibi Reserve on the Suriname side of the Marowijne estuary, and further west in the Bigisanti area (Matapica and Krofajapasi beaches) east of Paramaribo (Groombridge, 1982). Nesting has been reported in the Galibi Reserve on the Suriname side of the Marowijne estuary, and further west in the Bigisanti area (Matapica and Krofajapasi beaches) east of Paramaribo (Groombridge, 1982).

The total number of nests, probably representing virtually all Leatherback nesting in Suriname, rose fairly steadily from 95 in 1964 to 1,625 in 1975 (Schulz, 1975) and to 3,900 in 1979 (Schulz, 1982). This rise in numbers was thought to be due at least in part to nesting females shifting from the French Guiana sites (Schulz, 1982). Assuming a two-year nesting cycle and three nests per female each year, about 650 females nested in 1975 at Bigisanti and 200 at Galibi (Schulz, 1975). In 1999, 4,200 nests were counted and it was estimated that the total number was over 10,000 (Hilterman et al., 2002). Estimates from the Galibi National Park population indicated 1,635 in 1970, which increased to 8,812 in 1980 and the last report from 1985 stated that there were 12,401 individuals.

CMS actions: Not a Party to CMS.

Other actions: Sea turtle activities are co-ordinated by a local Amerindian organisation, Stinasu, which promotes sustainable development and ecotourism. Organisations involved with turtle conservation are the Biotopic Foundation, the Oceanic Society and the University of Suriname. Stinasu, established the first ban on marine turtle eggs harvesting in 1968, since then the organisation, supported by others, has undertaken fieldwork, awareness programmes and international collaboration. Conservation work has been carried out mostly at the Galibi Nature Reserve (WWF, 2003a; Hilterman *et al.*, 2000). Studies have been undertaken in Suriname on nesting ecology (Mosier *et al.*, 2002), nest paternity and genetic variation (Byles *et al.*, 1998).

In Suriname, WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations, such as the community-based Stidunal, are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

SWEDEN (v)*:

Status: Leatherback turtles have been recorded here (Mathiasson, 1995).

CMS actions: None reported.

Other actions:

SYRIAN ARAB REPUBLIC:

Status:

CMS actions: None reported.

Other actions:

U.R. TANZANIA:

Status: Population size and trends are not known for leatherbacks in Tanzania. One mortality each was recorded in Dar-Es-Salaam and Mafia since Jan. 2001 (U.R. Tanzania National Report, 2002). Although occasional nesting was noted by Márquez (1990), this is contradicted by the Tanzania National Report to CMS (2002) which stated that there is no nesting record.

CMS actions: There is monitoring of mortalities in Mafia Islands. There are plans to form a technical committee to coordinate all turtle conservation programmes in Tanzania (U.R. Tanzania National Report, 2002).

Other actions: WWF is working with local communities on Mafia Island on a variety of natural resource management topics, including fisheries management, alternative non-destructive fishing ventures and marine turtle conservation. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and Born Free Foundation, amongst others (McLellan *et al.*, 2004).

Over the last nesting season on Mafia Island, over 10,000 hatchlings were produced from nest protection, and the rate of human poaching fell to 4% of previous levels. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: The leatherback turtle is found in the waters of peninsular Thailand. It breeds on the airport beach in Changwat Phuket, in the Laem Phan Wa marine reserve in Phuket, and in coastal Changwan Phangnga (Bain and Humphrey, 1980). It was found in waters of peninsular Thailand, and breeds on the airport beach in Changwat Phuket, in the Laem Phan Wa marine reserve in Phuket, and in coastal Changwan Phangnga (Bain and Humphrey, 1980). In 1992-1993 at least 28 nests were recorded on the Phuket and Phangnga coastline (Settle, 1995). In 1997-1998 a survey found nine nests at Phra Thong island in the south (Aureggi *et al.*, 1999). The Andaman Sea population was decimated by near-total, long-term egg harvest (Limpus, 1995). Leatherback populations underwent dramatic declines from the 1970s onwards (Spotila *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

TOGO:

Status: Solitary leatherback turtles have been recorded nesting here (Márquez, 1990). Neonates have also been been recorded (UNEP/CMS 2000). There are three Leatherback eggs in a museum collection, but no recent data on this species exist (UNEP/CMS, 2000).

CMS actions: The Office of Fauna and Hunting (DFC) has labelled/tagged eight turtles of this species which were washed up on the beach (Togo National Report, 2002).

Other actions:

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Trinidad and Tobago:

Status: Some leatherback nesting has been recorded, mainly on the north and east coasts of Trinidad, where the nesting population was estimated at 400-500 females in 1971 (Bacon, 1970; Carr *et al.*, 1982; Chu Cheong, 1990; Ross, 1982a; Sternberg, 1981). There may be 1,000 nests per year (Márquez, 1990). In 1991 a minimum of 300 nests were laid in Trinidad and at least 50 nests in Tobago (Godley *et al.*, 1993). There have been significant increases in nesting (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions:

TUNISIA:

Status: Leatherback turtles have been recorded here by Hachaichi (1985) and reported as occurring regularly by Bradai and El Abed (1998).

CMS actions: Future activities to be decided (Tunisia National Report, 2002).

Other actions:

Turkey:

Status: Leatherback turtles have been recorded here only very recently (Baran, 1998; Taskavak and Farkas, 1998)

CMS actions: Not a Party to CMS.

Other actions:

Tuvalu:

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Arab Emirates:

Status:

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status: Leatherback turtles have been recorded here (Langton, 1999a; b; Morgan, 1989). Many reports of its occurrence in UK waters from 1997 to 2003 are described by the British Marine Life Study Society at http://ourworld.compuserve.com/homepages/BMLSS/turtles.htm

Anguilla

Leatherback turtles have been recorded nesting on the main island and Scrub Island (Richardson and Gumbs, 1984; Oldfield, 1999; Anguilla National Trust, 2003).

British Indian Ocean Territory

Leatherback turtles have been recorded here as vagrants (Oldfield, 1999).

British Virgin Islands

Leatherback turtles have been recorded nesting here (Eckert *et al.*, 1992). Declines in the numbers nesting were reported from 1987 to 1989 (Cambers and Lima, 1990). Only small numbers were nesting in the early 1990s, with fewer than 10 per year on Tortola (Cambers and Lima, 1990; Eckert *et al.*, 1992) This species only nests between late March and June and the annual nesting population consists of approximately 10-15 individuals with 39 nests in

1998, 33 nests in 1999 and 63 nests in 2000 (UK National Report to CMS, 2002). In 2001 the figure increased to an all time high of 63 verified nesting activities (Hastings, 2003).

Cayman Islands
Leatherback turtles have been recorded nesting here during a survey between 1971 and 1991 (Wood and Wood, 1994) but none was found in 1998 and 1999 (Aiken *et al.*, 2001).

Grenada
Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

Montserrat
Leatherback turtles have been rarely recorded nesting and breeding here (Jeffers and Meylan, 1984; Oldfield, 1999).

Saint Helena
A single Leatherback was recorded about 1km off the coast of Ascension Island in December 2001 (White and George, 2002).

CMS actions: A Species Action Plan (SAP) for marine turtles in the UK has been published. A three year project investigating the exploitation of marine turtles in the UK Overseas Territories is now underway, funded by DEFRA and co-ordinated by the Marine Turtle Research Group and Marine Conservation Society. The study will provide information on the current conservation status, population trends, exploitation patterns and genetics of marine turtles in these territories, as well as providing recommendations for future conservation, monitoring and management efforts (UK National Report to CMS, 2002).

In October 2001, the DEFRA funded project Turtles in the Caribbean Overseas Territories was launched, to assess the status and exploitation of Hawksbill *Eretmochelys imbricata*, Green *Chelonia mydas*, Leatherback *Dermochelys coriacea*, and Loggerhead *Caretta caretta* Turtles in Anguilla, Bermuda, the British Virgin Islands, the Cayman Islands, Montserrat, and the Turks and Caicos Islands. Assessment will include fieldwork and genetic stock analysis at foraging grounds and nesting beaches, and evaluation of legal/illegal turtle harvesting (UK National Report to CMS, 2002).

Other actions:

United States:

Status: On the Atlantic coast small scale nesting is recorded from Georgia (Pete and Winn, 1998a and b; Richardson and Richardson; 1995; Frick *et al,* 2002), and Florida (mainly in Martin and Palm Beach counties) (Lund, 1978), with isolated records from North Carolina (Anon., 1980; Rabon *et al.*, 2003). There are no nesting sites in the US continental Pacific coast, according to the action plan produced by the National Marine Fisheries Service and US Fish and Wildlife Service (1998); however, it seems that there are important feeding areas there. Leatherback turtles have been recorded from the west coast in California (Starbird *et al.*, 1993, 1995) to 60°N in Alaska (Hodge, 1979). It has also been recorded on the east coast (Lazell, 1980; Leary, 1957; Lund, 1978; Shoop and Kennedy, 1993).

According to the National Marine Fisheries Service and US Fish and Wildlife Service (1992) nesting trends appeared to be stable, but populations faced significant threats in the marine environments; it reported its main nesting occurrence was in south-western Florida. Bagley *et al.* (1998) reported

finding 12 nests in the Archie Carr National Wildlife Refuge, Florida in 1996. Calleson *et al.* (1998) recorded the species nesting in north-west Florida.

American Samoa
Leatherback turtles have been recorded here (Grant, 1994; UNEP-WCMC, 2003).

Federated States of Micronesia
Leatherback turtles have been occasionally recorded here (Buden and Edward, 2001).

Puerto Rico: Nesting recorded on islands adjacent to Puerto Rico, including Culebra, Mona and Vieques (Carr *et al.*, 1982). A study in 1981 recorded 26 Leatherback nests during the entire season on Vieques (P. C. H. Pritchard, *in litt.* to IUCN CMC, 2 February 1982).

U.S. Virgin Islands: Annual emigration rates averaged 34.1% and the migration interval was 2 years according to Boulon *et al.* (1996). 50 to 70 leatherbacks were recorded as nesting at Sandy Point on St Croix (Anon., 1981a). There have been significant increases in nesting and St. Croix (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: The National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service produced a recovery plan in 1992 that was aimed at helping the species recover to self-sustainable levels. The major action to achieve this aim focused on: long term habitat protection and ensuring hatching success in the most important nesting beaches; determination of the distribution and seasonal movements for all life stages; reduction of threats from marine pollution and reduction of incidental catches by commercial fisheries. In 1998 the NMFS produced the action plan for the species recovery in the US Pacific coast (UNEP-WCMC, 2003).

Actions proposed were focused on incidental catches by the US and international fisheries; supporting to other countries in their efforts to census and protect nesting beaches in the Pacific; determination of movement patterns; determination of US population size and determination of stock home ranges. The Caribbean Conservation Corporation Sea Turtle Survival League was founded in 1959 and since then it has been undertaking research and education projects in order to protect marine turtles in the Caribbean (UNEP-WCMC, 2003).

Research has been carried out into familial relationships among nesting females using genetic techniques; genetic structure and relatedness to nesting populations; satellite tracking; reproductive endocrinology; nesting activities; distribution in the eastern coast and Caribbean islands; ontogeny of diving and feeding behaviour in Leatherback hatchlings (Mosier *et al.*, 2002). Scientists from the USA have also carried out research on the acoustic orientation and sound discrimination of hatchlings, body temperature during inter-nesting intervals, aquatic predation of leatherback turtles (Kalb and Wibbels, 2000); Leatherback strandings on the coasts of Georgia; heart rates and diving behaviour (Epperly and Braun, 1998); identification of individual and mating behaviour inferral by means of molecular genetics; hatchling near shore movements (Byles *et al.*, 1998) competition for prey with sunfish, migration patterns (Keinath *et al.*, 1996)

URUGUAY:

Status: The latest status of the species in Uruguay is not available (Uruguay National Report, 2002), but in the past leatherbacks have been fairly often recorded as strandings or caught in marine fisheries (Fallabrino *et al.*, 2000).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions: The Karumbé project involves Uruguayan fishing communities in marine turtle conservation projects, by means of education in schools, communication of the status and threats facing marine turtles in Uruguay and worldwide, and teaching local people techniques to release and resuscitate caught turtles. The project is also aiming to achieve that Uruguay ratifies the Inter-American Convention for marine turtles protection and conservation, as it is the only country that has not ratified it yet (Karumbé, 2003).

Vanuatu:

Status: Leatherback turtles have been recorded nesting here (Márquez, 1990).

CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. As a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:

Status: Leatherback turtles have been recorded here (National Marine Fisheries Service and U.S. Fish and Wildlife Service, 2001), particularly on the Paria Peninsula (Hedelvy *et al.*, 2000). In 2000 a total of 37 gravid females were tagged (Guada *et al.*, 2002).

CMS actions: Not a Party to CMS.

Other actions: The Working Group for Marine Turtles from Venezuela and the NGO Widecast have prepared an action plan for marine turtle recuperation in this country. The plan aims to update information, establish guidelines for research and management and contribute to decision-making. Conservation initiatives developed in Venezuela include projects in Miranda, Sucre and Nueva Esparta States, in the Roques Archipelago; and also include conservation and biology courses and workshops (Tierraviva, 2003). Other initiatives for the species conservation include the creation of a sea turtle centre in Cipara, de Paria Peninsula, as recommended by the Action Plan for the Recovery of Sea Turtles in Venezuela. The main objective of this centre is to protect and monitor nests on the beach. Activities will include turtle tagging, beach surveys, interaction with fisheries, and volunteer training (Guada *et al.*, 2000). Studies on the interaction of marine turtles with artisanal fisheries and turtle monitoring activities have been carried out in Venezuela (Mosier *et al.*, 2002).

Viet Nam:

Status: Leatherback turtles were recorded here in the 19th century (Stuart *et al.* 2002) but there is little recent information, although their occurrence was noted by Kadir (2002). Populations of loggerhead turtles are in serious decline in Viet Nam (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: There are proposals for a network of protected areas (Kemf, *et al.*, 2000).

Yemen:

Status: Leatherback turtles have been recorded as occasionally nesting nesting here by Márquez (1990), but there is no evidence of this from other sources. It is listed as a Range State by CMS (2003).

CMS actions: Not a Party to CMS.

Other actions:

Additional information – Western Sahara*:

Status: Leatherback turtles have been recorded here (UNEP/CMS, 2000), although there is little information available on the presence of Leatherback turtles along the Western Sahara coast (Bons and Geniez, 1996).

Acions: None.

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UNEP-WCMC (2003). Report on the status and conservation of the Leatherback turtle, *Dermochelys coriacea.* UNEP-WCMC, Cambridge, U.K.

* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Eretmochelys imbricata* (Linnaeus, 1766)

SYNONYMS: -

COMMON NAME: Hawksbill Turtle (English); Caret; Tortue à bec de faucon; Tortue à écailles; Tortue imbriquée (French); Tortuga carey; Tortuga de carey (Spanish)

RANGE STATES: Algeria; Angola; Antigua and Barbuda; AUSTRALIA; Bahamas; Bahrain (?); Bangladesh; Barbados; Belize; BENIN (?); Brazil; Brunei Darussalam; Cambodia; CAMEROON; Cape Verde; CHILE (Easter Island); China (including Taiwan); Colombia; Comoros; CONGO (?); CONGO, DEMOCRATIC REPUBLIC OF THE; Cook Islands; Costa Rica; Côte d`Ivoire; Cuba; Djibouti; Dominica; Dominican Republic; Ecuador (including Galapagos Islands); EGYPT; El Salvador; Equatorial Guinea; Eritrea; Fiji; FRANCE (including French Guiana, French Polynesia, Guadeloupe, Martinique, New Caledonia, Réunion, Society Islands, Tuamotu Islands, Wallis and Futuna Islands (?));Gabon (?); GAMBIA; GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; Jamaica; Japan; KENYA; Kiribati; Korea, Democratic People`s Republic of; Korea Republic of; Kuwait; Liberia; Madagascar; Malaysia; Maldives; Marshall Islands (?); MAURITANIA; Mauritius (?); Mexico; Micronesia (Federated States of); MOROCCO; Mozambique; Myanmar; Namibia (?); Nauru; NETHERLANDS (Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND (Tokelau); Nicaragua; NIGERIA; Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; Singapore; Solomon Islands; SOMALIA (?); SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO (?); Tonga; Trinidad and Tobago; Tuvalu (?); United Arab Emirates (?); United Kingdom (Anguilla); UNITED KINGDOM (Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Montserrat, Pitcairn (?), Turks and Caicos Islands); United States (including American Samoa, Guam, Hawaiian Islands, Northern Mariana Islands, Puerto Rico, United States Virgin Islands); Vanuatu; Venezuela; Viet Nam; Yemen; international waters (Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: CR A1bd (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

The hawksbill turtle has a pan-tropical distribution, and has only rarely been reported away from the tropics. The species is often found by divers close to coral reefs (Kemf, *et al.*, 2000).

Nesting occurs throughout the range but rarely in large numbers; only five sites have populations of more than 1,000 females nesting annually (Kemf, *et al.*, 2000). Since nesting sites tend to be more dispersed than in other species, breeding colonies are isolated so that as populations are depleted replenishment by immigration from elsewhere is unlikely. Extirpation of a population will result in irreversible loss of genetic diversity (McLellan *et al.*, 2004).

Although global population numbers for sea turtle species do not exist, there are an estimated 8,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). There is strong evidence for significant worldwide decline (Kemf, *et al.*, 2000). According to Meylan and Donnolly (1999) there have been large declines in many populations distributed throughout the range and there seems to be no evidence to suggest that the recent declines (last 20-40 years) were preceded by a population increase (IUCN, 2003). Given the current population sizes and the historical levels of exploitation, a decline of 80% can be inferred. However, two petitions have been put forward to the Red List Standards and Petitions Subcommittee (1996), challenging the interpretation of the data and the conclusion that there has been an 80% reduction of the global population in the last three generations.

The hawksbill turtle is the sole source of commercial tortoiseshell (also known as "carey") used in jewellery, and have been hunted for centuries for this reason. Intensive overharvesting for shells probably continues to constitute the major threat to the species. In recent decades, eastern Asia, especially Japan, has been a major consumer of tortoiseshell. Through international conventions and national legislation some countries have managed to restrict trade (Kemf, *et al.*, 2000). Despite this legal protection a large amount of illegal trade in hawksbill shells and products persists, with Southeast Asia remaining one of the major regions of supply (McLellan *et al.*, 2004). As with other species, the hawksbill turtle is also threatened by the loss of nesting and feeding habitats, excessive egg-collection, fishery-related mortality, pollution, and coastal development (Kemf, *et al.*, 2000).

Albania (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Algeria:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Angola:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:
Status:
CMS actions:

Other actions: Not a Party to CMS.

AUSTRALIA:

Status: Hawksbill turtles migrate from New South Wales, Northern Territory, Queensland, Western Australia, Indonesia, and Papua New Guinea to breeding and nesting sites in Western Australia, north Queensland and the Northern Territory. In addition, many migrate to breeding sites in neighbouring countries including PNG, Vanuatu, and the Solomon Islands. Breeding occurs year round in the Northern Territory, the Torres Strait and the northern Great Barrier Reef. The Western Australian stock is centred in the southern north-west shelf, with an annual nesting population of possibly several thousand females. Hawksbill turtles are also occasional visitors to Tasmania (Australia National Report, 2002). The highest density of nesting populations of hawksbill turtles in the Pacific, at Milman Island in the Great Barrier Reef, is declining (McLellan *et al.*, 2004).

CMS actions: Nesting sites are being monitored and research has been carried out on GIS-based models for indigenous management, effects of commercial fishing activities and ecotourism (Australia National Report, 2002).

Other actions: WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. Sea Rangers are Aboriginal community representatives who have the responsibility of managing their natural resources. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

WWF's involvement with marine turtle conservation at Ningaloo Reef, one of the longest fringing coral reefs in the world, began with its participation in a campaign to halt a proposed beachside marina and hotel. WWF has supported a community monitoring project involving the local community, local government, and state government conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

The GBR Marine Park, until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR, which will benefit marine turtle conservation enormously (McLellan *et al.*, 2004).

Work is also being carried out in the Great Barrier Reef to prevent unregulated land-based pollution, which has been shown to degrade many inshore marine ecosystems, including marine turtle habitats (McLellan *et al.*, 2004). A report released by WWF in 2001 entitled "Clear? ... or Present Danger" was pivotal in raising government and public awareness of this issue (McLellan *et al.*, 2004).

Bahamas:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bahrain (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:
Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Barbados:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Belize:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BENIN (?):
Status: A relatively weaker population than that of *Chelonia mydas* is found here (Benin National Report, 2002).

CMS actions: Nesting sites are protected (Benin National Report, 2002).

Other actions:
Brazil:
Status:
CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and protect marine turtles through research, conservation actions and community involvement. The work was soon extended nation-wide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).
Brunei Darussalam:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CAMEROON:
Status:
CMS actions: None reported.
Other actions:
Cape Verde:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CHILE

(including Easter Island):

Status: Reported on Easter Island, with a specimen trapped in fishing gear in the central Chilean zone. Its presence on the Chilean coast is doubtful (Chile National Report, 2002).

CMS actions: There are future plans to assess distribution in Chile (Chile National Report, 2002).

Other actions:

China (including Taiwan):

Status: Not a Party to CMS.

CMS actions:

Other actions:

Colombia:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

Comoros:

Status:

CMS actions: Not a Party to CMS.

Other actions:

CONGO (?):

Status:

CMS actions: None reported.

Other actions:

D.R. CONGO:

Status: None reported.

CMS actions:

Other actions:

Cook Islands:

Status: Not a Party to CMS.

CMS actions:

Other actions: WWF is working with communities to ensure that local people have access to the information they require to sustainably manage their natural resources, including marine turtles. Part of this is through supplying tags to those communities in the outer islands who want to participate in a tagging programme, as well as directly tagging and releasing turtles caught in Rarotonga Lagoon (McLellan *et al.*, 2004).

Costa Rica:

Status: Tortuguero, on the Atlantic coast of Costa Rica, is a nesting site for hawksbill turtles (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions:

COTE D'IVOIRE:

Status:

CMS actions: None reported.

Other actions:

Cuba:

Status: Harvest for domestic trade continues to occur within the country (Kemf, *et al.*, 2000). Cuba continues to take hawksbills in its waters, and has in the past tried unsuccessfully to obtain permission to trade legally under CITES; however, Cuba is participating in regional dialogues on the species' conservation. Southern Cuba is probably the most important feeding ground (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology (CIM) at Guanahacabibes (McLellan *et al.*, 2004). Current research into the genetics of hawksbills in Cuban waters is ongoing with the University of Cuba and CIM (McLellan *et al.*, 2004).

WWF is advocating regional cooperation on hawksbill conservation and management, as the solutions require a regional approach, and is working closely with the Cuban government through our presence in Cuba. WWF is also studying alternatives to the marine turtle harvest in Cuba with local scientists, including a study of the nutritional and cultural value of the turtles, and seeking partners to address the issue of decommissioning the Cuban hawksbill stockpile (McLellan *et al.*, 2004).

Djibouti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status: In 2000, Cuba, together with Dominica, proposed to CITES that they reopen international trade with Cuba selling hawksbill turtle shells to Japan. Harvest for domestic trade continues to occur within the country (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ecuador (including Galapagos Islands):

Status:

CMS actions: Not a Party to CMS.

Other actions: Studies carried out by NOAA in the Atlantic Ocean suggest that adaptations to the fishing gear can significantly reduce bycatch of marine turtles. Working closely with the IATTC and NOAA, WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-hooks to circular hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status:

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Fiji:

Status: Harvest of hawksbill turtle shell for domestic trade continues to occur within the country (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: ***French Guiana***

Hawksbill turtles nest on French Guiana's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

Mayotte (br)*

Occurrence reported (Frazier, 1985).

CMS actions: None reported.

Other actions: ***French Guiana***

Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action has recently been finalised and submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Gabon (?):

Status: All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) in Gabon (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

GAMBIA:

Status:

CMS actions: None reported.

Other actions:

GHANA:

Status:

CMS actions: None reported.

Other actions:

Grenada:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Guatemala:

Status:

CMS actions: Not a Party to CMS.

Other actions:

GUINEA:

Status: Spread out particularly in the northwestern zone of Guinea. This species is frequently observed and encountered in fishing nets between October and December (Guinea National Report, 2002).

CMS actions: If the technical and financial means are acquired, systematic research on the species will be undertaken (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status:

CMS actions: None reported.

Other actions:

Guyana:

Status: Hawksbill turtles nest on this country's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan has been finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Shell Beach in Guyana hosts hawksbill nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve. Under the coordination of the Guyana Marine Turtle Conservation Society, WWF has, over the years, supported most marine conservation initiatives including monitoring, beach protection, and enforcement of fishing bans during the nesting season. In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project — an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

INDIA:

Status:

CMS actions: None reported.

Other actions:

Indonesia:

Status: Between 1966 and 1972, hawksbill turtle shell from 150,000 adults were exported from Indonesia, mainly to Japan and there was also a major trade in other turtle products (oil, meat and leather). Harvest of turtle shell for domestic trade continues to occur within the country (Kemf, *et al.*, 2000). The Indonesian populations are some of those that have declined the most (IUCN, 2003).

CMS actions: Not a Party to CMS.

Other actions: ***Berau***
In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Berau Islands (Kemf, *et al.*, 2000).

I.R. Iran:

Status:

MS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ISRAEL:

Status:

CMS actions: Monitoring activities for other species may detect this one (Israel National Report, 2002).

Other actions:

ITALY (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions: WWF is conducting a campaign to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of

marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status: Japan was a major consumer of tortoiseshell until 1994 (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Along most areas of the Kenyan coast, with higher concentrations in the northern parts and there is strong seasonal variations in distribution (Kenya National Report, 2002).

CMS actions: The hawksbill is monitored within the framework of coastal zone and biodiversity monitoring (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

Kiribati:

Status:

CMS actions: Not a Party to CMS.

Other actions:

D.P.R. Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Kuwait:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Liberia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Madagascar:

Status: This species nests in Madagascar (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Community-based conservation projects have been set-up in the Fort Dauphin area (Kemf, *et al.*, 2000). In 2002/2003 WWF initiated tagging activities in northern Madagascar, and commenced a trade assessment at two high-risk sites together with small scale awareness activities (McLellan *et al.*, 2004).

Malaysia:

Status: ***Peninsular Malaysia***

The hawksbill turtle population is very low in Terengganu, Peninsular Malaysia (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: ***Sabah***

In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

The Turtle Islands are major rookeries for hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have been conducted. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. In 1996 a bilateral agreement was signed, establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

Maldives:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MALTA (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Marshall Islands (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

MAURITANIA:

Status:

CMS actions: None reported.
Other actions:

Mauritius (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:

Mexico:
Status: All species of Mexican sea-turtle are under threat and are harvested in huge quantites (Kemf, *et al.*, 2000). The northern Yucatan coast of Mexico is likely to be the major nesting area globally (McLellan *et al.*, 2004). Thanks to conservation efforts, the hawksbill turtle is starting to recover in the Yucatan area (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

F.S. Micronesia:
Status: Not a Party to CMS.
CMS actions:
Other actions:

MOROCCO:
Status:
CMS actions: None reported.
Other actions:

Mozambique:
Status: Hawksbill are found in Mozambique waters and also come ashore to nest (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Namibia (?):
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Nauru:
Status:
CMS actions: Not a Party to CMS.
Other actions:

NETHERLANDS:
Status: Reported as breeding in the Netherlands Antilles (van Buurt, 1984).

CMS actions: None reported.
Other actions:

NEW ZEALAND (Tokelau):
Status: Breeding reported (Balazs, 1982).

CMS actions: None reported.
Other actions:

Nicaragua:
Status:
CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA:
Status:
CMS actions: None reported.
Other actions:

Oman:
Status:
CMS actions: Not a Party to CMS.
Other actions:

PAKISTAN:
Status:
CMS actions: None reported.
Other actions:

Palau:
Status:
CMS actions: Not a Party to CMS.
Other actions:

PANAMA:
Status: Playa Chiriqui, a beach in western Panama, was historically the most important nesting site of hawksbills in the Caribbean. However, overexploitation of the turtles for the international shell trade has reduced the population by over 85% (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: Research has been conducted into hawksbill turtles in Panama and in the

Leeward and Windward Islands (Kemf, *et al.*, 2000). Recently, one of the two communities Amerindians, custodians of the beach and its natural resources, has decided to protect the turtles. WWF is working in partnership with the Caribbean Conservation Corporation to secure the recovery of the hawksbills at Playa Chiriqui, by building capacity among the Amerindians for the design and implementation of a tourist scheme that translates conservation efforts into tangible community benefits (McLellan *et al.*, 2004).

Papua New Guinea:

Status: Not a Party to CMS.

CMS actions:

Other actions: The potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities is being investigated. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

PERU:

Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status:

CMS actions: None reported.

Other actions: In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands, Sipadan Islands, and the Berau Island (Kemf, *et al.*, 2000).

The Turtle Islands are major rookeries for hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have been conducted. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. In 1996 of a bilateral agreement was agreed on, establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

PORTUGAL (?):

Status: The hawksbill is a rare visitor to the Madeira and the Azores EEZs. The nearest population is located in the Caribbean. Most individuals observed at Madeira and the Azores are juveniles (Portugal National Report, 2002).

CMS actions: Monitoring activities for *Caretta caretta* will detect *Eretmochelys imbricata* and protection activities for *Caretta caretta* will benefit this species indirectly (Portugal National Report, 2002).

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions: The Samoan Government has declared its political commitment to establishing its 120,000km^2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary in 2002 (McLellan *et al.*, 2004).

SAO TOME AND PRINCIPE:

Status:

CMS actions: None reported.

Other actions:

SAUDI ARABIA:

Status: None reported.

CMS actions:

Other actions:

SENEGAL:

Status: *Eretmochelys imbricata* has been seen in the centre of the country and it has been spotted in the north in the Park of the Barbary Coast, but there has been no precise information about the size of the population (Senegal National Report, 2002). Turtles are under many threats, including local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan *et al.*, 2004).

CMS actions: There are plans for a national strategy for the conservation of turtles

(Senegal National Report, 2002).

Other actions: WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, which will protect regionally important feeding and nesting grounds for five species of marine turtles (McLellan *et al.*, 2004).

Seychelles:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF funded a field study of hawksbill turtle in the Seychelles in the 1980s leading to a number of government conservation measures (Kemf, *et al.*, 2000).

Sierra Leone:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Singapore:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Solomon Islands:
Status: By the 1970s, Arnavon Island still had the greatest aggregations of hawksbill turtles in the South Pacific, but they were under threat because of increased accessibility offered by outboard motors. Harvest of hawksbill turtle shell for domestic trade continues to occur within the country (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF has undertaken various hawksbill conservation efforts in Arnavon since 1979, including surveys and training wardens (Kemf, *et al.*, 2000).

SOMALIA (?):
Status:
CMS actions: None reported.
Other actions:
SOUTH AFRICA:

Status: None reported.
CMS actions:

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:
Status:

CMS actions: None reported.

Other actions:

SRI LANKA:

Status:

CMS actions: None reported.

Other actions:

Sudan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Suriname:

Status: Hawksbill turtles nest on this country's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action has recently been finalised and submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

U.R. TANZANIA:

Status: It was estimated that 50 females nested annually in 1982. The population trend is not known but there is much evidence that a number of former turtle nesting areas have been vacated and that suitable nesting sites are in decline. Hawksbill was recorded in Mafia Island, Mtwara and Zanzibar. Of 24 nests on Shungi-mbili Island (adjacent to Mafia Island) six were Hawksbill. During Jan.-Jun. 2002, three nests were recorded in Mafia (U.R Tanzania. National Report, 2002).

CMS actions: There is a Mafia Island Turtle and Dugong Conservation Programme. Seventeen active nesting beaches on Mafia Island are monitored regularly. A proposal has been developed by the Mafia Island District with assistance from the Mafia Island Turtle and Dugong Conservation Programme to close Nyoro, Shung-mbili and Mbarakuni Islands adjacent to Mafia, for temporary settlements duyring part or all of the year for turtle nesting to recover. A technical committee that will coordinate all turtle conservation programmes in

Tanzania has been formed (U.R Tanzania. National Report, 2002).

Other actions: WWF is working with local communities on marine turtle conservation on Mafia Island. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and the Born Free Foundation, amongst others. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were, and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various WWF sponsored conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

TOGO (?):

Status:

CMS actions: None reported.

Other actions:

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Trinidad and Tobago:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Tuvalu (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Arab Emirates (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Kingdom (Anguilla):

Status: Breeding reported (Richardson and Gumbs, 1984). Numbers of hawksbill turtle are starting to recover in Anguilla since a five year moratorium on harvesting of the species was imposed in 1995 (Kemf, *et al.*, 2000).

CMS actions: Anguilla is not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status: Breeding reported in Saint Helena (UNEP-WCMC, 2004).

CMS actions: None reported

Other actions:

United States:
Status:
CMS actions: Not a Party to CMS.
Other actions:

URUGUAY:
Status:
CMS actions: None reported.
Other actions:

Vanuatu:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. As a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Viet Nam (?):
Status: Populations of hawksbill turtles are in serious decline (Kemf, *et al.*, 2000), and in danger of becoming locally extinct (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: There are proposals for a network of protected areas (Kemf, *et al.*, 2000).

Yemen:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Additional information - Western Sahara *:
Status: Breeding reported as possibly occurring here (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Lepidochelys kempii* (Garman, 1880)

SYNONYMS: -

COMMON NAME: Atlantic Ridley; Gulf Ridley; Kemp's Ridley; Mexican Ridley (English); Lépidochelyde de Kemp; Ridley de Kemp; Tortue de Kemp (French); Cotorra; Tortuga iora; Tortuga marina bastarda (Spanish)

RANGE STATES: Algeria; Canada; Cuba; FRANCE; IRELAND; ITALY; Mexico; MOROCCO; PORTUGAL; SPAIN; United Kingdom (Anguilla); UNITED KINGDOM (including Bermuda, British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos Islands); United States; international waters (Gulf of Mexico, Atlantic Ocean)

RED LIST RATING: CR A1ab (Marine Turtle Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Kemp's ridley turtle is restricted to the Gulf of Mexico and coastal waters of the western Atlantic Ocean of the United States and prefers shallow sandy and muddy habitats (Kemf, *et al.*, 2000). Nesting of this species occurs conspicuously in broad daylight, and apart from sporadic nesting elsewhere, takes place only in one location in Mexico (McLellan *et al.*, 2004).

Kemp's Ridleys are the rarest and most endangered sea turtle of the world (Portugal National Report, 2002), and nearly went extinct (Kemf, *et al.*, 2000). Although world wide population numbers for sea turtle species do not exist, there are an estimated 1,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). The nesting population crashed from more than 40,000 turtles coming ashore in a single day in the late 1940s to a few hundred females nesting in an entire season in the late 1980s (McLellan *et al.*, 2004). As a result of an enormous conservation effort the species is undergoing a remarkable recovery, although nesting numbers are still low (McLellan *et al.*, 2004). There was massive exploitation of eggs until this species received protection in 1965 (Kemf, *et al.*, 2000).

Algeria:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Canada:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Colombia (br?)*:
Occurrence reported (UNEP-WCMC, 2004).
Status:
Not a Party to CMS.
CMS actions:
Other actions: WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional

programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

Cuba:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology at Guanahacabibes (McLellan *et al.*, 2004).

FRANCE:

Status:

CMS actions: None reported.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ITALY:

Status:

CMS actions: None reported.

Other actions: WWF is conducting a campaign in Italy to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

MALTA (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

MAURITANIA*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Mexico:

Status: Apart from sporadic nesting elsewhere, nesting takes place on only one 20km beach at Rancho Nuevo in the Gulf of Mexico. In the past tens of thousands nested here, but today arrivals are numbered in the hundreds, although the species is starting to recover in this area (Kemf, *et al.*, 2000)

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000). Surveys into Kemp's ridley turtle have been conducted. The species is undergoing a recovery in response to conservation

efforts at Nuevo Rancho. All nests are protected and fishermen are required to use turtle excluder devices to reduce capture of the turtle in their nets (Kemf, *et al.*, 2000).

MOROCCO:

Status:

CMS actions: None reported.

Other actions:

NETHERLANDS (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

PORTUGAL:

Status: The population is still extremely low, but growing slightly. Most individuals observed at Madeira and the Azores are juveniles and it may well be that this species uses Macaronesian waters regularly as a developmental habitat. However, the low population numbers drastically reduce the chances of sighting this species (Portugal National Report, 2002).

CMS actions: Monitoring activities for *Caretta caretta* will detect this species. No future activities planned to specifically target this species, but activities for *Caretta caretta* will benefit it indirectly (Portugal National Report, 2002).

Other actions:

SENEGAL*:

Status: Lack of precise detail on the presence of the species although it has been spotted in the centre of the country (Senegal National Report, 2002).

CMS actions: Note that CMS does not currently consider Senegal to be a range state. However, according to the Senegal National Report (2002), a national strategy will be put in place for the conservation of turtles.

Other actions: WWF has funded a number of protected areas for turtles in Senegal (Kemf, *et al.*, 2000).

SPAIN:

Status:

CMS actions: None reported.

Other actions:

United Kingdom (Anguilla):

Status:

CMS actions: Anguilla is not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status:

CMS actions: None reported.

Other actions:

United States:

Status: The species prefers shallow sandy and muddy habitats, such as the coastal lagoons of Louisiana, Texas and Alabama (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Lepidochelys olivacea* (Eschscholtz, 1829)

SYNONYMS: -

COMMON NAME: Olive Ridley; Pacific Ridley (English); Ridley du Pacifique; Tortue bâtarde; Tortue de Ridley; Tortue olivâtre (French); Tortuga golfina; Tortuga olivacea (Spanish)

RANGE STATES: Angola; Antigua and Barbuda; AUSTRALIA; Bahrain; Bangladesh; Barbados; BENIN; Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; Cape Verde; CHILE; China; Colombia; Comores; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Costa Rica; COTE D'IVOIRE; Cuba; Djibouti; Dominica; Dominican Republic; Ecuador; EGYPT; El Salvador; Equatorial Guinea; Eritrea; FRANCE (including French Guiana, New Caledonia); Gabon; GAMBIA; GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; ISRAEL; Jamaica; Japan; KENYA; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; Liberia; Madagascar; Malaysia; Maldives; MAURITANIA; Mexico; Mozambique; Myanmar; NEW ZEALAND; Nicaragua; NIGERIA; Oman; PAKISTAN; PANAMA; Papua New Guinea; PERU; PHILIPPINES; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; Singapore; Solomon Islands; SOMALIA; SOUTH AFRICA; SRI LANKA; Sudan; Suriname; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO; Trinidad and Tobago; United Arab Emirates; United States (Hawaiian Islands, Puerto Rico, United States Virgin Islands); Venezuela; Viet Nam; Yemen; international waters (Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: EN A1bd (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

The Olive Ridley is present throughout the Antilles, the north coast of South America, west Africa, the Indian Ocean, Australia and Southeast Asia. Despite this wide distribution, the species has only been observed around continents and large islands, where large flotillas are sometimes seen moving between nesting and feeding grounds. The main nesting beaches are on the eastern Pacific coasts of Central America, from Mexico to Costa Rica, in northeastern India and Suriname. The species is famous for its *arribadas* when mass egg-laying takes place over a number of days (Kemf, *et al.*, 2000).

Although global population numbers for Olive Ridley do not exist, there are an estimated 800,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). There is evidence for a significant decline and crude calculations based on the data provided by the Marine Turtles Specialist Group indicate that the reduction since the late 1960s has been close to 50% (Kemf, *et al.*, 2000; Red List Standards and Petitions Subcommittee, 1996). However, a petition has been presented to Red List Standards and Petitions Subcommittee claiming that there is evidence of large numbers of nesting turtles, and increasing numbers in some areas (IUCN, 2003).

Olive Ridley populations are in sharp decline due to poaching of eggs, beach development, fishing and pollution. The belief that turtle eggs have aphrodisiac properties is a major threat to Olive Ridley populations in Central and South America. Populations of Olive Ridley are sometimes threatened with disease, particularly tumours, which may be caused by pollution (Kemf, *et al.*, 2000). The Olive Ridley will always be vulnerable because such a large proportion of its reproductive effort is concentrated in only a few locations. Human caused or natural disturbances to nesting beaches and internesting areas can have huge repercussions on the whole population (McLellan *et al.*, 2004).

Angola:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME).The project mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:

Status:

CMS actions: Not a Party to CMS.

Other actions:

AUSTRALIA:

Status: The Australian population of the Olive Ridley turtle is poorly documented. They migrate from feeding ground in Queensland, the Northern Territory and Western Australia to reach breeding and nesting sites in the Gulf of Carpentaria (Queensland) and the Arafura Sea (Northern Territory). They have not been recorded nesting in Western Australia. The females nest all year round (Australia National Report, 2002).

CMS actions: Numerous research papers on subjects including monitoring nesting sites, GIS-based models for indigenous management, effects of commercial fishing activities, ecotourism (Australia National Report, 2002).

Other actions: The GBR Marine Park, until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR, which will benefit marine turtle conservation enormously (McLellan *et al.*, 2004).

The principal focus of WWF's work in the Great Barrier Reef is the prevention of unregulated land-based pollution, caused by agricultural land clearing and poor land management practices upstream in the rivers that

discharge into the Marine Park (McLellan *et al.*, 2004).

Over 80% of the northern coastline of Australia is owned and managed by indigenous Aboriginal people. WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. This enables Aboriginal communities, via their Sea Rangers, to monitor their own marine turtle resources and in so doing, provide valuable scientific data about the turtles in their region. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

The movements of Olive Ridley turtles which nest on the Tiwi Islands north of Darwin, are largely unknown. WWF is currently launching a tracking study of these turtles which will reveal migration patterns between nesting and foraging grounds, and details about currently unknown foraging areas and foraging behaviour (McLellan *et al.*, 2004).

Bahrain:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Barbados:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BENIN:

Status: This species is seen with increasing frequency according to people inhabiting the coast (Benin National Report, 2002).

CMS actions: Various actions including publicity, education, raising awareness and safeguarding of supposed egg-laying sites are being carried out (Benin National Report, 2002).

Other actions:

Brazil:

Status:

CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and protect marine turtles through research, conservation actions and community involvement. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).

Brunei Darussalam:

Status:

CMS actions: Not a Party to CMS.
Other actions:
Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CAMEROON:
Status:
CMS actions: None reported.
Other actions:
Canada:
Status:
Not a Party to CMS.
CMS actions:
Other actions:
Cape Verde:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CHILE:
Status: It has been reported in Region V (Valparaíso) and Region VIII, in Lirquén and Arauco (Chile National Report, 2002).

CMS actions: The SERNAPESCA and CPPS 2001 Workshop was held in Valparaíso to define priority action guidelines of a programme for the conservation of marine turtles. There is a lack of adequate funding for research and logistic support to cover the Chilean littoral and oceanic islands. (Chile National Report, 2002).

Other actions:
China:
Status: Occurrence reported in Taiwan (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Colombia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Comores:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CONGO:
Status: Very few egg-laying sites are known. Ridley Turtles have been observed near the beaches of Pointe-Noire (to the north) and are present in the Conkouati National Park. They have been accidentally captured by fishermen out at sea. (Congo National Report, 2002).

CMS actions: None reported.
Other actions:
D.R. CONGO:

Status: None reported.
CMS actions:
Other actions:

Costa Rica:

Status: Nancite is one of the world's main Olive Ridley nesting beaches (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: The turtles are protected whilst nesting at Nancite (Kemf, *et al.*, 2000).

COTE D'IVOIRE:

Status:

CMS actions: None reported.

Other actions:

Cuba:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology at Guanahacabibes (McLellan *et al.*, 2004).

Djibouti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ecuador:

Status: Reported in the Galapagos Islands (UNEP-WCMC, 2004). Since the 1960s, Olive Ridleys have been killed for their leather. An estimated 450,000 turtles, mainly Olive Ridleys were slaughtered during the 1970s in Ecuadorian waters to for the international trade (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Working closely with the IATTC and NOAA,WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-hooks to circular hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status:

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation

activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: ***French Guiana***
Olive Ridley turtles nest on French Guiana's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: ***French Guiana***
Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Gabon:

Status: All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: A regional marine turtle organisation, Kudu, made the first estimate of nesting turtles near the city of Gamba in the 2002-2003 season. Important baseline data on the number of Olive Ridleys which came ashore to nest, were collected in this season, and will form the basis for repeat monitoring and tagging programmes in the future. The project partners also undertook environmental education activities, aimed at increasing the awareness of the endangered status of the turtles, and initial conservation measures to protect them (McLellan *et al.*, 2004).

GAMBIA:

Status:

CMS actions: None reported.

Other actions:

GHANA:

Status:

CMS actions: None reported.

Other actions:

Grenada:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Guatemala:

Status:

CMS actions: Not a Party to CMS.

Other actions:

GUINEA:

Status:

CMS actions: Future actions will include in-depth research, protection and restoration of the habitat, and public communication and information campaigns (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status:

CMS actions: None reported.

Other actions:

Guyana:

Status: Olive Ridley turtles nest on this country's beaches, including Shell Beach. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Shell Beach hosts Olive Ridley nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve. Under the coordination of the Guyana Marine Turtle Conservation Society, WWF has, over the years, supported most marine conservation initiatives including monitoring, beach protection, and enforcement of fishing bans during the nesting season. In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project - an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status:

CMS actions: Not a Party to CMS.

Other actions:

INDIA:

Status: Some of the main nesting beaches of Olive Ridley are found along India's

Gahirmatha coast in the Orissa mangroves. In the 1970s an estimated one million Olive Ridleys (of both sexes) visited Gahirmatha to lay 50,000,000 eggs per year. The Orissa mangroves are threatened by the massive local prawn aquaculture industry which has removed more than 30km^2 out of the total 115.5km^2 of mangrove habitat (Kemf, *et al.*, 2000).

One of the main threats to marine turtles in Orissa is from trawl fishing in the 'no fishing' zones and non-compliance over the use of Turtle Excluder Devices, even though they are mandatory by law (McLellan *et al.*, 2004). In 1999 alone, 13,000 Olive Ridleys were killed in Orissa by fishing trawlers (Kemf, *et al.*, 2000). Trawlers operating illegally in the coastal protected area during the nesting season cause an increased number of turtle strandings and mortality (McLellan *et al.*, 2004).

The mass nesting phenomenon used to be concentrated northwards at the Gahirimatha and Devi river mouths, but coastal erosion and development have pushed the nesting turtles further south to the Rushikulya river mouth. Beach development, erosion and predation are all serious threats to the mass nesting (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: In 1975 the government declared the Bhitarkanika Wildlife Sanctuary, but the prawn aquaculture industry seriously threaned the nesting habitat of Olive Ridleys. In 1997 the Orissa Government passed a law preventing further development in the B.W. Sanctuary (Kemf, *et al.*, 2000). WWF is engaged in dialogue with the fishing community and the government in order to regulate the fishing operations and develop turtle-friendly fishing practices (McLellan *et al.*, 2004).

Beach protection work in 2003 included creating awareness in the surrounding villages of the endangered status of Olive Ridley turtles, protecting the nests from predators, and subsequently collecting and releasing the hatchlings into the sea. WWF India is also starting to address marine turtle conservation awareness in the south-east state of Tamil Nadu through traditional folk theatre, and through beach cleaning and stakeholder meetings in the central western state of Goa (McLellan *et al.*, 2004).

Indonesia:

Status:

CMS actions: Not a Party to CMS.

Other actions: ***Berau***

In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included Berau Island (Kemf, *et al.*, 2000).

I.R. Iran:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ISRAEL:

Status:

CMS actions: None reported.

Other actions:

ITALY:

Status:

CMS actions: None reported.

Other actions: WWF is conducting a campaign in Italy to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Along most areas of the Kenyan coast, with higher concentrations in the northern parts and there is strong seasonal variations in distribution (Kenya National Report, 2002).

CMS actions: Olive Ridley turtles are monitored within the framework of coastal zone and biodiversity monitoring (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

D.R. Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status:

CMS actions: Not a Party to CMS.
Other actions:

Liberia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Madagascar:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Malaysia:
Status: ***Peninsular Malaysia***
The Olive Ridleys have suffered serious declines in the past ten years in Terengganu (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: ***Peninsular Malaysia***
WWF conducts the Community Education and Awareness Programme on Turtle Conservation in partnership with the Department of Fisheries at the recently established Ma' Daerah Turtle Sanctuary Centre, a hatchery and interpretation centre, in the Terengganu state on the east coast of peninsular Malaysia. This Sanctuary is a nesting site primarily of green turtles, although some Olive Ridley and leatherback also nest here.The programme aims to establish local community interest and action groups for the conservation of turtles in Ma'Daerah, to build the capacity of local communities on turtle conservation, and to lobby for the gazettal of Ma'Daerah as a turtle sanctuary (McLellan et al., 2004).

Sabah
In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

Maldives:
Status:
CMS actions: Not a Party to CMS.
Other actions:

MAURITANIA:
Status:
CMS actions: None reported.
Other actions:

Mexico:
Status: Some of the main nesting beaches of Olive Ridley are found here. On one beach in the 1960s, an estimated 30,000 Olive Ridleys nested here in a single *arribada.* Illegal harvesting has been carried out since the 1960s and continued despite a sharp decline in numbers. All species of Mexican sea-turtle are under threat. Today populations of the species are starting to recover in this area, although 500,000 eggs were removed from a Oaxaca beach in 1996 (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and

1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

Mozambique:

Status: Turtles are found in the waters of Mozambique and also come ashore to nest (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NEW ZEALAND (Tokelau):

Status:

CMS actions: None reported.

Other actions:

Nicaragua:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect Pacific Olive Ridley turtles in 1987. Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA (?):

Status:

CMS actions: None reported.

Other actions:

Oman:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status:

CMS actions: None reported.

Other actions:

PANAMA:

Status:

CMS actions: None reported.

Other actions:

Papua New Guinea:

Status: Few quantitative data are available about important marine turtle habitats in PNG.

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

PERU:

Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: None reported.

CMS actions:

Other actions: In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands, Sipadan Islands, and the Berau Island (Kemf, *et al.*, 2000).

PORTUGAL (v)*:

Status: Occurrence reported in Madeira (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.
Other actions:

Saint Vincent and the Grenadines:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Samoa:

Status:
CMS actions: Not a Party to CMS.

Other actions: The Samoan Government has declared its political commitment to establishing its 120,000km^2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary in 2002 (McLellan *et al.*, 2004).

SAO TOME AND PRINCIPE:

Status:
CMS actions: None reported.
Other actions:

SAUDI ARABIA:

Status:
CMS actions: None reported.
Other actions:

SENEGAL:

Status: Olive Ridleys have been spotted in the centre of the country and in the north in the National Park of the Barbary Coast. There is no precise information on the size of the population (Senegal National Report, 2002).

CMS actions: A national strategy for the conservation of turtles will be put in place (Senegal National Report, 2002).

Other actions: WWF has funded a number of protected areas for turtles in Senegal (Kemf, *et al.*, 2000). WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, which will protect regionally important feeding and nesting grounds for five species of marine turtles (McLellan *et al.*, 2004).

Seychelles:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Sierra Leone:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Singapore:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Solomon Islands:

Status: Not a Party to CMS.

CMS actions:
Other actions:

SOMALIA:

Status:
CMS actions: None reported.
Other actions:

SOUTH AFRICA:

Status:
CMS actions: None reported.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SRI LANKA:

Status:
CMS actions: CMS has funded a tagging programme, implemented by the turtle Conservation Project.

Other actions:

Sudan:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Suriname:

Status: Some of the main nesting beaches of Olive Ridley are found here (Kemf, *et al.*, 2000). Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000,WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations, such as the community-based Stidunal, are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly,

local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

U.R. TANZANIA:

Status: Population size and trends are not known. There is no nesting record of Olive Ridley Turtle in Tanzania. Formerly nested in Maziwi Island (Tanga Region) which became inundated in the 1980s and which may have been the only (known?) nesting sites in Tanzania. There have been no mortality records in Mafia since January 2001 but fishermen say they do occur from time to time (Tanzania, U.R. National Report, 2002).

CMS actions: There is monitoring of mortalities in Mafia Islands. A technical committee will be formed to coordinate all turtle conservation programmes in Tanzania (U.R. Tanzania National Report, 2002).

Other actions:

Thailand:

Status: By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were, and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

TOGO:

Status:

CMS actions: None reported.

Other actions:

Trinidad and Tobago:

Status: Not a Party to CMS.

CMS actions:

Other actions:

United Arab Emirates:

Status:

CMS actions: Not a Party to CMS.

Other actions:

United States:

Status:

CMS actions: Not a Party to CMS.

Other actions:

URUGUAY*:

Status: There are only three records of Olive Ridleys in Uruguay. Therefore the species is not researched (Uruguay National Report, 2002).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions:

Venezuela:

Status:

CMS actions: Not a Party to CMS.

Other actions:
Viet Nam (?):
Status:

CMS actions: Not a Party to CMS.

Other actions: There are proposals for a network of protected areas (Kemf, *et al.*, 2000).
Yemen:
Status:
CMS actions: Not a Party to CMS.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Natator depressus* (Garman, 1880)

SYNONYMS: *Chelonia depressa*

COMMON NAME: Flatback (English); Cayunne; Chelonée à dos plat; Coffre; Tortue à bahut; Tortue marine à dos plat (French); Tortuga franca oriental (Spanish)

RANGE STATES: AUSTRALIA; Indonesia (?); Papua New Guinea

RED LIST RATING: DD (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

Flatback turtles inhabit subtidal soft-bottomed habitats of the continental shelf (Great Barrier Reef Marine Park Authority, 2004). They have the most limited range of any marine turtle species, being found only around the northern half of Australia, and in the seas between northern Australia and southern parts of Indonesia and Papua New Guinea. Flatbacks only very rarely leave the shallow waters of the continental shelf, and nest only in northern Australia, where beaches on small offshore islands are the most important sites (McLellan *et al.*, 2004).

The restricted range means that the flatback is extremely vulnerable to habitat loss, especially of breeding sites, but the major threat appears to be incidental catch by the numerous fishing vessels operating in waters favoured by these turtles (McLellan *et al.*, 2004). Since the species is not highly valued by indigenous peoples, it is rarely subject to direct hunting. Populations of flatbacks are sometimes threatened with disease, particularly tumours, which may be caused by pollution (Kemf, *et al.*, 2000).

Although global population numbers for sea turtle species do not exist, there are an estimated 7,500 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). Kemf, *et al.* (2000) reported the nesting population at 10,000 females, but point out that populations have never been monitored. The flatback is probably the least threatened marine turtle species (Kemf, *et al.*, 2000) but there are reasons why some declines may be expected in the future (Red List Standards and Petitions Subcommittee, 1996).

AUSTRALIA:

Status: All known breeding sites of the flatback turtle are in Australia. Breeding is centred in the southern Great Barrier Reef around Peak, Wild Duck, Curtis and Facing islands. However, low density nesting by flatbacks occurs on many mainland beaches and offshore islands north of Gladstone. The largest amount of nesting occurs on Crab Island in western Torres Strait This species is considered vulnerable in Australia (Great Barrier Reef Marine Park Authority, 2004).

CMS actions: None reported.

Other actions: Wild Duck Island National Park (Queensland) was set up in 1982 specifically for flatbacks (Euro Turtles, 2001). WWF's involvement with marine turtle conservation at Ningaloo Reef began with its participation in a campaign to halt a proposed beachside marina and hotel. WWF has supported a community monitoring project involving the local community, local government, and state government conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

Indonesia (?):

Status: The flatback turtle has been reported in this country (Great Barrier Reef Marine Park Authority, 2004). It is protected (Anon., 2001).

CMS actions: Not a Party to CMS.

Other actions:

Papua New Guinea:

Status: The flatback turtle has been reported in this country (Great Barrier Reef Marine Park Authority, 2004).

CMS actions: Not a Party to CMS.

Other actions: Few quantitative data are available about important marine turtle habitats in Papua New Guinea. As a result, WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

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* Range State not yet included in the CMS range list for this species.

RAPID REVIEW OF CONCERTED ACTION SPECIES

ANNEX D: TERRESTRIAL MAMMALS

CONTENTS

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BOVIDAE

SPECIES: *Addax nasomaculatus* (de Blainville, 1816)

SYNONYMS: -

COMMON NAME: Addax (English); Addax; Addax à nez tacheté; Antilope blanche (French); Addax (Spanish)

RANGE STATES: Algeria; CHAD; EGYPT; LIBYAN ARAB JAMAHIRIYA (Ex); MALI; MAURITANIA; MOROCCO (Ex); NIGER; Sudan; TUNISIA

RED LIST RATING: CR - A1cd (Mallon and Kingswood, 1999)

CONSERVATION STATUS AND ACTIONS:

The addax is one of the world's rarest mammals. At the turn of the century, the range of the addax extended some 8 million sq. km over most of the Sahara and the surrounding arid areas, from Mauritania in the west to Sudan in the east. Addax herds followed the rains into southern Algeria, Libya and Egypt. However, by the late 1800's this range was already shrinking. By 1972, the addax was found mainly in Mauritania (Rio de Oro), North Mali and Chad, with some in Algeria, South Libya, and North Sudan. It was rare everywhere except in the uninhabited area in Mauritania and Mali in the western Sahara. The current range reduced to desert regions in Northeastern Niger, North Central Chad, Northwestern Mali, Eastern Mauritania, Southern Libya, and Northwestern Sudan (Altan, 2000).

The global wild population in 1996 was estimated to be unlikely to exceed 500 (Stuart and Stuart, 1996) and in 1998 it was reported that it may not exceed a few hundred individuals (Mallon and Kingswood, 2001a). The world's captive population, however, is healthy and includes fenced herds in Morocco, Tunisia and Libya and almost 2,500 animals in European and North American zoos and ranches (East, 1999; Mallon and Kingswood, 2001b).

This species was listed as Endangered, rather than Critically Endangered, in the 1996 Red List, on the basis that most of its population decline occurred prior to the 1980s (i.e. > 3 generations ago) and the small, remnant populations, which survive in remote parts of the Sahara may have decreased much more slowly in the last 20 years. However, the status Critically Endangered is probably more appropriate, hence the change (see African Antelope Database) (Mallon and Kingswood, 1999).

The addax is a heavily built, slow running antelope that is an easy prey for humans with modern weapons. The meat and the skin of the addax are prized by local people, who use the hides for shoes and sandal soles and the addax declined mainly because of motorized hunting with modern weapons by indigenous people to obtain meat and leather (Massicot, 2004). Hunting has eliminated resident populations in many parts of its original range. Tourists in four-wheel-drive vehicles also affect the animals by chasing them until they die of exhaustion. Recent droughts, desertification of savanna lands, the expansion of pastoral agriculture and increasing human population have all contributed to the decrease of the addax (Altan, 2000; Massicot, 2004).

Probably the only reason that the addax has been able to survive at all is that it is able to live under extremely harsh conditions, including extensive areas of sand dunes, where hunters in motorized vehicles are unable to enter (East, 1999; Massicot, 2004). CMS is funding

activities for Sahelo-Saharan antelopes, including the establishment of a geographical database, information system and website, as well as plans for development of *in situ* conservation and reintroductions in Chad, Libya and Senegal.

Algeria:

Status: The addax formerly ranged throughout Algerian Sahara but has now been all but exterminated by hunters. IUCN (1969) reported a population of up to 50 individuals but Stuart and Stuart (1996) and De Smet and Smith (2001) now consider the addax to be extinct in Algeria. In some years, however, a few animals may cross the southern border from neighbouring Niger or Mali (De Smet and Smith, 2001).

CMS actions: Not a Party to CMS.

Other actions: The species is protected by law. Any animals wandering in from the south would be protected by Hoggar National Park (De Smet and Smith, 2001).

CHAD:

Status: The addax was formerly widespread in the north of Chad, but excessive hunting, drought, competition for food with livestock and a 20 year war had taken a heavy toll by the 1980s (East, 1999). Today perhaps fewer than 200 individuals survive (Khattabi and Mallon, 2001; Stuart and Stuart, 1996). This includes a recent sighting of two animals by WWF and the Parks Office in 2001 (Chad National Report, 2002). Remnant populations are reported from the Ouadi Achim, several parts of Ennedi and also close to the Niger border in northern Kanem. In all these areas uncontrolled hunting remains a serious threat (East, 1999). The overall population continues to decline in Chad and is on the verge of extinction (Chad National Report, 2002).

CMS actions: There are plans to restore and rehabilitate the "Proennedi" area for addax (Chad National Report, 2002). CMS is funding surveys and other activities in Chad.

Other actions:

EGYPT:

Status: In 1993 former addax localities in Egypt were investigated for presence of the species but no evidence was found. The species is currently considered extinct in this country (Saleh, 2001).

CMS actions: None reported.

Other actions: No addax conservation measures are being undertaken in Egypt (Saleh, 2001).

LIBYAN ARAB JAMAHIRIYA (Ex):

Status: The species is now considered extinct in Libya. The last confirmed report of addax in Libya was of a few animals shot in 1966 although individuals may occasionally stray over the southern border from Niger or Chad (Khattabi and Mallon, 2001).

CMS actions: None reported.

Other actions: The addax is included on a list of protected species and a few are kept in captivity at the Tripoli Reserve (Khattabi and Mallon, 2001).

MALI:

Status: The evolution of antelopes has not been studied in any depth in Mali. The difficulty of access to the areas and the absence of totally protected areas in the Sahélien and desert regions of the country have meant that little historical information is available (Mali National Report, 2002). Although formerly widespread in Mali, hunting pressures and competition with livestock for food have severely affected the species (East, 1999). Today the addax population is put at no more than twenty or so individuals according to very dated sources (Mali National Report, 2002). This remnant population is distributed along the northwestern border with Mauritania where illegal hunting remains a major threat (East, 1999).

CMS actions: There has been an FFEM project, with the aim of creating a protected area of 500,000ha to shelter the Sahelo-Saharienne antelopes of the Gao and Kidal regions (Tamesna) (Mali National Report, 2002).

Other actions:

MAURITANIA:

Status: The addax was formerly widespread in this country but in the 1960s motorized illegal hunting led to a catastrophic decline of the species. By the 1980s and 1990s the species numbered perhaps a few hundred animals mostly restricted to the eastern border with Mali. In the late 1990s the total population in Mauritania was put at no more than 150 animals, and perhaps fewer than 50. Poaching remains a threat today even in remote areas and the addax could still be in decline (East, 1999; Stuart and Stuart, 1996).

CMS actions: None reported.

Other actions:

MOROCCO (Ex.):

Status: Addax has not been sighted in this country since the 1950s when herds were exterminated by hunters with modern weapons (Aulagnier, 2001).

CMS actions: A reintroduction programme was initiated by Morocco in collaboration with Germany. In 1994 and 1995 a total of 53 animals were brought into fenced enclosures in Souss-Massa National Park from zoos in Niger and Chad (Aulagnier, 2001; Morocco National Report, 2002).

Other actions: There are plans to reintroduce the addax to Adrar Souttouf in Morocco's planned Dakhla National Park (Mallon and Kingswood, 2001b).

NIGER:

Status: Addax was formerly widespread in the northern two thirds of Niger. As elsewhere motorized poaching beginning in the 1960s rapidly reduced distribution and abundance of the species. By the mid 1990s only a few small remnant populations remained such as one close to the Air and Tenere National Nature Reserve. Today fewer than 170 addax are estimated to remain in Niger and the population is in decline (East, 1999).

CMS actions: None reported.

Other actions: Plans in the early 1990s to reintroduce addax to a sanctuary within the

Air and Tenere National Nature Reserve were halted after an armed rebellion in the region (East, 1999).

Sudan:

Status: Addax formerly occurred widely in the northern deserts to the west of the Sudan Nile but by the mid-1980s had been reduced to the point of extinction by excessive hunting. The last report of the species in Sudan was in 1992 when animals were seen close to the Chad border (East, 1999). There may no longer be a resident population of addax in Sudan (Saleh, 2001).

CMS actions: Not a Party to CMS.

Other actions:

TUNISIA:

Status: The addax went extinct from Tunisia by the 1930s due to uncontrolled hunting but was reintroduced (Smith *et al.*, 2001). In the 1980's, eight addax were introduced into the Bou Hedma National Park in Tunisia from West Germany, and 2 calves, a male and a female, were born in 1987.

CMS actions: Between 1985 and 1988, 14 addax were transferred from zoos in Germany and the USA to semi-captive conditions in the Bou-Hedma National Park. The herd has increased steadily to around 60 animals. There are plans to reintroduce the addax to the Sidi Toui National Park and/or to the Djebil National Park in the Great Eastern Erg (Sahara). Unlike the the Bou-Hedma National Park, both these localities are within the species' former range (Smith *et al.*, 2001; Tunisia National Report, 2002).

Other actions:

Yemen*:

Status: UNEP-WCMC (2004) considers Yemen to be a range state for *Addax nasomaculatus* but a recent IUCN SSC Antelope Specialist Group publication on antelopes of North Africa, the Middle East, and Asia does not confirm this (Mallon and Al-Safadi, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Additional information - Western Sahara:

Status: The occurrence of addax has been reported from Western Sahara (Valverde, 1957), but it is now considered extinct there.

Actions: None reported.

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BOVIDAE

SPECIES: *Gazella dama* (Pallas, 1766)

SYNONYMS: -

COMMON NAME: Addra Gazelle; Dama Gazelle (English); Gazelle dama (French)

RANGE STATES: Algeria; BURKINA FASO; CHAD; LIBYAN ARAB JAMAHIRIYA (Ex); MALI; MAURITANIA (Ex); MOROCCO; NIGER; NIGERIA (Ex); SENEGAL (Ex); Sudan; TUNISIA

RED LIST RATING: EN - A1c, C1 (Antelope Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

The largest of the gazelles, *Gazella dama* was once common in arid and semi-arid regions of the Sahara, moving into the desert to seek wet-season grazing. Since the 1950s, however, the species has suffered from uncontrolled hunting, habitat degradation, competition from domestic livestock and drought (East, 1999; Mallon and Kingswood, 2001b). The species is now reduced to a few isolated, generally decreasing remnant populations scattered across its former range (East, 1999). Of the original North African regional population of dama gazelle, there are now only remnant populations in the far south of Algeria, in Western Sahara and possibly in Morocco's Oued Drâa Valley (Mallon and Kingswood, 2001a; Mallon and Kingswood, 2001b). There are further tiny populations scattered in various sub-Saharan countries (East, 1999).

In 1996, the species was IUCN red-listed as Endangered because its population, estimated at less than 2,500 mature individuals, was then believed to have decreased by at least 50% in the previous ten years and was expected to decline at least another 20% in the following five (Mallon and Kingswood, 2001b). East (1999) puts the species global population in the low thousands.

Mallon and Kingswood (2001b) number captive populations of the two sub-species *G. d. mhorr* (originating from Western Sahara) and *G. d. ruficollis* (originating from Chad) at 174 and 384, respectively. East (1999) also mentions a further 91 animals of an unspecified sub-species on ranches in Texas.

The major threats are habitat loss and degradation as well as harvesting of this species (IUCN, 2003). CMS is funding activities for Sahelo-Saharan antelopes, including the establishment of a geographical database, information system and website, as well as plans for development of *in situ* conservation and reintroductions in Chad, Libya and Senegal.

Algeria:

Status: The dama gazelle was only known from the western border area and the southern desert. In the west, isolated individuals formerly occurred in Oued de Tindouf and Tindouf *hammada*. In the south the species has been recorded from scattered localities including Silet, Adrar Ahnet, Tadmait, Temassin, Tanezroult, Tamanrasset, Plaine d'Admer, Mouydir, Amguid and Ideles. Today the dama gazelle is very rare in the country and only a small remnant population occurs in the Hoggar region of the extreme south representing less than 2% of the global population (De Smet and Smith, 2001).

CMS actions: Not a Party to CMS.

Other actions: The species is protected by law (De Smet and Smith, 2001). There have been proposals for nature reserves to protect remnant populations in the Erg Iguidi and the *Acacia*-steppe south of Tindouf (Mallon and Kingswood, 2001b).

BURKINA FASO:

Status: The dama gazelle once occurred in the northern sahel region but has been eliminated from most or all of its former range by overhunting and the expansion of of livestock grazing, aggravated by drought. The species occurred in very small, decreasing numbers in the extreme northern Seno-Mango region during the mid 1980s. More recent information is unavailable and the species could now be extinct (East, 1999).

CMS actions: None reported.

Other actions:

CHAD:

Status: The dama gazelle once occurred throughout the sahelian and sub-desert rangelands of central Chad and sporadically in the northern deserts, but by the 1970s it had been eliminated from most of its former range (East, 1999). Large numbers did survive in Ouadi Rime-Ouadi Achim Faunal Reserve, but most of these animals were killed off when the Reserve became a war zone in the late 1970s. Nevertheless as recently as 1993, the dama gazelle was observed in the extreme western part of the Ouadi Rime-Ouadi Achim Faunal Reserve. Local pastoralists also indicated that the species was not uncommon in the surrounding areas of eastern Kanem and western Batha. Surveys in other parts of the country, including Ennedi, between 1990 and 1996 failed to find evidence of the species (East, 1999). More recently an expanding population of 15 animals was found in the northwest of Kanem (Chad National Report, 2002). Hunters, especially motorized poaching parties continue to threaten the species (East, 1999).

CMS actions: CMS is funding surveys and other activities in Chad.

Other actions:

LIBYAN ARAB JAMAHIRIYA (Ex):

Status: The dama has always been the rarest of Libya's gazelles and is known only from the far south of the country (Khattabi and Mallon, 2001). Although the species was not reported by Essghaier (1980), and the CMS considers the species extinct from Tunisia, small numbers conceivably survive in the extreme south (Khattabi and Mallon, 2001).

CMS actions: None reported.

Other actions: The species is protected by Libyan law (Khattabi and Mallon, 2001).

MALI:

Status: Once widespread in the sahel and the southern fringe of the Sahara, with herds of up to 200 animals (Mali National Report, 2002) the dama gazelle has now been eliminated from most of its former range including Ansongo-Menaka Partial Faunal Reserve and Elephant Faunal Reserve (East, 1999). Uncontrolled hunting, habitat degradation and the the great drought of sahel were key factors. Today small numbers survive northeast of Mopti and in rocky areas north of Tombouctou. The rebellion in the early 1990s may have allowed some recovery of the remnant population (East, 1999), although herds of more than ten individuals are extremely rare (Mali National Report, 2002).

CMS actions: None reported.
Other actions:

MAURITANIA (Ex):

Status: Formerly widespread in Mauritania, since the 1960s the dama gazelle has suffered catastrophic decline as a result of hunting and habitat degradation. The species was thought extinct from Mauritania by the late 1980s, but recent reports indicate that the gazelle still occurs in the remote southeast, and a few may survive near Tidjika to the west. Illegal hunting remains a major threat (East, 1999).

CMS actions: None reported.
Other actions:

MOROCCO:

Status: In the northern Sahara the last record is from the Tindouf Hamada in 1985, although in 1993 one animal was sighted by nomads in the Oued Drâa Valley. There are probably fewer than 100 animals in Morocco and Western Sahara combined, representing less than 5% of the global population of the species (Aulagnier *et al.*, 2001).

CMS actions: A programme has been developed in collaboration with Germany for the reintroduction of this species in the Souss-Massa National Park (Morocco National Report, 2002). In 1994 and 1995 a total of eleven animals from the Munchen Zoo (bred in Almeria, Spain) were released into an enclosure of the Souss-Massa National Park (Aulagnier *et al.*, 2001).

Other actions: In 1992, dama gazelles originating from Western Sahara were sent to the Rmila enclosure near Marrakech, where the population is now 14 animals (Aulagnier *et al.*, 2001). The species has been included on a list of protected mammals since 1958 (Aulagnier *et al.*, 2001).

NIGER:

Status: The dama gazelle was once widespread in the sahel and sub-desert zones of central and southern Niger. The species also ranged northwards into the desert zone in the region of the Air Massif (East, 1999). Since the 1960s illegal hunting, habitat destruction and drought have eliminated the species from much of its former range and reduced surviving populations to low levels (East, 1999).

By the mid-late1980s the dama gazelle occurred mainly in the Termit region and in and around the Air and Tenere National Nature Reserve with total numbers of around 1,000 animals. Good rainfalls and a reduced hunting pressure during the 1980s had apparently allowed the species to recover in the Air and Tenere reserve. The population in this reserve was stable during the 1990s whilst elsewhere the species continued to decline (East, 1999). The species is still thought to occur in the Air and Termit regions. A lone individual was reported south of the Termit desert during a forest department mission in March 1998 (East, 1999).

CMS actions: None reported.
Other actions:

NIGERIA (Ex):

Status: The species was recorded rarely from the sahel zone of northeastwern Nigeria in the past but is now apparently extinct (East, 1999).

CMS actions: None reported.
Other actions:

SENEGAL (Ex):

Status: Although the dama gazelle occasionally visited Senegal up until the the 1970s, it is now considered extinct in the wild (East, 1999; IUCN, 2003). According to the Senegal National Report (2002) the number of dama gazelle at Gueumbeul now stands at 55.

CMS actions: None reported.

Other actions: In 1984, seven individuals of the captive mhorr gazelle at Almeria, Spain were introduced to Gueumbeul Faunal Reserve in the northwest. Reproduction has been good but adult and juvenile mortality is high, restricting the growth of the population which numbered 13 animals in 1992. After moving the animals to a larger enclosure and separating bachelor and breeding groups the number had risen to 25 in 1997, including three animals translocated to the privately owned Bandia Nature Reserve near Dakar (East, 1999).

Sudan:

Status: The dama gazelle was once widespread in arid and semi-arid grasslands west of the Nile, in the northwest of the country. Hunting greatly reduced numbers and fragmented the remaining population. There is anecdotal evidence that the species persisted through the 1990s at low densities in Northern Darfur and Northern Kordofan (East, 1999).

CMS actions: Not a Party to CMS.

Other actions:

TUNISIA:

Status: Although CMS consider Tunisia to be a range state for dama gazelle, according to Smith *et al.* (2001) there have been no confirmed records of the species from Tunisia. However, since the gazelle was once widespread in neighbouring Algeria it is very likely to have occurred in desert and sub-desert zones in the south of the country. The dama gazelle probably disappeared from Tunisia sometime between the 17th and 19th centuries (Smith *et al.*, 2001). The Tunisia National Report (2002) recorded 28 animals now living in semi-captivity.

CMS actions: Ecological study, conservation and restoration of the species and its habitat are planned (Tunisia National Report, 2002).

Other actions: Eight captive-bred animals were released into an enclosure at Bou-Hedma National Park between 1990 and 1992 as part of the DGF (Direction Générale des Forêts) programme to restore the native fauna of Tunisia (Smith *et al.*, 2001). In 1994, when the herd numbered 14, seven more gazelle were added. Despite reproductive recruitment the population size has not increased in size, presumably as a result of predation on calves by jackals. In June 1997 the herd numbered 21 animals (Smith *et al.*, 2001). There are proposals to release captive animals in Tunisia's Djebil and Sidi Toui National Parks (Mallon and Kingswood, 2001b).

Additional information - Western Sahara:

Status: The dama gazelle was formerly distributed from the Oued Nun (Assaka) region to the southern part of Western Sahara. There are probably fewer than 100 animals in Morocco and Western Sahara combined, representing less than 5% of the global population of the species

(Aulagnier *et al.*, 2001).

The species was reported in Western Sahara by Newby (1981) and Valverde (1957), and may still survive in the Adrar Souttouff, in the extreme south. A group of animals captured in 1969 near Dawra provided the nucleus for most dama gazelles (*G. dama mhorr*) in zoos around the world (Mallon and Kingswood, 2001b).

Actions: In 1992, dama gazelles originating from Western Sahara were sent to the Rmila enclosure near Marrakech, where the population is now 14 animals (Aulagnier *et al.*, 2001). The species has been included on a list of protected mammals since 1958 (Aulagnier *et al.*, 2001).

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BOVIDAE

SPECIES: *Gazella dorcas* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Dorcas Gazelle (English); Gazelle dorcas (French); Gacela dorcas (Spanish)

RANGE STATES: Algeria; BURKINA FASO (Ex?); CHAD; EGYPT; Eritrea; Ethiopia; ISRAEL; LIBYAN ARAB JAMAHIRIYA; MALI; MAURITANIA; MOROCCO; NIGER; NIGERIA (Ex?); SENEGAL; Sudan; TUNISIA; Yemen (but only the Northwest African populations qualify)

RED LIST RATING: VU - A1a (Mallon and Kingswood, 1999)

CONSERVATION STATUS AND ACTIONS:

Approximately 35,000 and 40,000 dorcas gazelle currently occur in in sub-Saharan Africa (East, 1999). The dorcas gazelle is the only African antelope species to extend its range into the Middle East. A further 10,000 animals are estimated to occur in North Africa and the Middle East where the dorcas gazelle is the most widespread species in the region. Significantly, however, fewer than a quarter live in protected areas (Mallon and Kingswood, 2001b). There are more than an estimated 540 dorcas gazelles in captivity worldwide – the bulk of which are in Moroccan zoos and reserves (Mallon and Kingswood, 2001b), although around 100 animals are found in North American and European zoos (East, 1999).

Although the dorcas gazelle survives in all of its former range states, except perhaps for Nigeria, numbers are dramatically lower and populations more fragmented than a few decades ago mainly as a result of overhunting. Habitat loss and feral dog predation are also factors explaining the population decline (East, 1999).

An overall population decline of 20% during the past ten years prompted the change of the species' IUCN Red List status from Lower risk/near threatened to Vulnerable (East, 1999). Despite this the high fecundity, small size and adapation of dorcas gazelles to dry conditions has enabled the species to withstand droughts, habitat degradation and hunting more successfully than other sympatric antelope species (East, 1999). CMS is funding activities for Sahelo-Saharan antelopes, including the establishment of a geographical database, information system and website, as well as plans for development of *in situ* conservation and reintroductions in Chad, Libya and Senegal.

Algeria:

Status: In Algeria, important populations of dorcas gazelle are still found, and the species remains the most widespread antelope in the country. Nevertheless the species is in decline. No estimate of numbers is available but where there were once herds of up to 150 individuals, today the largest groups do not exceed a few dozen. Threats have included overhunting and habitat degradation but things are improving. Since 1994, a ban on all hunting has led to a rise in antelope numbers (De Smet and Smith, 2001).

CMS actions: Not a Party to CMS.

Other actions: The species is protected by law and a protected area network has started to be enforced with large numbers of antelope occurring in Hoggar and Tassili National Parks (De Smet and Smith, 2001).

BURKINA FASO (Ex?):

Status: Once found in the extreme northern Sahel region, *Gazella dorcas* still ranges in this country. The proposed Seno-Mango Biosphere Reserve may be home to some animals (East, 1999). Numbers are not known but the species is considered to be rare and in decline (East, 1999).

CMS actions: None reported.

Other actions:

CHAD:

Status: Along with Niger, Chad is currently home to the largest numbers of dorcas gazelle. Formerly widespread in the north of the country, numbers have declined due to drought, war, uncontrolled hunting and competition with livestock. The species has not been affected as badly as other sahelo-Saharan antelopes. Aerial surveys in the 1990s found good numbers in some parts of Ennedi and Ouadi Rime-Ouadi Achim Faunal Reserve and their surroundings. Up to 80 animals are still observed occasionally. The country population is estimated at 3,057, but is decreasing (Chad National Report, 2002; East, 1999).

CMS actions: Project by WWF and the Office for the Protection of Fauna and National Parks (Chad National Report, 2002). CMS is funding surveys and other activities in Chad.

Other actions:

Djibouti*:

Status: *Gazella dorcas* still commonly ranges in this country and the population is considered stable. This country remains a stronghold for the antelope. A hunting ban introduced in the early 1970s led to a rise in numbers of the species, although competition with goats limited the increase (East, 1999).

CMS actions: Not a Party to CMS.

Other actions: A hunting ban was introduced in the 1970s (East, 1999).

EGYPT:

Status: The species was once widespread in Egypt's western deserts, but since the 1980s it has suffered a major decline as a result of hunting and, to a lesser extent, habitat destruction. The present population in this country numbers between 1,000 and 2,000 animals representing less than 10% of the global population (Saleh, 2001). A small proportion of the country's population occur in protected areas but poaching is commonplace (Saleh, 2001).

CMS actions: None reported.

Other actions: Laws are there to protect the species, but enforcement is lacking (Saleh, 2001).

Eritrea:

Status: *Gazella dorcas* is still common throughout its former range and its population is considered stable. Herds of up to 50 animals are sometimes seen near the Djibouti border in the south. Since hunting pressures are low, the country remains a stronghold for the antelope (East, 1999).

CMS actions: Not a Party to CMS.

Other actions:

Ethiopia:

Status: *Gazella dorcas* is still common throughout its former range but abundance is unknown. The population is considered stable and, since hunting pressures are low, the north of the country remains a stronghold for the antelope (East, 1999).

CMS actions: Not a Party to CMS.

Other actions:

ISRAEL:

Status: *Gazella dorcas* is rare in Israel although the population is considered stable and not at serious risk. Regular censuses indicate that the population of this species in Israel has risen from 150 animals in 1964 to under 2000 in 1995. Today less than 10% of the global population is estimated to be found in Israel (Clark and Frankenberg, 2001).

CMS actions: None reported.

Other actions: The species is legally protected in Israel and its habitat encompasses 2,400km^2 of nature reserves. Agreements between conservation authorities and the army have been reached to avoid damage to the population in military training areas like the Negev Desert. Regular censuses are conducted (Clark and Frankenberg, 2001).

JORDAN*:

Status: The total population of this species in Jordan is conservatively put at 180-200 animals representing less than 1% of the global population. The Jordan populations of dorcas gazelle are near-continuous to those in Israel. It occurs in the proposed Jebal Mas'udi Wildlife Reserve. The gazelle is regarded as one of Jordan's most threatened species and may disappear within five to ten years unless immediate conservation measures are taken. Threats include habitat encroachment, illegal hunting and economic development activities (Kiwan *et al.*, 2001).

CMS actions: None reported.

Other actions: The species is protected by law (Kiwan *et al.*, 2001).

LIBYAN ARAB JAMAHIRIYA:

Status: The dorcas gazelle remains the most widespread antelope in the country. In the 1960s herds of up to 100 animals could be seen, by the early 1970s herds of 40 were exceptional (Khattabi and Mallon, 2001).

CMS actions: None reported.

Other actions: The species is protected in Libya by law. National Parks provide some protection. An estimated 150 animals occur in the New Nisha Nature Reserve and 15 were introduced from the Sudan into the El-Kouf National Park in 1991 (Khattabi and Mallon, 2001).

MALI:

Status: The dorcas gazelle used to be observed in herds of around ten to fifty individuals. Sometimes large groupings can number 200 antelopes. Uncontrolled poaching and the great drought of Sahel between 1974 and 1984 has now eliminated it from much of its former range. There are more than 2,250 animals currently existing in Mali (East, 1999; Mali National Report, 2002).

CMS actions: None reported.

Other actions:

MAURITANIA:

Status: Formerly abundant and widespread, poaching in the 1970s and 1980s has caused a decline in numbers of dorcas gazelle. Today the population is fragmented and consists of little more than 200 animals. They occur in a few areas such as the Banc d'Arguin National Park, the Areg Chach and Hank Escarpment and the Maqteir (East, 1999). CMS considers Mauritania to be a range state for *Gazella dorcas* but a recent IUCN SSC Antelope Specialist Group publication does not confirm this (Mallon and Al-Safadi, 2001).

CMS actions: None reported.

Other actions:

MOROCCO:

Status: Populations continue to decline and the species can be classified as rare and endangered with less than 3% of the global population found in Morocco. Once widespread, it is now found as scattered small herds inhabiting a portion of former range. In 1995 between 200 and 600 dorcas gazelles were estimated to remain in the country (excluding Western Sahara – see below). Over 240 animals are kept in zoos and other enclosures. Threats mainly include habitat loss (due to expanding permanent agriculture and overgrazing by livestock), poaching, feral dog predation and over-hunting for sport and food with modern weapons by soldiers and VIPs. Droughts may also be a problem (Aulagnier *et al.*, 2001).

CMS actions: None reported.

Other actions: The 1,987 hectare M'Sabih Talâa permanent hunting reserve was established in 1952 to preserve the remnant northern plains population. It has been fenced since 1960 but part of it is now in poor condition. Since 1961, the species has been fully protected in Morocco. In the early 1990s, the 4,000 hectare El Kheng Reserve was established and soon after, in 1994, 10-15 gazelles were observed there (Aulagnier *et al.*, 2001).

NIGER:

Status: Along with Chad, Niger is currently home to the largest numbers of dorcas gazelle. There are approximately 20,000 animals occurring in this country, of which 5,000 are in protected areas. Despite a great reduction in numbers due to poaching, habitat degradation and competition with domestic livestock for food and shade the population is considered stable. The species occupies much of its former range (East, 1999).

CMS actions: None reported.

Other actions:

NIGERIA (Ex?):

Status: In the past *Gazella dorcas* was occasionally recorded in the Lake Chad region. The species has likely now gone extinct from Nigeria (East, 1999).

CMS actions: None reported.

Other actions:

SENEGAL:

Status: There are fewer than 50 dorcas gazelle currently estimated to occur in this country. Of which perhaps ten are found in the National Bird Park of Djoudj in the north of the country They were introduced to the Park in the 1970s from Mauritania after the species went extinct. *Gazella dorcas* still suffers from lack of surveillance and from the effects of the Diama dam on its habitat (East, 1999; Senegal National Report, 2002).

CMS actions: None reported.

Other actions: The 1970s reintroduction (East, 1999).

SOMALIA*:

Status: *Gazella dorcas* still occupies much if its historical range in Somalia and is locally common. The population is considered stable (East, 1999).

CMS actions: None reported.

Other actions:

Sudan:

Status: *Gazella dorcas* still ranges in this country but is uncommon and the species is in decline. Factors responsible include uncontrolled hunting (a current major problem) and severe land degradation (East, 1999).

CMS actions: Not a Party to CMS.

Other actions:

TOGO*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

TUNISIA:

Status: Historically this species ranged throughout Tunisia south and east of the Dorsale range. Having suffered uncontrolled hunting during the 20th century, the antelope is today confined to small fragmented populations in the south of the country. The status of this species is poorly known, but the wild population is unlikely to exceed 1,000 animals. Less than 10% of the global population is estimated to be found in Tunisia (Smith *et al.*, 2001). Up to 189 animals utilize the Orbata Fauna Reserve, 150 are found in Bou-Hedma National Park, 30 in Sidi Toui National Park, five in the Dghoumes National Park, nine in the Oued Dekouk Nature Reserve and an unknown number in Djebil National Park. Further animals are found in the vicinity of these national parks (Smith *et al.*, 2001; Tunisia National Report, 2002).

CMS actions: Ecological study, conservation and restoration of its habitat are planned (Tunisia National Report, 2002).

Other actions: The dorcas gazelle is among species identified in a Direction Général des Forêts (DGF) programme to restore the wild fauna of Tunisia, but no measures specifically target the species. The species does however benefit from various reserves (Smith *et al.*, 2001).

Yemen:

Status: CMS considers Yemen to be a range state for *Gazella dorcas* but a recent IUCN SSC Antelope Specialist Group publication does not confirm this (Mallon and Al-Safadi, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Additional information - Western Sahara:

Status: Several hundred animals probably occur in Western Sahara south of Oued Drâa Valley, but access difficulties prevent an accurate estimate (Aulagnier *et al.*, 2001).

Actions: None reported.

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BOVIDAE

SPECIES: *Gazella leptoceros* (Cuvier, 1842)

SYNONYMS: -

COMMON NAME: Rhim Gazelle; Sand Gazelle; Slender-horned Gazelle (English); Gazelle à cornes fines; Gazelle leptocère; Rhim (French); Rhim (Spanish)

RANGE STATES: Algeria; CHAD (?); EGYPT; LIBYAN ARAB JAMAHIRIYA; MALI (?); MAURITANIA (?); MOROCCO; NIGER; Sudan (Ex?); TUNISIA

RED LIST RATING: EN - C1+2a (Antelope Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

The slender-horned gazelle is widespread in the great sandy deserts (ergs) of the North Africa and the Sahel but details of its range in the region are poorly known and there are no accurate population estimates. Fewer than half are thought to occur in protected areas (Mallon and Kingswood, 2001a).

The slender-horned gazelle is thought to have suffered greatly from hunting and is currently thought to number fewer than 2,500 animals, with sub-populations consisting of no more than 250 mature individuals (Mallon and Kingswood, 2001b). East (1999) postulates that the global population may only number a few hundred and the population is declining (IUCN, 2003). Up to 189 animals may be currently in captivity (Mallon and Kingswood, 2001a). The slender-horned gazelle was predicted in 2001 to decline by at least 20% in the following five years, mainly as a result of continued trophy-hunting despite the fact that the species is legally protected throughout its North African range. Laws are not effectively enforced (Mallon and Kingswood, 2001b). The species only seems to remain in areas inaccessible to motorized poaching parties (East, 1999). CMS is funding activities for Sahelo-Saharan antelopes, including the establishment of a geographical database, information system and website, as well as plans for development of *in situ* conservation and reintroductions in Chad, Libya and Senegal.

Algeria:

Status: *Gazella leptoceros* is widely distributed south of the Saharan Atlas Mountains with records from the Grand Erg Oriental, Grand Erg Occidental and Erg Admer but is now apparently absent from the Erg Iguidi in the far west of Algeria. The horns were once common in Algerian shops but the population has declined because of hunting. No current estimate of numbers is available (De Smet and Smith, 2001) and the species is classed as Insufficicently Known in Algeria by the IUCN Antelope Survey (Mallon and Kingswood, 2001b). *Gazella leptoceros* may have benefited from the decline in oil exploration (De Smet and Smith, 2001).

CMS actions: Not a Party to CMS.

Other actions: The species is legally protected and some may enjoy refuge in the Tassili National Park. (De Smet and Smith, 2001).

CHAD (?):

Status: The slender-horned gazelle was once reported in the extreme north of Chad, below the northern edge of the Tibetsi Massif and east of Tibetsi. It may occur, or have occurred, in other deserts of northern Chad such as the Mourdi Depression and Erdi in the northeast (East, 1999). There is no recent information on the species' status, or on any population trends (Chad National Report, 2002).

CMS actions: There was in 2001 a joint project by WWF and the Office for the Protection of Fauna and National Parks (Chad National Report, 2002).

Other actions:

EGYPT:

Status: Egypt and Libya together constitute half of the species' North African range (Mallon and Kingswood, 2001a). Formerly widespread in the northern part of the Western Desert south of the Mediterranean coastal belt, the current population size of slender-horned gazelle is unknown, but it appears to be scattered in groups of a few individuals over a very large area of desert. Currently there are no animals known to be within protected areas of Egypt. Because of its rarity, the species is relentlessly sought by hunters (Saleh, 2001). Until the late 1980s a small number existed in Wadi El Raiyan but the animals were exterminated by trophy-hunters, just prior to the area being declared protected (Mallon and Kingswood, 2001b).

CMS actions: None reported.

Other actions: The slender-horned gazelle is protected by law – but the law is not enforced (Saleh, 2001).

LIBYAN ARAB JAMAHIRIYA:

Status: Libya and Egypt together constitute half of the species' North African range (Mallon and Kingswood, 2001a). The slender-horned gazelle has probably always been rare in Libya and is known from sporadic but widespread reports. In the late 1990s a small herd was spotted in western Egypt close to the Libyan border and may have crossed over periodically (Khattabi and Mallon, 2001). A small population may occur within the Zellaf Nature Reserve (Khattabi and Mallon, 2001). The species' preference for sand-dunes affords it some protection from motorized hunting parties (Khattabi and Mallon, 2001).

CMS actions: None reported.

Other actions: The species is protected by Libyan law (Khattabi and Mallon, 2001).

MALI (?):

Status: The slender-horned gazelle is present but rare and declining in Mali. Small numbers have been reported in the vicinity of Adrar des Iforhas and associated plains of Tilehmsi and Tamesna in the northeast of the country (East, 1999).

CMS actions: None reported.

Other actions:

MAURITANIA (?):

Status: A recent IUCN/SSC Antelope Specialist Group report found no evidence for this species in Mauritania (East, 1999).

CMS actions: None reported.

Other actions:

MOROCCO:

Status: CMS considers Morocco to be a range state for *Gazella leptoceros* but a recent IUCN/SSC Antelope Specialist Group publication on antelopes of North Africa, the Middle East, and Asia does not confirm this (Aulagnier *et al.*, 2001).

CMS actions: None reported.

Other actions:

NIGER:

Status: No recent information is available on the status of slender-horned gazelle in Niger (East, 1999). During the 1980s the species was considered rare but field surveys of the slender-horned gazelle were problematic since animals are easily confused with *Gazella dorcas*. The species, which is today in decline, may have formerly occurred throughout the northern half of the country. Today the slender-horned gazelle may occur in the Termit Massif region, and in deserts bordering the Air Massif within the Air and Tenere National Nature Reserve. Animals may also occur to in areas to the east and north of the Reserve such as the Great Bilma Eerg and the Admer Erg, respectively (East, 1999).

CMS actions: None reported.

Other actions:

Sudan (Ex?):

Status: According to East (1999), the species still occurs in northwestern Sudan where it is threatened by illegal hunting.

CMS actions: Not a Party to CMS.

Other actions:

TUNISIA:

Status: The slender-horned gazelle once ranged throughout the desert region of Tunisia as far north as the Djerid Salt Flat. Excessive hunting has led to a decline in the species. Indeterminate numbers remain in impenetrable, remote areas of the Erg (Smith *et al.*, 2001). Ten animals were recently reported in the Sidi Toui National Park (Tunisia National Report, 2002). The species is classed as Insufficiently Known in Tunisia by the IUCN Antelope Survey (Mallon and Kingswood, 2001b).

CMS actions: Ecological study, conservation and restoration of the species and its habitat are being carried out (Tunisia National Report, 2002).

Other actions: The slender-horned gazelle is fully protected by law and occurs in the newly gazetted Djebil National Park, but the Park is yet to be properly staffed. Police in the area do not provide sufficient protection from hunting. There are, however, plans for camel-mounted rangers at Djebil (Smith *et al.*, 2001).

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: HOMINIDAE

SPECIES: *Gorilla gorilla beringei* (Matschie, 1903)

SYNONYMS: *Gorilla beringei*, *Gorilla beringei beringei*

COMMON NAME: Mountain gorilla (English)

RANGE STATES: CONGO, DEMOCRATIC REPUBLIC OF THE; Rwanda; UGANDA

RED LIST RATING: EN - A2cd (Butynski, T. and Members of the Primate Specialist Group, 2000)

CONSERVATION STATUS AND ACTIONS:

There are two known populations of mountain gorilla, both of which occur in national parks. One population occurs on the extinct volcanoes of the Virunga Massif along the borders of the Democratic Republic of the Congo (DRC), Rwanda, and Uganda within the Virunga National Park of DRC, the Volcans National Park in Rwanda and to a lesser extent the Mgahinga National Park, Uganda, A separate population of mountain gorillas is found in the Bwindi-Impenetrable National Park in southwest Uganda, on the border of DRC (UNEP-WCMC and WWF, 2001).

The status of the mountain gorilla was assessed in 2000, by T. Butynski and Members of the Primate Specialist Group, and is considered endangered. However, IUCN (2002) also assessed the two populations of mountain gorilla separately due to the taxonomic uncertainty that currently surrounds them. When considered separately (i.e. the Virungas and the Bwindi population as separate entities) each population is considered Critically Endangered (IUCN, 2002).

The number of mountain gorillas declined throughout the 1970s and early 1980s, and some declines were seen into the 1990s (e.g Binyeri *et al.,* 2002). Despite the low numbers of gorillas and the severe threats they face, overall population numbers would appear to be stable and possibly slowly increasing (UNEP-WCMC, 2003a). Based on recent estimates (Kalpers *et al.*, 2003 and McNeilage *et al.*, 2001), the total number of mountain gorillas may be between 651 and 687, or according to Plumptre *et al.* (2003) there are a total of approximately 650-700 mountain gorillas.

IUCN (1982) described a decline in the mountain gorilla numbers in the Virungas, from 400-500 in the late 1950s, to 275 in 1973 to 250 by 1981, with most of the decline occurring in the DRC section. However, by the mid 1980s the mountain gorillas of the Virungas had started to very gradually increase again. The 1989 count of mountain gorillas in the Volcans National Park, Virunga National Park and Mgahinga National Park was about 306 animals (Plumptre and Harris, 1995). Most recently a population estimate, based on repeated observations of 17 habituated groups and information on 15 unhabituated groups, has shown the population of the Virunga mountain gorilla to be between 359 and 395 (Kalpers *et al.*, 2003). According to WWF (2002) the Virunga population of mountain gorilla has increased by 14% in the last 12 years.

Details on population sizes and trends for the Bwindi population are given in the UGANDA section.

The major threats to mountain gorillas are (1) habitat loss or modification (e.g. through infrastructure development, wood extraction, human settlement and agricultural crops (IUCN, 2002)) and forest encroachment (Muruthi *et al.*, 2000), (2) hunting or poaching, (3) disease transmission from humans and (4) war or political unrest (Muruthi *et al.*, 2000; IUCN, 2002). Other threats include the risk of inbreeding (Muruthi *et al.*, 2000) and ongoing disturbance from tourism (IUCN, 2002). The mountain gorilla populations are separated by densely populated land and intense human land use is putting intense pressure on both populations. Increasing human settlement contributes to virtually all the threats listed above such as demand for land to live on and to farm, and demand for fuel and for food. Gorillas are Critically Endangered, slow reproducing animals which means that sustained levels of mortality or even a low level of mortality can have devastating impacts (UNEP-WCMC, 2003b).

D.R. CONGO:

Status: Seven habituated families in the Congolese parts of the Virunga Massif show an overall increase in the number of these gorillas from 66 to 86 between 1998 and 2002 (Binyeri *et al.*, 2002). Other reports indicate that the Virunga population of mountain gorilla has increased in the last 12 years (WWF, 2003).

CMS actions: None reported.

Other actions: In Virunga National Park, the International Gorilla Conservation Programme in conjunction with the Congolese park authorities have undertaken a Ranger-based Monitoring Programme (RBM) which acts as a tool for the rangers to collect information, which in turn helps to inform park management decisions. IUCN/WWF Project 1941 aims to carry out a survey of the status of the gorilla and provide necessary data for their improved preservation and protection of their habitat (UNEP-WCMC, 2003b).

Rwanda:

Status: Reports indicate that the Virunga population of mountain gorilla has increased in the last 12 years (WWF, 2003).

CMS actions: Not a Party to CMS.

Other actions: In the Volcans National Park the Mountain Gorilla Project has involved habituating four gorilla families to the presence of humans so that visitors can be guaranteed close-up views, and it is jointly financed by the African Wildlife Foundation (AWF), Flora and Fauna International (FFI), Peoples Trust for Endangered Species (PTEF) and WWF who have worked to improve tourism so as to achieve economic independence for the park (UNEP-WCMC, 2003b).

Intensive research on the mountain gorilla and its habitat has been carried out for the past 15 years, including a census in 1980 funded by WWF and New York Zoological Society (UNEP-WCMC, 2003b). In addition, the mountain gorilla project was initiated in 1978 (UNEP-WCMC, 2001). Populations have been monitored from the Karisoke Research Centre in the Virunga Volcano region of north-western Rwanda and eastern DRC since 1967. This research has involved the collection of valuable population data and long and short term census studies (e.g. Robbins, 1995), studies on social structures (e.g. Robbins, 1996), group dynamics (e.g. Sicotte, 1995), feeding behaviour and habitat use (e.g. Byrne and Byrne, 1993; Watts, 1998) and reproduction (Robbins, 1999). The Karisoke Research Centre has a resident director, research scientists, about 15 trackers, and camp staff.

A Veterinary Centre was established in the Virungas in 1987 to monitor the health of the gorillas, in particular in response to habituation and increasing contact with humans. However, both the work of both Karisoke Research Centre and of Veterinary Centre have been severely disrupted as a result of the conflict in the area (UNEP-WCMC, 2003b).

UGANDA:

Status: Estimates in 1979 showed there to be 95-130 mountain gorillas in the Bwindi Impenetrable Forest Reserve (IUCN, 1982). Harcourt *et al.* (1981) noted a total population size of c.155 in Bwindi (where 33% of the population was counted). More recently McNeilage *et al.* (2001) estimated the population in Bwindi-Impenetrable National Park in 1997 to be 292 individuals and note that this population appeared to be stable. At least 300 individuals were reported in Bwindi Impenetrable Forest National Park (Uganda Wildlife Division, 2002). The Bwindi population is stable and may also be increasing (Uganda Wildlife Division, 2002; WWF, 2002; McNeilage *et al.*, 2001). Reports indicate that the Virunga population in Mgahinga National Park has increased in the last 12 years (WWF, 2003).

CMS actions: None reported.

Other actions: According to the Uganda Wildlife Division (2002), Uganda has undertaken the rationalisation of wildlife Protected Areas System Plan through the 1996 to 1998 Scientific Study, and administered special enforcement programmes in the Species Range Protected Areas (Mgahinga and Bwindi Impenetrable National Parks). In addition, Site Action Programmes have been undertaken by the Government, Regional Action Plans are being developed through the International Gorilla Conservation Programme, and a National Action Plan for conservation and monitoring of the population is being initiated through the Great Apes Survival Project, funded by UNDP.

Hamilton *et al.* (2000) and Tamale (1996) described schemes that have been established in Bwindi-Impenetrable National Park to try to mitigate the loss and resentment felt by local people by the establishment of the Park and the concern at the loss of access to local resources (Hamilton *et al.*, 2000). Bwindi-Impenetrable National Park opened for mountain gorilla tourism in 1993 (IUCN, 1996) and since 1991 about 3,600 tourists have been visiting the park per year generating approximately US $1 million per year (UNEP-WCMC, 2003a). An overall management plan was prepared jointly by the Institute of Tropical Forest Conservation, CARE Development through Conservation (DTC), and Uganda National Parks although a tourism-specific plan has been in use since the beginning of 1993 (UNEP-WCMC, 2003b). A management plan for Bwindi National Park has been developed, and actions for tourism development, biological inventories etc are now in place (IUCN, 1996).

In 1986, the Impenetrable Forest Conservation Project (IFCP) was set up at Ruhija and its aims include assessing the population, distribution and particular requirements of the mountain gorillas (UNEP-WCMC, 2003b). Its main achievements since 1986 are law-enforcement and also in the areas of inventory and monitoring, research, staff training, and demarcation and securing of park boundaries. A gorilla conservation project was started in Mgahinga in 1992, which included ecological surveys, training of rangers, cessation of illegal activities and the development of tourism (IUCN, 1996).

The Bwindi-Impenetrable Great Ape Project was established in 1996 and aims to achieve a better understanding of the ecological relationship between the Mountain gorillas and chimpanzees (*Pan troglodytes schweinfurthii*) that both occur in the forest. It involves the study of the

behaviour, ecology and habitat of both species. A research station, Camp Kashasha, was built in 1998 (Stanford, 1999).

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REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: CERVIDAE

SPECIES: *Hippocamelus bisulcus* (Molina, 1782)

SYNONYMS: -

COMMON NAME: Chilean Guemal; Chilean Huemul; South Andean Deer; South Andean Huemul (English); Cerf des Andes méridionales; Huémul des Andes méridionales (French); Ciervo andino meridional; Huemul (Spanish)

RANGE STATES: ARGENTINA; CHILE

RED LIST RATING: EN - C2a (Deer Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Originally, the South Andean deer ranged along the Andes from about 34°S in Chile and 40°S in Argentina, spreading in Patagonia (south of 44°S) to Pacific coast islands and east along the highlands of Argentina, possibly to the Atlantic coast (Povilitis, 1983). By the early 1970s it appeared to be largely gone from the entire region north of Patagonia except in two areas. At that time, most huemuls were found in Chile's Aysen Region with smaller numbers along adjacent areas of Argentina. By 1997 it appeared that remaining populations were limited to protected areas (Oryx, 1997). Currently, South Andean Deer are found in a small nucleus lost in the Nevados de Chillán (36° S) and in other localities in mountainous and coastal of Palena, in the region of Aysén and Magallanes (43° to 54° S). The current distribution only represents 50 % of the original one (Drouilly, 1983).

In 1983, the global wild population was estimated at 1,300 individuals (Povilitis, 1983). Since the early 1980's the population is estimated at around 2,000 individuals or fewer (Burton and Pearson, 1987; Frid, 1991). López *et al.* (1998), estimated a minimum population size of 780 individuals for both Chile and Argentina.

Overhunting for food has been a major cause of the South Andean deer's decline. Habitat loss from fire and erosion, competition with domestic animals and introduced red deer (*Cervus elaphus*), disease transmitted from livestock, persecution for its perceived competition with livestock and killing by domestic dogs are other important factors (Massicot, 2002).

ARGENTINA:

Status: In Argentina, the range of the South Andean Deer has shrunk considerably. At the beginning of the 20th century, it was found in the north as far as the south of Mendoza. Yepes (1943) mentions the 36° S as the northern limit of the distribution. Currently the northern limit in Argentina appears to be situated at the height of the Lago Espejo, in the Parque Nacional Nahuel Huapi (40° 30' S) and the southern most records come from central area of the Parque Nacional Los Glaciares (Laguna Tannhaüser, 49° 54' S), although a few records exist from further south.

Two main populations exist within Argentina (López *et al.*, 1998). One which ranges from the south of Neuquén until the north of Chubut, forming a virtual biological corridor protected by the Parque Nacional Lanín until the Area Natural Protegida Lago Baggilt. The second one is located in the Provincia de Santa Cruz and coincides, mainly, with the Parques Nacionales Perito Moreno and Los Glaciares. However, there

exist subpopulations between these main blocks which connect the two populations (Anon., 2002).

The main population census until now has been conducted in the Parque Nacional Perito Moreno and estimated a minimum population size of 100 for this population (Serret, 1991). It is listed in the Red Data Book of Threatened Mammals (SAREM, 2000).

CMS actions: The Fundacion Vida Silvestre Argentina, funded by CMS, has build an observatory for the study and observation of the Huemul Deer.

Other actions: In 2002 a National Action Plan for the conservation of the South Andean Deer was published. Population census have been conducted (Anon., 2002).

CHILE:

Status: The South Andean Deer occurs discontinuously throughout the south of Chile, with a population nucleus in the Andean zone in Region VIII, and a more continuous population from the tenth to the twelfth Regions. The population in Region VIII consists of about 60 individuals and, regrettably, continues to decline. In the southern Regions censuses have been conducted only in few sites, such as the National Reserve Tamango with about 60 specimens, the National Park Torres del Paine with about 50 individuals, sector Río Claro of the National Park Río Simpson with 10 specimens (Chile National Report, 2002).

The total population of the species is estimated to be about 2,000 individuals (Chile National Report, 2002). According to Oryx (1973), the Chilean population numbered only a few hundred individuals in 1973 and according to Povilitis (1983) this figure was around 1,000 in 1983. The density at Rio Claro was calculated at 1 individual/1.3 sq. km (1 individual/0.5 sq. mi) (Povilitis, 1983). It is listed in the Red Data Book of Terrestrial Vertebrates (CONAF, 1988).

CMS actions: There are several finished and ongoing projects about the behaviour and ecology of the species. Since 1974 censuses have been conducted at various sites in Regions VIII and XI. A plot of land has been obtained, next to National Reserve Ñuble, with a winter habitat for the species in the mountain range in Region VIII. Between 15 and 18 April a 4th Chilean-Argentinean meeting took place about strategies for the conservation of the South Andean Deer (Chile National Report, 2002).

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: BOVIDAE

SPECIES: *Oryx dammah* (Cretzschmar, 1826)

SYNONYMS: *Oryx tao*

COMMON NAME: Sahara Oryx; Scimitar-horned Oryx; White Oryx (English); Oryx algazelle; Oryx de Libye (French); Orix algacel; Orix de Cimitarra (Spanish)

RANGE STATES: Algeria (Ex); BURKINA FASO (Ex); CHAD; EGYPT (Ex?); LIBYAN ARAB JAMAHIRIYA (Ex); MALI; MAURITANIA (Ex); MOROCCO (Ex); NIGER; NIGERIA (Ex); SENEGAL (Ex); Sudan (Ex?); TUNISIA

RED LIST RATING: EW (Mallon and Kingswood, 1999)

CONSERVATION STATUS AND ACTIONS:

The scimitar-horned oryx formerly ranged over several million squared kilometres of semi-arid sahelian grassland and scrubland on the northern and southern fringes of the Sahara (East, 1999) but overhunting and habitat loss and degradation, mainly from increasing numbers of domestic livestock penetrating into its range decimated the species (Mallon and Kingswood, 2001).

This species' status was given as Critically Endangered in the 1996 IUCN Red List of Threatened Animals on the basis of unconfirmed reports that a few animals survived in the wild in Chad. No definite evidence of its survival in the wild was obtained by Scholte (1997) or during the compilation of information from its range states for the CMS Workshop on the Conservation and Restoration of Sahelo-Saharan Antelopes held at Djerba, Tunisia in February 1998 (Smith, 1998). Its status was therefore changed to Extinct in the Wild in the 2002 Red List, despite a recent unsubstantiated sighting of four animals in northern Niger (Mallon and Kingswood, 1999).

Conservation measures were started as long ago as the 1960s with a global captive breeding programme. By 1996 there were at least 1,250 captive animals held in zoos and parks around the world with a further 2,145 on ranches in Texas (East, 1999). Reintroduction of the species has been proposed for all of the North African countries, and specific programmes have been started in both Morocco and Tunisia (Mallon and Kingswood, 2001). Once these reintroduced populations breed and the offspring themselves start breeding, the "Extinct in the Wild" status will change (IUCN, 2003). CMS is funding activities for Sahelo-Saharan antelopes, including the establishment of a geographical database, information system and website, as well as plans for development of *in situ* conservation and reintroductions in Chad, Libya and Senegal.

Algeria (Ex):

Status: The scimitar-horned oryx formerly inhabited sub-desert and steppe regions both north and south of the Sahara but has long been considered extinct in northern Algeria. The last oryx in Algeria was shot in the extreme south of the country in 1987. Hoggar National Park would protect any animals wandering in from the south but since the species is now extinct from neighbouring Mali and Niger, recolonisation from the south is not a possibility (De Smet and Smith, 2001).

CMS actions: Not a Party to CMS.

Other actions: The species is fully protected by law (De Smet and Smith, 2001).

BURKINA FASO (Ex?):

Status: The scimitar-horned oryx formerly inhabited the sahel zone to the north, but was hunted almost to extinction by the 1950s. The last reliable sighting was reported close to the Mali border in 1986. There is no further evidence that the species survives in the country (East, 1999).

CMS actions: None reported.

Other actions:

CHAD:

Status: The scimitar-horned oryx was formerly abundant in the subdesert and northern sahel zones in central Chad. By the 1970s the species was almost extinct as a result of uncontrolled hunting, drought, desertification and competition with livestock. A population of several thousand animals did survive in Ouadi Rime-Ouadi Achim Faunal Reserve until 1978, but the area lost protection because of military activity and the oryx population plummeted (East, 1999).

The last animals were seen in northeastern Kanem in the late 1980s. Surveys conducted in north-central Chad between 1990 and 1996 failed to spot oryx. There is a small, but increasingly unlikely, possibility that some animals remain in remote parts of north-central Chad (East, 1999). A recent joint mission of the WWF and the Office of Parks found a few old horns (Chad National Report, 2002).

CMS actions: A reintroduction of species into the area is planned according to the Chad National Report (2002). CMS is funding surveys and other activities in Chad.

Other actions:

EGYPT (Ex?):

Status: The scimitar-horned oryx formerly inhabited most of the Western Desert, but the last live animal was seen in 1975 near the Siwa road 130km south of Matruh. Despite extensive searches and interviews with local bedouin people in the early 1990s no evidence was found of the species, which is now considered extinct in Egypt (Saleh, 2001).

CMS actions: None reported.

Other actions: No oryx conservation measures being taken in Egypt (Saleh, 2001).

LIBYAN ARAB JAMAHIRIYA (Ex):

Status: The scimitar-horned oryx was once widespread in certain southeastern and southwestern parts of Libya, but there are no recent records from these areas. The last tentative report dates from the Cyrenaica-Tripolitania border in northern Libya in 1964. A few animals could have crossed over the southern border with Chad from time to time, but since the scimitar-horned oryx is now considered extinct in the wild this is no longer possible (Khattabi and Mallon, 2001).

CMS actions: None reported.

Other actions: The scimitar-horned oryx is listed as a protected species in Libyan hunting laws, and a captive herd is maintained at the Tripoli Reserve

(Khattabi and Mallon, 2001).

MALI:

Status: The scimitar-horned oryx formerly inhabited the sahel zone in central Mali, and extended northwards into parts of the desert zone. The species has been eliminated by hunters and the spread of livestock. The most recent reliable record – of a pair of animals on the Burkina Faso border – dates back to 1986. The species is probably extinct in Mali (East, 1999).

CMS actions: None reported.

Other actions:

MAURITANIA (Ex):

Status: The scimitar-horned oryx formerly occurred widely in the west and south of Mauritania but was wiped out by uncontrolled hunting, probably by the 1960s (East, 1999).

CMS actions: None reported.

Other actions:

MOROCCO (Ex):

Status: The scimitar-horned oryx formerly inhabited the main-sub-desert regions of North Africa where people used the hide to make tough shields. Records from the 1900s are scarce and all are from south of the Sequiat el Hamra. These animals were probably transients visiting the area in response to unusual vegetation growth. The last report was from 1973 and today the animal is considered extinct (Aulagnier *et al.*, 2001).

CMS actions: A programme has been developed (in collaboration with Germany) for the reintroduction of this species. In 1995, five oryx were brought to enclosures in Souss-Massa National Park. A further 15 to 20 animals were expected to arrive in 1996 (Aulagnier *et al.*, 2001; Morocco National Report, 2002). There are plans to reintroduce the species to sites such as the lower Drâa Valley, the Aydar and the Adrar Souttouf areas (Mallon and Kingswood, 2001).

Other actions:

NIGER:

Status: Formerly widespread in the sub-desert and sahelian zones of central and southern Niger, the scimitar-horned oryx had been reduced to precariously low levels by the 1980s. Key threats were illegal poaching, competition with livestock for food and exclusion from prime habitat by the increasing extension of deep permanent-water bore holes for livestock (East, 1999).

A few animals, probably vagrants, were recorded in the area of Air and Tenere National Nature Reserve up until 1982, but this area is too arid for permanent occupation. The last reported sighting of scimitar-horned oryx in Niger was in 1986. The species was presumed extinct by the end of the 1980s (East, 1999), although there has been a more recent unsubstantiated sighting of four animals in the north of the country (Mallon and Kingswood, 1999).

CMS actions: None reported.

Other actions: Plans in the late 1980s and early 1990s by the IUCN and the Zoological Society of London to reintroduce the species to Niger were thwarted by civil unrest in the country (East, 1999).

NIGERIA (Ex):

Status: The scimitar-horned oryx formerly occurred in the extreme northeast, but possibly only as a seasonal vagrant. The species in now considered extinct in Nigeria (East, 1999).

CMS actions: None reported.

Other actions:

SENEGAL (Ex):

Status: The scimitar-horned oryx formerly inhabited the sahel zone of northern Senegal, but was hunted to extinction before 1914 (East, 1999).

CMS actions: A small group of oryx was reintroduced to the Gueumbeul sanctuary in February 1999, and a further two females in February 2002. The current population consists of 23 animals (Senegal National Report, 2002).

Other actions: There are proposals to upgrade 6,000km^2 of the Northern and Southern Ferlo Faunal Reserves in the northeast to National Park status. This location would be suitable for scimitar-horned oryx reintroduction provided nomadic herdsman and large numbers of livestock are excluded (East, 1999).

Sudan (Ex?):

Status: The scimitar-horned oryx formerly occurred widely in the subdeserts and deserts of northwest Sudan, but was apparently hunted to extinction (East, 1999).

CMS actions: Not a Party to CMS.

Other actions:

TUNISIA:

Status: The scimitar-horned oryx formerly inhabited the semi-desert and desert regions of southern Tunisia as far north as the steppe of the High Plateau. Its dried meat (*tichtar*) was even once a common item for sale at markets on the Tunisian-Algerian-Libyan border. The species went extinct however in 1910 due to over-hunting (Smith *et al.*, 2001). According to the Tunisia National Report (2002) there are now 110 animals at the Bou-Hedma National Park, approximately 26 individuals at Sidi-Toui National park and a further four in Oued Dekouk Nature Reserve (Tunisia National Report, 2002).

CMS actions: The Tunisia National Report (2002) also documents that a study of the ecology of the species, its conservation and the restoration of its habitat are planned.

Other actions: The species is fully protected by law in Tunisia (Smith *et al.*, 2001). In 1985 a reintroduction programme was commenced when 10 sub-adults were brought from British zoos to an acclimatization pen in Bou-Hedma National Park. 18 months later the animals were transferred to a larger fenced area. The animals soon started to exhibit wild behaviours and became independent of the pens and rationed foods.

The captive herd has steadily increased in size. In 1991 there were 21 animals, 70 in 1996 and 81 in 1997 (Smith *et al.*, 2001). There are problems however since the original plans to enlarge the Bou-Hedma National Park look unlikely to materialize. As numbers continue to grow, they may eventually have to be controlled. Because of this it was decided that oryx should start being transferred to other reserves such as Sidi Toui and Djebil National Parks (Smith *et al.*, 2001).

Additional information - Western Sahara:

Status: The scimitar-horned oryx has been reported from Western Sahara by Gillet (1965) and Valverde (1957).

Actions: None reported.

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: FELIDAE

SPECIES: *Uncia uncia* (Schreber, 1775)

SYNONYMS: *Panthera uncia*

COMMON NAME: Ounce; Snow Leopard (English); Irbis; Léopard des neiges; Once; Panthère des neiges (French); Leopardo de las nieves; Leopardo nival; Pantera de la nieves (Spanish)

RANGE STATES: Afghanistan; Bhutan; China; INDIA; Kazakhstan; Kyrgyzstan; MONGOLIA; Nepal; PAKISTAN; Russian Federation; TAJIKISTAN; UZBEKISTAN

RED LIST RATING: EN C2a(i) (Cat Specialist Group, 2001)

CONSERVATION STATUS AND ACTIONS:

The snow leopard has an extremely patchy and fragmented distribution, consisting of a mix of long narrow mountain systems and islands of montane habitat scattered throughout a vast region surrounding the Central Asian deserts and plateaus (Nowell and Jackson, 1996). Through most of their range, snow leopards are associated with arid and semi-arid shrubland, grassland or steppe (Fox, 1989; Jackson 1992). In the mountains of Russia and parts of the Tian Shan they occur in open coniferous forest, but generally avoid dense forest (Heptner and Sludskij, 1972).

Although the snow leopard's range extends over some 2.3 million km² of Central Asia, occupied habitat is estimated at only 1.6 million km², most of which is in Tibet and other parts of China (Fox, 1994). The species is generally found at elevations between 3,000-4,500m, although they occasionally go above 5,500m in the Himalayas, and at the northern limits of their range can be found between 600-1,500m (Heptner and Sludskii, 1972; Fox, 1989, Schaller *et al.*, 1994).

Based on estimates of density and geographic range (Nowell and Jackson 1996), the snow leopard's total effective population size is estimated at below 2,500 mature breeding individuals with no subpopulation containing more than 250 mature breeding individuals (Cat Specialist Group, 2001). Theile (2003), however, puts the global population of snow leopards between about 4,000 and 7,000.

As numbers of wild snow leopard plummeted in the last century legal measures were taken for its protection. In 1975, it was recognised as "threatened with extinction" (Theile, 2003). It has been accorded nation-wide legal protection, usually with hunting bans, in almost every range state, in some cases since the 1970s (Nowell and Jackson, 1996; Theile, 2003).

In spite of such provision, the snow leopard continues to decline for a number of reasons (IUCN, 2003). Several factors adversely affect snow leopards throughout their range. In the past the animal was hunted for its fur. Garments of snow leopard fur were once highly prized in the fashion world and although no longer in international trade, fur coats and "novelty" furs have been seen for sale in shops throughout China, Taiwan and in Mongolia (Nowell and Jackson, 1996). Live animals were also caught for zoos (Theile, 2003).

Today, the species is menaced primarily by intentional killing and loss of wild prey (Theile, 2003). Snow Leopards have been hunted during the 1990s in numbers as high as at any time

in the past and this killing continues in the present century. Generally speaking, conflict with herders is seen as the main threat to Snow Leopards in the Himalayan region of their range and in the Karakorum and Hindu Kush mountains, while killing for trade is the prominent threat in the central Asian region and northern part of the species' range - in the Chinese Altai and Tien Shan mountains, Mongolia and the Russian Federation. There are indications that both types of threat have increased in recent years (Theile, 2003).

Loss of natural prey is the second major threat to the species and is a factor throughout its range. Habitat fragmentation and accidental trapping or poisoning are regarded as secondary threats to the snow leopard (Theile, 2003).

In February 2001, the International Snow Leopard Trust initiated development of the Snow Leopard Survival Strategy, with the aim of providing comprehensive conservation and research guidelines to ensure a co-ordinated effort to conserve snow leopards throughout their range. The Strategy was designed after thorough analysis of the threats facing the species in each range state and attempts to identify conservation, education and policy measures needed to address these threats, to determine the most urgent information needs and provide advice on appropriate methodologies (Theile, 2003).

Afghanistan:

Status: Snow Leopards inhabit areas of the Hindu Kush range (in north-east Afghanistan). They are to be found in north-western and central parts of the mountain range, as well as easternmost parts, which extend into Wakhan, Badakhshan Province. It is not known how many Snow Leopards are in Afghanistan, but based on an estimate of the available habitat, it has been calculated that there are around 100-200 individuals. Snow leopard tracks were recently observed during UNEP (United Nations Environment Programme) field missions in the Wakhan Corridor, an arm of land stretching eastwards between the borders of Tajikistan, Pakistan and China, forming the south-easternmost part of the greater Pamir mountain range. Key current threats include retaliation by herders for livestock predation and active hunting for pelts (Theile, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Bhutan:

Status: Although no population surveys for Snow Leopards have been undertaken in Bhutan, anecdotal reports indicate that the species occurs at elevations of 4,000-5,000m in the northern parts of the country bordering the Tibet Autonomous Region of China. The Jigme and Dorji National Park and the Kulongcchu Wildlife Sanctuary are the most important protected areas for Snow Leopards in Bhutan. According to map-based estimates, 100-200 individuals may inhabit Bhutan. Key current threats include retaliation by herders for livestock predation and grazing competition with livestock. Bhutan seems to be the only range state where snow leopards and their parts are not traded (Theile, 2003).

CMS actions: Not a Party to CMS.

Other actions: The hunting of snow leopards is prohibited in Bhutan through the *Forest and Nature Conservation Act, 1995* (Theile, 2003).

China:

Status: Snow leopards are found in the western mountain ranges of the Inner Mongolia, Tibet and Xinjiang Autonomous Regions and in the provinces of Qinghai, Gansu, Sichuan, Yunnan and Shanxi. Although snow leopards are

more numerous in China than in other range States, field surveys conducted between 1996 and 2000 revealed that the historical distribution range of snow leopards had decreased, in particular in the provinces of Qinghai, Gansu and Sichuan. It has been suggested that the species is likely to be on the brink of extinction in Inner Mongolia (Theile, 2003). Key current threats include hunting for pelts and bones, poaching of prey species, habitat destruction and occasional retaliatory killings (Theile, 2003).

CMS actions: Not a Party to CMS.

Other actions: The Snow Leopard is legally protected and hunting of Snow Leopards constitutes a criminal offence and sale and purchase of Snow Leopards or their products is strictly prohibited (although scientific research, domestication, breeding, or exhibition is allowed with a permit). Field surveys have been conducted (Theile, 2003).

INDIA:

Status: The snow leopard is known to occur above about 3,200m across the Himalayan regions of India. Its range extends from Jammu and Kashmir, to Himachal Pradesh and Uttaranchal in the central Himalayas, to the eastern states of Sikkim and Arunachal Pradesh. In the late 1980s, the total population was estimated at 200-600 animals, with the largest number inhabiting central Ladakh, in Jammu and Kashmir. A nation-wide population of some 500 animals was estimated in 1991, based on mean density figures of one animal/110km^2 for good habitat and one animal/190km^2 for lower quality habitat (Theile, 2003). Key current threats to snow leopards in India include retaliatory killings and hunting for, and trading in, pelts (Theile, 2003).

CMS actions: None reported.

Other actions: The snow leopard is protected and hunting is generally forbidden (Theile, 2003). The Snow Leopard Conservancy and The Mountain Institute initiated a programme in 1999 to provide livestock with better protection from predators. In collaboration with the inhabitants of Markha, the village with the highest predation rate in the Hemis National Park, predator-proof corrals were built in 2000. Since the completion of the corrals, no livestock have been lost to predators (Theile, 2003).

In 2001, the Snow Leopard Conservancy, in partnership with The Mountain Institute and UNESCO, initiated the Traditional Village Homestay programme as a pilot project in Hemis National Park, Ladakh to empower local communities to benefit directly from an eco-system that includes snow leopards, through income-generation schemes. Workshops were held in 2002 and 2003 (Theile, 2003).

Kazakhstan:

Status: Snow leopards occur on the edge of the high mountain ranges to the north and east of the country, in the Tien Shan mountains in the south-east, and possibly in a few isolated populations between these places and along the border with China. The most recent population estimate of 180-200 animals dates from 1990. However, the population is thought to be in decline, according to the country's Red Data Book. Key current threats to the snow leopard include poaching and a decline in prey species (Theile, 2003).

CMS actions: Not a Party to CMS.

Other actions: The snow leopard is legally protected and hunting, possession and sale of

the species are prohibited (Theile, 2003).

Kyrgyzstan:

Status: Kyrgyzstan used to have one of the largest snow leopard populations. In the late 1980s, what is now Kyrgyzstan and neighbouring Tajikistan were estimated to have 1,200-1,400 individuals. At the time, this represented around 75% of all snow leopards in the Soviet Union, but dramatic declines in numbers in the region have been reported since then (Theile, 2003).

Koshkarev (1994) estimated that populations in Kyrgyzstan and Tajikistan were reduced by 50-80% in the 1990s and that up to 120 animals were killed each year in the mid-1990s. In Kyrgyzstan, as few as 150-200 mature individuals may remain, but no recent population figures are available and, since the independence of Kyrgyzstan, no systematic population surveys have been undertaken. The key current threat remains poaching (Theile, 2003).

CMS actions: Not a Party to CMS.

Other actions: Hunting, possession and trade of snow leopards is legally prohibited and the species is listed in the Red Data Book. In 1998, the German Society for Nature Conservation (NABU) developed a national conservation strategy, with the primary aim of stopping snow leopard poaching, in co-operation with the Kyrgyz Government and local experts. In 1999, the group established a specialized anti-poaching unit (Theile, 2003).

MONGOLIA:

Status: The snow leopard is distributed in mountainous areas in the west of Mongolia. These include the Altai Mountains and some isolated mountainous sections in the south-west of Mongolia, close to the border with China. Additionally, remnant populations occur in the Hangayn Nuruu, mountains trending north-west to south-east, occupying much of central-west Mongolia, and possibly in the mountains of Hovsgol Province, in northern Mongolia, although no individuals have been sighted there since the 1960s (Theile, 2003).

The total range of the species in Mongolia is around 80,000 to 100,000km^2, but the snow leopard populations in Mongolia have an extremely patchy and fragmented distribution, which may reduce genetic interchange and thus diminish their long-term viability. It is listed in the Mongolian Red Data Book as 'very rare' since 1972 (Theile, 2003).

Estimates of the number of snow leopards in Mongolia from the 1970s and 80s ranged between 500-900 and 2,000-4,000. It has been reported that population estimates vary between 800 and 1,700 animals, with a density of around 1-1.5 Snow Leopards per 100km^2. Key current threats include retaliatory (and preventative) killings by herders, and hunting for, and the trade in, leopard products (Theile, 2003).

CMS actions: None reported.

Other actions: Hunting snow leopards has been prohibited since 1972, when the species was listed in the Mongolian Red Data Book as 'very rare'. In 1999, the *Mongolian Snow Leopard Conservation Management Plan* was developed by WWF Mongolia, the International Snow Leopard Trust and other stakeholders, in co-operation with the relevant governmental agencies. However, the Plan is not yet fully recognized as an official policy document by the Mongolian Government (Theile, 2003).

Recent conservation actions in this country include "Snow Leopard Enterprises", a scheme set up by the Mongolian branch of the International

Snow Leopard Trust with the aim of addressing conflicts between herders and snow leopards. This community-based conservation programme offers herders an opportunity to increase their household income through handicraft sales, in return for a commitment to protect the snow leopard and its natural prey. WWF Mongolia has established an anti-poaching team operating in Uvs Province, western Mongolia (Theile, 2003).

Myanmar*:

Status: Snow leopards have been reported from Myanmar (Rabinowitz and Saw Tun Khaing, 1998). This concurs with a geographical model of potential snow leopard habitat constructed by country which includes Myanmar (Hunter and Jackson, 1997).

CMS actions: Not a Party to CMS.

Other actions:

Nepal:

Status: Snow leopards are found in the Nepalese Himalayas, along the border with the Tibet Autonomous Region of China. Their distribution seems to be localized in the western half of this area: the species is reported to occur in Manang District, in western Nepal, and in Mugu and Dolpa Districts, in the far west. There are also unverified reports of Snow Leopards elsewhere in Nepal, including in Mustang District, some 70km north of Annapurna. Snow Leopards occur in eight protected areas in Nepal, but the number in each is unknown (Theile, 2003).

The largest population is thought to exist in Nepal's largest national park, the Shey-Phoksundo National Park (covering parts of Mugu and Dolpa Districts) and in the Annapurna Conservation Area. Nepal's total snow leopard population was estimated in 1990 to number 300-500 animals, but no recent national surveys have been undertaken. Key current threats include retaliatory (and preventative) killings by herders and hunting for, and the trade in, leopard products (Theile, 2003).

CMS actions: Not a Party to CMS.

Other actions: The snow leopard has been fully protected since 1973 (Theile, 2003).

PAKISTAN:

Status: Snow Leopard habitat in Pakistan is spread over an area of 81,000km^2, in the Hindu Kush mountains (close to the Afghani border) and in the Himalaya and Karakoram mountain ranges - all in the far north of the country. In terms of administrative areas, the species occurs in all five districts of the Northern Areas, in the Chitral, Dir, Swat and Kohistan Districts of the North West Frontier Province, and in Muzaffarabad District, in Azad Jammu and Kashmir. Less than seven per cent of this area is protected for wildlife.

Recent information on the numbers of snow leopards in Pakistan is lacking. Based on surveys undertaken in the early 1970s, the total population of snow leopards in Pakistan was estimated to be around 150 to 200 animals. It was reported in 1997 that the number could be around 400 animals. Recent surveys undertaken in the Balistan District of the Northern Areas resulted in an estimate of 90-120 animals in that District and 300-420 animals throughout Pakistan. Key current threats include retaliatory killings by herders and hunting for pelts and other leopard products (Theile, 2003).

CMS actions: None reported.

Other actions: There is no law applied for the protection of Snow Leopards nationally in

Pakistan. However, provinces have their own wildlife laws and the snow leopard is legally protected in the three States of Pakistan where it occurs (Theile, 2003).

In 2001, government agencies, conservation NGOs and other stakeholders met to develop a strategic plan for the conservation of snow leopards that would serve as a guiding tool for agencies and organizations participating in the conservation of snow leopards. It was expected to gain full acceptance as an official policy of the Government of Pakistan in 2002 (Theile, 2003).

In addition, Project Snow Leopard is a community-based approach initiated in 1999 that aims to resolve the conflict between local farmers and Snow Leopards in northern Pakistan (Theile, 2003).

Russian Federation:

Status: The historic range of the species was considerably larger than now and ranged from the Altay mountain range, in the central south of the country, to the Lena River, in eastern Siberia. However, since the early twentieth century, the species has been absent from several areas of this range, especially in the south-western parts and most probably in the Baykal and Transbaykal regions (Theile, 2003).

The snow leopard's range now spans mountain groups in the central south of the Russian Federation, from the Altay mountains, east through the Sayan mountains and the Republic of Tyva, to the Tunkinskiye and Kitoiskiye mountains, just west of the southern tip of Lake Baykal. This area now forms the northernmost limit of the snow leopard's global range (Theile, 2003).

Certain areas of this range are heavily impacted by deforestation and human encroachment, which have led to increased fragmentation of populations, and possibly to isolation of western populations from those in the east. Between 150 and 200 Snow Leopards are estimated to live in the Russian Federation, according to comprehensive surveys undertaken in 2000 and 2001. Key current include poaching for trade, loss of prey species, retaliatory killings and accidental trapping and poisoning (Theile, 2003).

CMS actions: Not a Party to CMS.

Other actions: The snow leopard is legally protected and is included in the Red List of the Russian Federation From the mid-1990s, WWF Russia facilitated the development of a Snow Leopard conservation and management plan, in co-operation with several governmental and non-governmental agencies and, in 2002, the *Strategy for the Conservation of the Snow Leopard in the Russian Federation* was officially approved by the Head of the State Service for Environment Protection (Theile, 2003).

WWF Russia set up a scheme in 2000 in the Tyva Republic of the Russian Federation which works by combining an insurance system with eco-tourism: farmers pay insurance premiums into a fund managed by the community (Theile, 2003).

TAJIKISTAN:

Status: Snow leopards are found in the mountains in the east of the country, the main population occurring in the Pamir region, in isolated patches of relatively good habitat. Snow Leopards in Tajikistan are listed in the Red Data Book 3, as 'rare'. Little is known about the current status of the Snow Leopard in Tajikistan, but populations are thought to be in decline. In 1990, the total population of Snow Leopards in Tajikistan was put at around 200-300 animals, but this figure has been considered

an over-estimate and others put the total population at 80-100 or 120-300 animals. A more recent population estimate for Tajikistan suggests that the total population is around 180-220 animals. Key current threats include a decline in prey and habitat degradation, both effects of civil war. Poaching is also a threat (Theile, 2003).

CMS actions: None reported.

Other actions: The species is protected under the *Law on Nature Protection* (1993) and the *Law on Preservation and Use of Fauna* (1994) (Theile, 2003).

UZBEKISTAN:

Status: Snow leopards are known to occur in the eastern parts of Uzbekistan, in the mountains bordering Kyrgyzstan and Tajikistan, where they have been reported from the Turkestanskiy, Chatkalskiy and Gissarskiy ranges. The number of Snow Leopards in Uzbekistan is estimated to be no more than 20-50. The species is included in the Red Data Book 3 for Uzbekistan. Key current threats include increased competition for prey species, retaliatory killings and poaching for trade (Theile, 2003).

CMS actions: None reported.

Other actions: The Snow Leopard is protected in Uzbekistan under the *Law on Nature Protection* of January 1993 and hunting, possession and sale is prohibited. (Theile, 2003).

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* Range State not yet included in the CMS range list for this species.

RAPID REVIEW OF CONCERTED ACTION SPECIES

ANNEX C: MARINE TURTLES

CONTENTS

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Caretta caretta* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Loggerhead (English); Caouanne; Cayunne; Coffre; Tortue à bahut; Tortue Caouanne; Tortue caret (French); Cayuma; Tortuga boba (Spanish)

RANGE STATES: ALBANIA; Algeria; ARGENTINA; Angola; Antigua and Barbuda; AUSTRALIA; Bahamas; Bahrain; Bangladesh; Barbados; Belize; BENIN; Brazil; Brunei Darussalam; Canada; Cambodia; CAMEROON; Cape Verde; CHILE; China; Colombia; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Costa Rica; Comores; COTE D'IVOIRE; CROATIA; Cuba; CYPRUS; Djibouti; Dominica; Dominican Republic; Ecuador; EGYPT; El Salvador; Equatorial Guinea; Eritrea; Fiji; FRANCE (including Corsica, French Guiana, New Caledonia, Réunion); GAMBIA; Gabon; GHANA; GREECE; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA; Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; ITALY; Jamaica; Japan; KENYA; Korea Democratic People's Republic of; Korea, Republic of; Kuwait; Lebanon; Liberia; LIBYAN ARAB JAMAHIRIYA; Madagascar; Malaysia; Maldives; MALTA; MAURITANIA; Mauritius; Mexico; MONACO; MOROCCO; Mozambique; Myanmar; Namibia; NETHERLANDS (Aruba, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND; Nicaragua; NIGERIA; Oman; PAKISTAN; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Seychelles; Sierra Leone; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA (Natal); SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; TANZANIA, UNITED REPUBLIC OF; Thailand; Tonga; TOGO; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; United Kingdom (Anguilla); UNITED KINGDOM (Cyprus); United States (including Puerto Rico); URUGUAY; Vanuatu; Venezuela; Viet Nam; Yemen; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: EN A1abd (Marine Turtle Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Loggerheads are widely distributed in coastal waters, mainly in subtropical and temperate regions and travel large distances following major warm currents such as the Gulf Stream and California Current. Loggerheads are highly migratory, making some of the longest journeys known of all marine turtle species. Nesting beaches are distributed in more temperate latitudes than those of other marine turtles (McLellan *et al.*, 2004). They are also the most common species in the Mediterranean, with nesting reported from numerous countries in the region. The species also nests in Oman in the Indian Ocean and throughout southeast Asia to Australia, but rarely in the Pacific islands (Kemf, *et al.*, 2000).

Although world wide population numbers for sea turtle species do not exist, there are an estimated 60,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). Other sources put the figure at perhaps 100,000 adult females (NatureServe, 2003).

Loggerheads are less likely to be hunted deliberately than other marine turtles: their meat is considered less desirable than that of the green turtle, and the shell is less prized than that of the hawksbill. However there is some direct exploitation, and loggerheads' eggs are collected and eaten in many parts of the world. The main cause of mortality is believed to be through fisheries by-catch (McLellan *et al.*, 2004). Populations of loggerheads are sometimes threatened with disease, particularly tumours, which may be caused by pollution (Kemf, *et al.*, 2000). Other threats include loss of habitat due to coastal development, artifical light on coasts causing disorientation of nesting females, beach sand mining, collision with motorboats (Animal Diversity Web, 2004; EuroTurtle, 2004).

ALBANIA:
Status:
CMS actions: None reported.
Other actions:
Algeria:
Status:
CMS actions: Not a Party to CMS.
Other actions:
ARGENTINA:
Status:
CMS actions: None reported.
Other actions:
Angola:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:
Status:
CMS actions: Not a Party to CMS.
Other actions:
AUSTRALIA:

Status: The Australian nesting populations are genetically distinct from those in other countries. Within Australia there are two genetically independent breeding populations. The eastern Australian population is the only significant population for the species for the entire South Pacific Ocean. This population is centred in the southern Great Barrier Reef and adjacent mainland near Bundaberg with an estimated population size of 1,000 females, with 300 breeding annually (Australia National Report, 2002).

The western population is estimated to contain among 1,500-2,000 females, with breeding mainly centred on Dirk Hartog Island within Shark Bay, and

Muiron Islands (North West Cape). A small population feeds within Northern Territory waters, and the loggerhead is known as an occasional visitor to the island state of Tasmania (Australia National Report, 2002).

The population has declined by 50-80% since the 1970s, from about 1,000 breeding females, to a few hundred. This combined with their long maturation and low reproductive rate, means that the remaining loggerhead population is at serious risk of extinction from any increases in mortality. An annual loss of only a few loggerhead turtles could result in the extinction of the Queensland population (Great Barrier Reef Marine Park Authority, 2004).

CMS actions: Nesting sites are being monitored and research has been carried out on GIS-based models for indigenous management, effects of commercial fishing activities and ecotourism. In future additional habitat protection will be provided if required (Australia National Report, 2002).

Other actions: The GBR Marine Park, until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR, which will benefit marine turtle conservation enormously (McLellan *et al.*, 2004).

A principal focus of WWF's work in the Great Barrier Reef is the prevention of unregulated land-based pollution, caused by agricultural land clearing and poor land management practices upstream in the rivers that discharge into the Marine Park. A report released by WWF in 2001 entitled "Clear? ... or Present Danger" was pivotal in raising government and public awareness of this issue (McLellan *et al.*, 2004).

Over 80% of the northern coastline of Australia is owned and managed by indigenous Aboriginal people. WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. This enables Aboriginal communities, via their Sea Rangers, to monitor their own marine turtle resources and in so doing, provide valuable scientific data about the turtles in their region. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

WWF's involvement with marine turtle conservation at Ningaloo Reef, one of the longest fringing coral reefs in the world, began with its participation in a campaign to halt a proposed beachside marina and hotel. WWF has supported a community monitoring project involving the local community, local government, and state government conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

Bahamas:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Bahrain:
Status:

CMS actions: Not a Party to CMS.
Other actions:
Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Barbados:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELGIUM (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
Belize:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BENIN:
Status:
CMS actions: None reported.
Other actions:
Brazil:
Status:
CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and protect marine turtles through research, conservation actions and community involvement. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).
Brunei Darussalam:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Canada:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CAMEROON:
Status:
CMS actions: None reported.
Other actions:
Cape Verde:
Status: Boa Vista, is one of the most important loggerhead nesting beaches in the East

Atlantic Ocean, but is currently under threat from the increasing and currently poorly regulated tourism boom happening in these islands (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF is suppporting loggerhead tagging and monitoring at Boa Vista. The site is likely to be eventually designated as a marine protected area, but requires proactive planning and regulation development now. This will be beneficial to not only safeguard the turtle nesting beaches, but also to set in place initiatives that can capitalize on the economic benefits of turtlerelated tourism (McLellan *et al.*, 2004).

CHILE:

Status: It is relatively abundant (Chile National Report, 2002).

CMS actions: There has been research on marine turtles in the Chilean littoral and their interaction with sword fish. SERNAPESCA and CPPS 2001 Workshop was held in Valparaíso to define priority action guidelines of a programme for the conservation of marine turtles. Future plans include determining the distribution of the various species and, once known, initiating more complex research (Chile National Report, 2002).

Other actions:

China:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Colombia:

Status:

CMS actions: Not a Party to CMS.

Other actions: As part of its trans-Pacific marine turtle conservation efforts, WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

CONGO:

Status:

CMS actions: None reported.

Other actions:

D.R.C. CONGO:

Status: None reported.

CMS actions:

Other actions:

Costa Rica:

Status: Tortuguero, on the Atlantic coast of Costa Rica, is a nesting site for loggerhead turtles. There have been recent increases in turtle numbers at Tortuguero (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Comores:
Status:
CMS actions: Not a Party to CMS.
Other actions:
COTE D'IVOIRE:
Status: None reported.
CMS actions:
Other actions:
CROATIA:
Status:
CMS actions: None reported.
Other actions:
Cuba:
Status: Some direct exploitation (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology (CIM) at Guanahacabibes (McLellan *et al.*, 2004).
CYPRUS:
Status: *Caretta caretta* breeds here (Anon., 2002).

CMS actions: None reported.
Other actions:
DENMARK (v)*: Occurrence reported (UNEP-WCMC, 2004).
Status:
None reported.
CMS actions:
Other actions:
Djibouti:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Dominica:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Dominican Republic:
Status: Not a Party to CMS.
CMS actions:
Other actions:
Ecuador:
Status:
CMS actions: Not a Party to CMS.

Other actions: Working closely with the IATTC and NOAA, WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-

hooks to circular hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status: Fisheries in this country have been responsible for killing large numbers of turtle over many years. Bottom trawls operated by Egyptian fleets also kill large numbers (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Fiji:

Status:

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: **French Guiana**

The loggerhead nests in French Guiana (McLellan et al., *2004).*

Guadeloupe*

Breeding reported (Fretey, 1984).

New Caledonia

Knowledge of the loggerhead populations in southern New Caledonia has been identified as a major information gap in the management and conservation of Pacific populations of loggerheads — which are possibly down to as few as 2,000 nesting females. New nesting sites have been located. A few hundred loggerhead females were estimated from the monitoring of nesting sites (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: **French Guiana**

Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally (McLellan *et al.*, 2004).

It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine

turtle conservation in the Guianas (McLellan *et al.*, 2004).

New Caledonia
Monitoring has been conducted (McLellan *et al.*, 2004). WWF conducted a turtle tagging programme on the Entrecasteaux Reefs in 2002 and produced educational materials for local communities. WWF is working with various provinces to improve the conservation legislation aimed at protecting endangered species such as marine turtles (McLellan *et al.*, 2004).

GAMBIA:
Status:
CMS actions: None reported.
Other actions:

Gabon:
Status: All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) in Gabon (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.
Other actions:

GHANA:
Status:
CMS actions: None reported.
Other actions:

GREECE:
Status: Loggerhead turtles breed here – specifically in western Greece and Crete (Anon., 2002). The nesting density of turtles on Zakynthos Island (3,000 per sq. km) is among the highest in the world. Bottom trawls operated by Greek fleets kill large numbers of loggerheads (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: There is a LIFE Project 99/72588 on the conservation and management of the wetlands of Amvrakikos in Greece involving *Caretta caretta*. WWF and IUCN have been highly active in Greek Islands since the early 1980s, especially Zakynthos, surveying the beaches for turtles and promoting ecologically sound tourism (Kemf, *et al.*, 2000).

In 1999, the Greek government declared a Marine National Park in Zakynthos. WWF contributed to the completion of restoration works for the long term protection of this important loggerhead marine turtle nesting beach in the Mediterranean against erosion and siltation (McLellan *et al.*, 2004).

Guatemala:
Status:
CMS actions: Not a Party to CMS.
Other actions:

GUINEA:
Status: The species is plentiful in the coastal area, particularly on the shores of the Islands of Loos (Kassa, Tamara, Room, Soro, Rogbanè, Rio Pongo and in the north west of the country) (Guinea National Report, 2002).

CMS actions: Future plans include restoration of the habitat following the guidelines of the National Strategic Action Plan for Biological Diversity concerning species of Marine Turtle; training administrators of said habitats; raising the awareness of fishermen and sailors who must assist with the conservation of Marine Turtles, and raising the awareness of local coastal communities (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status: There are important nesting and feeding grounds for loggerhead turtles in the region (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: Nesting and feeding grounds for loggerheads in the region have been supported by WWF since 1976. A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Guyana:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Haiti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

INDIA:

Status:

CMS actions: None reported.

Other actions:

Indonesia:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has been involved in various turtle conservation projects in Indonesia. In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included Berau Island (Kemf, *et al.*, 2000).

I.R. Iran:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ISRAEL:

Status: In the 2000 nesting survey, 69 nests were found along the Mediterranean coast, and about 4200 hatching turtles were released. In 2001, 65 nests were found (Israel National Report, 2002).

CMS actions: Nesting surveys are being conducted along the Mediterranean coast. Nest sites are protected and stranded and injured turtles are rehabilitated (Israel National Report, 2002).

Other actions:

ITALY:

Status: Fisheries in this country have been responsible for killing large numbers of turtle over many years (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: There is a LIFE projects dealing with the conservation of *Caretta caretta,* which concerns urgent conservation measures on the islands of Lampedusa and Linosa (99/72198) (Anon., 2002). WWF is conducting a campaign to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Along most areas of the Kenyan coast, with higher concentrations in the northern parts and there is strong seasonal variations in distribution (Kenya National Report, 2002).

CMS actions: *Caretta caretta* is monitored and its habitat protected within the framework of coastal zone and biodiversity monitoring and management strategies (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve.The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season (McLellan *et al.*, 2004).

The community has also actively participated in ongoing monitoring of

marine turtles and their habitats. In order to broaden this expertise base, WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

D.P.R. Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Republic of Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Kuwait:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Lebanon:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Liberia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

LIBYAN ARAB JAMAHIRIYA:
Status:

Caretta caretta nests here (Anon., 2002). Between 1995 and 1998 WWF survey teams found unknown and significant loggerhead turtle nesting beaches, especially alongh the northeast coast. Fisheries in this country have been responsible for killing large numbers of turtle over many years (Kemf, *et al.*, 2000).

CMS actions: None reported.
Other actions:

Madagascar:
Status: This species nests in Madagascar (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Community-based conservation projects have been set-up in the Fort Dauphin area (Kemf, *et al.*, 2000). In 2002/2003 WWF initiated tagging activities in northern Madagascar, and commenced a trade assessment at two high-risk sites together with small scale awareness activities (McLellan *et al.*, 2004).

Malaysia:
Status:
CMS actions: Not a Party to CMS.

Other actions: In 1993, an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region.

The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

Maldives:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MALTA:

Status:

CMS actions: None reported.

Other actions:

MAURITANIA:

Status: The Banc d'Arguin National Park is an important nesting and feeding ground for this species of turtle. Several thousand turtles per year are killed as by-catch in the local shark fishery (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: Turtles enjoy some protection in the Banc d'Arguin National Park which is supported by WWF (Kemf, *et al.*, 2000). This important nesting and feeding ground for loggerhead turtles has been supported by WWF since 1976. A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Mauritius:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Mexico:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

F.S. Micronesia*:

Occurrence reported (Herring, 1986).

Status:

CMS actions:

Other actions:

MONACO:

Status: *Caretta caretta* is rarely and fleetingly present (Monaco National Report, 2002).

CMS actions: None reported.

Other actions:

MOROCCO:

Status:

CMS actions: None reported.

Other actions:

Mozambique:

Status: Loggerhead turtles are found in the waters of Mozambique and also come ashore to nest (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Namibia:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

NETHERLANDS:
Status:
CMS actions: None reported.
Other actions:

NEW ZEALAND:
Status: None reported.
CMS actions:
Other actions:

Nicaragua:
Status:
CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA:
Status:
CMS actions: None reported.
Other actions:

NORWAY (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Oman:

Status: The world's largest nesting aggregation (30,000 nesting females/year) is on Masirah Island (NatureServe, 2003). The principal threats to loggerheads on Masirah were flooding of nests and lights near the beach distracting hatchlings.

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status:

CMS actions: None reported.

Other actions:

PANAMA:

Status:

CMS actions: None reported.

Other actions:

Papua New Guinea:

Status: Few quantitative data are available about important marine turtle habitats in Papua New Guinea.

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

PERU:

Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: None reported.

CMS actions:

Other actions: In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held funded by WWF which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was

recommended. Areas proposed included the Phillippine-Sabah Turtle Islands, Sipadan Islands, and the Berau Island (Kemf, *et al.*, 2000).

POLAND (v)*:

Status:

CMS actions: None reported.

Other actions:

PORTUGAL:

Status: Individuals observed in Portuguese waters are mainly juveniles. The EEZs of the Azores and Madeira harbour mainly US-born animals (Atlantic population). Population size seems to be increasing slightly. The origin and status of the Algarve (southern Portugal) population is unknown: animals can originate from the Atlantic (US), from Cape Verde or from the Mediterranean populations and are probably a mixture, with predominant Atlantic (US) origin (Portugal National Report, 2002).

CMS actions: Research is conducted at Madeira into the behaviour, ecology, population structure of loggerheads, and the effects of fisheries. On the mainland, stranded animals are rehabilitated. Plans for the future include a central database; a stranding and rescue network; a tagging program and satellite telemetry project; and genetic sampling to separate the three populations (Atlantic, Mediterranean and Cape Verde) (Portugal National Report, 2002). This species is present at Natura 2000 protected sites in the Macaronesian region (Anon., 2002).

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Russian Federation (v)*:

Occurrence reported (UNEP-WCMC, 2004).

Status:

Not a Party to CMS.

CMS actions:

Other actions:

Saint Kitts and Nevis:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions: The Samoan Government has declared its political commitment to

establishing its 120,000km^2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary in 2002 (McLellan *et al.*, 2004).

SAUDI ARABIA:

Status:

CMS actions: None reported.

Other actions:

SENEGAL:

Status: *Caretta caretta* is common in the centre of the country and it has been spotted in the north in the Park of the Barbary Coast, but there has been no precise information about the size of the population (Senegal National Report, 2002). Feeding grounds in Sine Saloum are considered to be regionally important for marine turtles. However, turtles are under many threats here, including local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan *et al.*, 2004).

CMS actions: A national strategy for the conservation of turtles will be put in place (Senegal National Report, 2002).

Other actions: WWF has funded a number of protected areas for turtles in Senegal (Kemf, *et al.*, 2000). WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, which will protect regionally important feeding and nesting grounds for five species of marine turtles (McLellan *et al.*, 2004).

Serbia and Montenegro:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Seychelles:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Sierra Leone:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SLOVENIA:

Status:

CMS actions: None reported.

Other actions:

Solomon Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SOMALIA:

Status:

CMS actions: None reported.

Other actions:

SOUTH AFRICA (Natal):

Status: The species nests on Northern Natal (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: The loggerhead turtles of the Tongaland beaches of KwaZulu-Natal have been the subject of a monitoring and patrol programme, led by KZN, that has been running since 1969 (McLellan *et al.*, 2004).

WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:

Status: Fisheries in this country have been responsible for killing large numbers of turtle over many years, especially as a bycatch in Spanish longline fisheries which were estimated to kill 4,000 animals per year (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: There is a LIFE project (00/7303) dealing with the conservation of *Caretta caretta,* which foresees measures to manage the habitats of this species around the Balearic islands, while giving particular attention to incidental catches. This species is present at Natura 2000 protected sites in the Macaronesian region (Anon., 2002).

SRI LANKA:

Status:

CMS actions: None reported.

Other actions:

Sudan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Suriname:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers,

supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

SYRIAN ARAB REPUBLIC: *Caretta caretta* breeds here (Anon., 2002).

Status:

None reported.

CMS actions:

Other actions:

U.R. TANZANIA:

Status: Population size and trends are not known. There is no nesting record of loggerhead turtle in Tanzania. Three loggerhead turtles tagged in South Africa in 1985, 1992 and 1999 have been captured in Mafia over past two years (U.R. Tanzania National Report, 2002).

CMS actions: Mortalities are monitored in Mafia Islands. A technical committee will be formed to coordinate all turtle conservation programmes in Tanzania (U.R. Tanzania National Report, 2002).

Other actions: Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000). WWF is working with local communities on Mafia Island on a variety of natural resource management topics, including fisheries management, alternative non-destructive fishing ventures and marine turtle conservation. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and Born Free Foundation, amongst others (McLellan *et al.*, 2004).

Over the last nesting season on Mafia Island, over 10,000 hatchlings were produced from nest protection, and the rate of human poaching fell to 4% of previous levels. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were, and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various WWF sponsored conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

TOGO:

Status:

CMS actions: None reported.
Other actions:

Trinidad and Tobago:
Status:
CMS actions: Not a Party to CMS.
Other actions:

TUNISIA:
Status: *Caretta caretta* nests here (Anon., 2002). Fisheries in this country have been responsible for killing large numbers of turtle over many years (Kemf, *et al.*, 2000).

CMS actions: None reported.
Other actions:

Turkey:
Status: Surveys indicate that there are 17 important loggerhead nesting beaches on Turkey's Mediterranean coast. Fisheries in this country have been responsible for killing large numbers of turtle over many years. Bottom trawls also kill significant numbers of loggerheads (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1978 there have been nesting surveys initiated by WWF and IUCN. In 1987 the Turkish Society for the Protection of Nature (DHKD) launched a successful campaign to prevent a huge tourism development project for the Dalyan/Koycegiz region (Kemf, *et al.*, 2000). WWF is working to establish a fully representative network of protected areas in the Mediterranean and is collaborating with governments and local conservation organizations to protect loggerhead nesting beaches in Turkey and Greece (McLellan *et al.*, 2004).

The first systematic surveys of nesting beaches for the two marine turtle species breeding on the Turkish coasts of the Mediterranean Sea — the loggerhead and green turtle — started in 1979 with the support of WWF and IUCN. In 1988, 17 sites were designated as Marine Turtle Nesting Sites. However, a recent report from WWF indicated that 64 per cent of these sites are not adequately protected (McLellan *et al.*, 2004).

The First Turkish National Marine Turtle Symposium, was held in December 2003 in Istanbul, Turkey and organized by WWF-Turkey. A draft National Action Plan for Marine Turtles was formulated during the Symposium. It included recommendations to prepare a final National Action Plan for the conservation of marine turtles and their habitats as soon as possible; to establish marine turtle rescue and rehabilitation centres; and to standardize methods employed in conservation and monitoring of the nesting sites (McLellan *et al.*, 2004).

Tuvalu:
Status:
CMS actions: Not a Party to CMS.
Other actions:

United Arab Emirates:
Status:
CMS actions: Not a Party to CMS.
Other actions:

United Kingdom (Anguilla):
Status:

CMS actions: Anguilla is not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status:

British Virgin Islands*
Breeding reported (UNEP-WCMC, 2004).

Cayman Islands*
Occurrence reported (Parsons, 1984).

Cyprus

Grenada*
Breeding reported (Finley, 1984).

Montserrat*
Breeding reported (UNEP-WCMC, 2004).

Turks and Caicos islands*
Breeding reported (Fletemeyer, 1984).

CMS actions: None reported.

Other actions:

United States (including Puerto Rico):

Status: Nesting range in the United States is mainly the Atlantic coast from North Carolina to southern Florida, with about 90% of individuals in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward counties, Florida. Indian River and Brevard counties contain the second densest aggregations of nesting loggerheads in the world (about 6,000-15,000 females nesting/year) (NatureServe, 2003).

The major nesting grounds are off the coast of Florida and South Carolina (Kemf *et al.,* 2000). These Florida loggerheads migrate to the Bahamas in the winter. Small populations of the Atlantic loggerhead are also found on barrier islands off of the Texas coast (Animal Diversity Web, 2004).

The most concentrated population is in the Greater Antilles and the eastern United States with about 15,000 individuals frequenting the eastern U.S. yearly. However, the Carolinas record a three percent decrease in the occurence of *C. caretta* each year (Animal Diversity Web, 2004).

CMS actions: Not a Party to CMS.

Other actions

URUGUAY:

Status: No information available (Uruguay National Report, 2002).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions:

Vanuatu:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. As a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Viet Nam:

Status: Populations of loggerhead turtles are in serious decline (Kemf, *et al.*, 2000).

CMS actions:

Not a Party to CMS.

Other actions:

There are proposals for a network of protected areas (Kemf, *et al.*, 2000).

Yemen:

Status:

CMS actions: Not a Party to CMS.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Chelonia mydas* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Green Turtle (English); Tortue comestible; Tortue franche; Tortue verte (French); Tortuga blanca; Tortuga verde (Spanish)

RANGE STATES: Algeria; Angola; Antigua and Barbuda; AUSTRALIA; Bahamas; Bahrain; Bangladesh; Barbados; Belize; BENIN (?); Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; Cape Verde (?); CHILE (including Easter Island); China (including Taiwan); Colombia; Comoros; CONGO (?); CONGO, DEMOCRATIC REPUBLIC OF THE (?); Cook Islands; Costa Rica; Cuba; CYPRUS; Djibouti; Dominica; Dominican Republic; Ecuador (including Galapagos Islands); EGYPT; El Salvador; Equatorial Guinea; Eritrea; Fiji; France* (including French Guiana, French Polynesia, Guadeloupe, Martinique, New Caledonia, Réunion, Society Islands, Tuamotu Islands, Wallis and Futuna Islands (?)); Gabon (?); GAMBIA (?); GHANA; GREECE; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; ITALY; Jamaica; Japan; KENYA; Kiribati; Kuwait; Lebanon; Liberia; LIBYAN ARAB JAMAHIRIYA; Madagascar; Malaysia; Maldives; MALTA; Marshall Islands; MAURITANIA; Mauritius (including Rodrigues); Mexico; Micronesia (Federated States of); MOROCCO (?); Mozambique; Myanmar; Namibia; Nauru (?); NETHERLANDS (Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND (Tokelau); Nicaragua; NIGERIA (?); Niue (?); Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL (?); Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; Singapore; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO (?); Tonga; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; United Kingdom (Anguilla); UNITED KINGDOM (Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Cyprus, Montserrat, Pitcairn (?), Turks and Caicos Islands); United States (including American Samoa, Caroline Islands, Guam, Hawaiian Islands, Northern Mariana Islands, Puerto Rico, United States Virgin Islands); URUGUAY; Vanuatu; Venezuela; Viet Nam (?); Yemen; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: EN A1bd (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

The species is widely distributed in the tropics, particularly near continental coasts and around islands. They have also been recorded in temperate waters. Females migrate huge distances between nesting and feeding grounds. Nesting occurs throughout the range including on Pacific islands where few other turtles now occur (Kemf, *et al.*, 2000).

Although world wide population numbers for sea turtle species do not exist, there are an estimated 203,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). As a result of the various pressures that threaten this species, populations have, and continue to, decline worldwide (McLellan *et al.*, 2004). although in a few areas, strong conservation measures have led to a recovery in the species (e.g. Sabah, Malaysia and Florida, USA) (Kemf, *et al.*, 2000). There has been a decrease of 80% or more in the Mediterranean population (IUCN, 2003).

Although this species is classified as Endangered by the Red List Standards and Petitions Subcommittee (1996) a petition has been produced, challenging that there is evidence of large and increasing or stable populations. (1996). However, neither the Marine Turtle Specialist Group (MTSG) nor the petitioner provides either decline rate estimates or population size estimates for all populations (IUCN, 2003).

The green turtle has been prized for its meat since the 1500s, especially in the Caribbean (Kemf, *et al.*, 2000). An estimated 100,000 green turtles are killed around the Indo-Australian archipelago each year. There is a near total egg removal in several countries (e.g. in excess of 90% egg harvest in south-east Asia (IUCN, 2003)) and disease threatens populations elsewhere (McLellan *et al.*, 2004).

Algeria:
Status:
CMS actions: Not a Party to CMS.

Other actions: Between 1989 and 1993, WWF supported a project to survey the extent of mortality and to identify key breeding, feeding and overwintering areas for green turtle (Kemf, *et al.*, 2000).

Angola:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME).The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:
Status:
CMS actions: Not a Party to CMS.
Other actions:

AUSTRALIA:
Status: The Australian nesting populations of green turtles are genetically independent stocks. In addition, there are green turtles that feed in Australia that are part of

stocks that breed in other countries (eg. Indonesia, Papua New Guinea, New Caledonia and Pacific Mexico). Green turtles are found in Australian waters off the Northern Territory, Queensland, and Western Australia; and are occasional visitors to the island state of Tasmania. Green turtles are the most predominant species within foraging populations of 3,250 at Nigaloo, 4,250 at Exmouth Gulf and 84,00 at Shark Bay (Australia National Report, 2002). There is reasonable evidence to indicate that the Australian population may be declining.(IUCN, 2003)

CMS actions: Numerous research papers on subjects including monitoring nesting sites, GIS-based models for indigenous management, effects of commercial fishing activities, ecotourism (Australia National Report, 2002).

Other actions: Despite its World Heritage status, the Great Barrier Reef Marine Park (GBRMP), until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR. (McLellan *et al.*, 2004).

Firstly, GBRMPA has adopted a scientific recommendation that a minimum of 25-30% of the Marine Park be protected from fishing, and that the green zones network will protect critical nesting, foraging and migration habitats of marine turtles, amongst other endangered species. WWF has been actively involved at the policy level on advocacy for the no fishing zones, and has conducted a high-profile public campaign urging people to become involved in the rezoning plan. WWF considers the final zoning and the RAP to be an exemplary achievement for conservation of this globally significant coral reef system and endangered species such as marine turtles (McLellan *et al.*, 2004).

A principal focus of WWF's work in the Great Barrier Reef is the prevention of unregulated land-based pollution, caused by agricultural land clearing and poor land management practices upstream in the rivers that discharge into the Marine Park. Over the past 150 years, the volume of sediment and nutrients flowing into the Marine Park has quadrupled, and has been shown to degrade many inshore marine ecosystems, including marine turtle habitats (McLellan *et al.*, 2004).

A report released by WWF in 2001was pivotal in raising government and public awareness of this issue. The Australian and Queensland governments recently jointly released a Reef Water Quality Plan. This plan sets out measures to reduce land-based sources of sediment, nutrient and pesticide pollution that threaten in-shore reefs and critical habitats (McLellan *et al.*, 2004).

Over 80% of the northern coastline of Australia is owned and managed by indigenous Aboriginal people. WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. Sea Rangers are Aboriginal community representatives who have the responsibility of managing their natural resources. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. This enables Aboriginal communities, via their Sea Rangers, to monitor their own marine turtle resources and in so doing, provide valuable scientific data about the turtles in their region. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

At Ningaloo Reef, WWF has supported a community monitoring project involving the local community, local government, and state government

conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

Tracking studies will investigate the post- nesting movements of green turtles in the southern Gulf of Carpentaria and will build on previous telemetry studies (McLellan *et al.*, 2004).

Bahamas:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Bahrain:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Barbados:
Status:
CMS actions: Not a Party to CMS.
Other actions:

BELGIUM (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

Belize:
Status:
CMS actions: Not a Party to CMS.
Other actions:

BENIN (?):
Status:
CMS actions: Sites that are thought to be egg-laying areas are being protected against anthropological pressures such as lighting, housing-development and the taking of sand. Future activities will include raising the awareness of the public at large, and the installation of "Eco-gardes" (Eco-monitors) over the whole of Benin (Benin National Report, 2002).

Other actions:

Brazil:
Status: There is a distinct green turtle population breeding in Suriname and feeding occurs in waters off the Brazilian coast (Kemf, *et al.*, 2000), notably in the Island Fernando de Noronha Marine National Park (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and

protect marine turtles through research, conservation actions and community involvement. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).

Since the 1980s WWF has supported research and successful antipoaching projects in Suriname and Brazil. Protected areas have been set up (Kemf, *et al.*, 2000). WWF supports Project TAMAR for activities related to tourism and the conservation of green turtles in the Island Fernando de Noronha Marine National Park (McLellan *et al.*, 2004).

Brunei Darussalam:
Status: Not a Party to CMS.
CMS actions:
Other actions:

BULGARIA (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

CAMEROON:
Status:
CMS actions: None reported.
Other actions:

Canada:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Cape Verde (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:

CHILE:
Status: Its distribution range in the Chilean Pacific goes from Africa to Chilé, Region X; however, the southern limit has been identified for Desolación island, in Region XII. It is a common species in Chilean waters. The population size is unknown (Chile National Report, 2002).

CMS actions: A SERNAPESCA and CPPS 2001 Workshop was held in Valparaíso to define priority action guidelines of a programme for the conservation of marine turtles. There is no future activity planned, however the desire to conduct research is always present (especially research into green turtle distribution and migration) through satellite monitoring (Chile National Report, 2002).

Other actions:

China:
Status:
CMS actions: Not a Party to CMS.

Other actions:

Colombia:

Status:

CMS actions: Not a Party to CMS.

Other actions: As part of its trans-Pacific marine turtle conservation efforts, WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

Comoros:

Status:

CMS actions: Not a Party to CMS.

Other actions:

CONGO (?):

Status:

CMS actions: None reported.

Other actions:

D.R. CONGO:

Status: None reported.

CMS actions:

Other actions:

Cook Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF is working with communities in the Cook Islands to ensure that local people do have access to the information they require to sustainably manage their natural resources, including marine turtles. Part of this is through supplying tags to those communities in the outer islands who want to participate in a tagging programme, as well as directly tagging and releasing turtles caught in Rarotonga Lagoon. Additionally, WWF has run awareness programmes including through a migrating green turtle tagged in Palmerston Atoll. The whole community became involved with the schoolchildren plotting the migration route of the turtle as it travelled across the sea (McLellan *et al.*, 2004).

Costa Rica:

Status: Tortuguero, on the Atlantic coast of Costa Rica, is the largest nesting site of the green turtle in the Atlantic Ocean (Kemf, *et al.*, 2000). The species also nests at Playa Naranjo on the Pacific Coast. During the 1980s The apparent increase in Leatherback nesting at Playa Naranjo occurred in parallel with a decrease in nesting by green turtle *Chelonia mydas*. In 1989-1990, 466 tracks of this species were registered, in 1990-1991 there were 1,212 tracks, and in a short period in 1993-1994 there were 152 tracks. It is uncertain whether the current increase in the nesting female numbers in Tortuguero, Costa Rica, will be hampered by the ongoing catch of thousands of green turtles for their meat in Nicaragua (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000). After a time in the 1960s when nearly every green turtle coming to nest there was taken for the export market for turtle soup, Tortuguero is now a success story in demonstrating the economic benefits of live turtles

versus dead ones. Each year, some 50,000 tourists visit Tortuguero to see the nesting turtles and other wildlife. The local community benefits directly from the tourism, for example through serving as certified guides to lead tourists on nightly turtle watching excursions (McLellan *et al.*, 2004).

COTE D'IVOIRE (br?)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Cuba:

Status: Cuba and Dominica are proposing to reopen international trade in green turtle products (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF is active in marine turtle conservation in Cuba on a number of fronts. WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology at Guanahacabibes (McLellan *et al.*, 2004).

CYPRUS:

Status:

CMS actions: None reported.

Other actions:

Djibouti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status: Cuba and Dominica are proposing to reopen international trade in green turtle products (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ecuador:

Status: Marine turtles were threatened by foreign fishing fleets (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF funded research is conduceted at the Galapagos Islands (Kemf, *et al.*, 2000). Studies carried out by NOAA in the Atlantic Ocean suggest that adaptations to the fishing gear can significantly reduce bycatch of marine turtles. Working closely with the IATTC and NOAA,WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-hooks to circular

hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status: Green turtle comprise one in every three turtles killed for human consumption (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Fiji:

Status: The waters off Fiji provide important foraging grounds for marine turtles, especially green turtles which have been recorded travelling from as far afield as French Polynesia, American Samoa and Eastern. Turtle hunting was a traditional activity and many Fijians, Indians and Rotumans now consider turtles to be common property. Turtles are targeted for general consumption as well as for sale in local markets. The eggs are also targeted for subsistence purposes. In addition, turtle shells are still sold for both ornamental curios and jewellery McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Export of turtle shells has been prohibited since 1990, although a number of exemptions have been granted. A five year moratorium was imposed on the killing of turtles, the taking or destroying of eggs, and the trade of turtle meat and eggs from 1995 to December 2000. This was not totally renewed immediately, after the first five years. However, partly through WWF's recent participation in a collaborative national survey of the status of marine turtles, and lobbying of the government by WWF, other organisations and community members, the government has extended the moratorium from 2004 for another five years (McLellan *et al.*, 2004).

In Fiji, WWF is helping the customary resource owners of Ono Island to set up a community-based Marine Protected Area (MPA). Through this support, local people have acquired new skills in monitoring the health of their reefs. There is also a current ban on the catching of turtles within their MPA. To enforce the rules developed by the community, a number of villagers have been appointed and trained as honorary fisheries'wardens (McLellan *et al.*, 2004).

The same approach is being used to develop a strategy to integrate turtle conservation into community-based marine protected areas in the Great Astrolabe Reef, Kadavu. WWF has carried out marine conservation awareness programmes targeted at customary resource owners, and will be working with

them to establish an MPA to protect hawksbill turtle nesting sites at Qasibale Island. As part of establishing the MPA, WWF will assist customary resource owners with an assessment of their current marine turtle hunting practices (traditional and non-traditional), and
with developing and implementing management measures to protect and conserve turtle populations in the area (McLellan *et al.*, 2004).

France:

Status:

French Polynesia

Numbers of green turtle have decreased by more than half in French Polynesia since the 1940s (Kemf, *et al.*, 2000).

French Guiana

Green turtles nest on French Guiana's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS for this species.

Other actions:

French Guiana

Since 2000,WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally (McLellan *et al.*, 2004).
It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

New Caledonia

WWF conducted a green turtle tagging programme on the Entrecasteaux Reefs of New Caledonia in 2002. New nesting sites were located and 232 green turtles were tagged. Approximately 1,500 green turtle females and a few hundred loggerhead females were estimated from the monitoring of nesting sites. Knowledge of the loggerhead populations in southern New Caledonia has been identified as a major information gap in the management and conservation of Pacific populations of loggerheads — which are possibly down to as few as 2,000 nesting females (McLellan *et al.*, 2004).
To accompany the tagging effort, educational materials for local communities were produced, and WWF is working with various provinces to improve the conservation legislation aimed at protecting endangered species such as marine turtles (McLellan *et al.*, 2004).

Gabon (?):

Status: Offshore seagrass is important green turtle feeding ground (Kemf, *et al.*, 2000).
All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) in Gabon (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

GAMBIA (?):

Status:

CMS actions: None reported.

Other actions:

GHANA:

Status:

CMS actions: None reported.

Other actions:

GREECE:

Status:

CMS actions: None reported.

Other actions:

Grenada:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Guatemala:

Status:

CMS actions: Not a Party to CMS.

Other actions:

GUINEA:

Status: From the third quarter of the rainy season (July to mid-October), green turtles are plentiful and spread out over the whole of the coastal area of Guinea (Guinea National Report, 2002).

CMS actions: Preliminary research has been carried out by The Boussara National Centre of Halieutic Research (CNRHB) (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status: Satellite telemetry studies in Guinea Bissau with the support of the International Foundation for the Banc D'Arguin (FIBA), indicate that green turtles move between nesting areas in Guinea Bissau and feeding grounds in The Banc D'Arguin National Park in Mauritania (McLellan *et al.*, 2004).

CMS actions: CMS has funded a study of the distribution and migration pattern of green turtle populations nesting at Poilao. This study is being implemented by the Marine Turtle Research Group, University of Wales, Swansea.

Other actions: Important nesting and feeding grounds for green turtles in the region have been supported by WWF since 1976.A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Guyana:

Status: Green turtles nest on this country's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation

and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Shell Beach in Guyana is the last remaining section of natural coastline and mangrove forests in the country. It hosts green turtle nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve (McLelland *et al.*, 2004).

Under the coordination of the Guyana Marine Turtle Conservation Society, WWF has, over the years, supported most marine conservation initiatives including monitoring, beach protection, and enforcement of fishing bans during the nesting season. In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project — an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

INDIA:

Status:

CMS actions: None reported.

Other actions:

Indonesia:

Status: Numbers of green turtle in Indonesia have decreased tenfold since the 1940s (Kemf, *et al.*, 2000) and the population is just a fraction of its former size (IUCN, 2003).

Bali

Bali has been called "the centre of the most intensive exploitation of green marine turtles for human consumption in the world". The total number of green turtles traded in Bali during 1969 – 1994 averaged about 20,000 per year. WWF, amongst other international organisations, raised international awareness of this situation and undertook an initial investigation into the turtle trade in Bali in 1984. Despite local and national laws and regulations being issued in the late 1980s, the turtle harvest did not change markedly from the mid 1980s to the mid 1990s (McLellan *et al.*, 2004).

Other species of marine turtle were afforded complete protection, but the green turtle was still subject to a quota system of 5,000 turtles per year, officially for religious purposes only. However, more than 20,000 green turtles were still caught each year. Recent research has indicated that this turtle fishery affects most of the genetically distinct populations of green turtles in the Indo-Australasian region (McLellan *et al.*, 2004).

Berau

The Berau islands support the largest aggregations of the species in the Asia Pacific region (Kemf, *et al.*, 2000).

Kalimantan

The nesting population of green turtles in the Derawan Islands, East Kalimantan, Indonesia, with more than 5,000 females per year, is one of the largest in Southeast Asia. However, numbers of turtles have been decimated (over a 90% decline) in the last 50 years, mainly due to egg collection. The sale of egg concessions is under local government control and is one of the major sources of income for the local government. Despite this dramatic decline in the nesting population, the numbers of eggs harvested annually have been rising, but this simply reflects an increase in collecting effort. Unfortunately, this increasing egg collection, and the regular presence of turtles in the water around the Islands, masks the fact that the population faces an imminent and irreversible crash (McLellan *et al.*, 2004).

CMS actions:

Not a Party to CMS.

Other actions:

Bali

WWF initiated a large marine turtle campaign in 1995, focusing on awareness raising and education using traditional daily events to deliver the messages. Additionally, WWF formed an alliance with the Hindu High Council to investigate the roles of marine turtles to other life on earth, in the Veda (the holy Hindu script). The Hindu High Council has undertaken much work to persuade Balinese people to replace turtle meat with alternatives during religious festivals (McLellan *et al.*, 2004).

The green turtle was finally totally protected by law in 1999, and the earlier Governor's Decree setting the quota was repealed. However, when the law was enforced through turtle confiscations and fines, the fishermen protested. WWF and the Bali government have collaborated on many recent initiatives to curb the consumption level and provide alternatives, including developing a national action plan and local turtle monitoring and enforcement teams — the Turtle Task Forces (McLellan *et al.*, 2004).

WWF is now concentrating on developing a sustainable financing scheme for the Turtle Task Forces, protected areas for critical habitats and a network of turtle based tourism that includes Bali, Berau and East Java.WWF, the government and several other conservation organisations are working towards a target of 90% reduction of current green turtle trade levels by 2005 (McLellan *et al.*, 2004).

Berau

In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held funded by WWF which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included Berau Island (Kemf, *et al.*, 2000).

Kalimantan

Existing conservation measures included a requirement for setting aside 10% of nests and a government supervised head-start programme, however these are considered insufficient to stabilize or restore the population levels (McLellan *et al.*, 2004). In 2000, WWF started a monitoring and outreach programme on

Sangalaki Island, to build local support for conservation through partnerships and to demonstrate that an ageing female population with little current recruitment will not support any turtle based industry into the future, whether egg-collection or tourism. After six months of data-collection and lobbying, WWF succeeded in having the set-aside quota for conservation doubled to 20% and was invited to provide technical advice on turtle resource management efforts (McLellan *et al.*, 2004).

Additionally, a multi stakeholder workshop conducted recently by WWF Indonesia and partners developed a common vision, strategies and action plans for sustainable use of marine turtles in the islands. The most critical outcome was the target of full protection from turtle egg harvesting for Sangalaki (the major turtle rookery) and Derawan Islands (McLellan *et al.*, 2004).

Currently, WWF and the local government are working to strengthen and expand the partnership between key local government decision makers, the private sector, including local and national tourism industries, to create a sustainable financing scheme for managing the turtle population in the region, and to promote the designation of 70,000 hectares of waters surrounding Sangalaki and Panjang Island (in Derawan Islands) as marine turtle sanctuary areas (McLellan *et al.*, 2004).

I.R. Iran:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ISRAEL:

Status: Eight nests were found in the Mediterranean shore during the 2000 season, and about 800 hatchlings were released. In 2001, three nests were found (Israel National Report, 2002).

CMS actions: Nesting surveys are being conducted and nests are being translocated locally to protected enclosures. Hatching turtles are then released. Stranded and injured turtles are cared for at a rehabilitation centre (Israel National Report, 2002).

Other actions:

ITALY:

Status:

CMS actions: None reported.

Other actions: WWF is conducting a campaign in Italy to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment,

rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status: The green turtle has been prized for its meat since the 1500s, especially in Caribbean islands like Jamaica (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Green turtles are found along entire Kenyan coastline though with seasonal variations in the distributions (Kenya National Report, 2002).

CMS actions: Green turtles are monitored by aerial surveys. Fishermen have been detailed in some areas to file reports on sighting. Hatchlings reintroduced. Future plans include protection of nesting sites through community participation and enforcement of relevant laws and more public education and awareness (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

Kiribati:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Lebanon:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Liberia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: None reported.

CMS actions:

Other actions:

Madagascar:

Status: This species nests in Madagascar (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Community-based conservation projects have been set-up in the Fort Dauphin area. In 2002/2003 WWF initiated tagging activities in northern Madagascar, and commenced a trade assessment at two high-risk sites together with small scale awareness activities (McLellan *et al.*, 2004).

Malaysia:

Status: There is near total egg harvest in this country (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: ***Sarawak***

Annual egg production in Sarawak dropped from 2,200,000 eggs in the mid 1930s to 175,000 in 1995 (McLellan *et al.*, 2004).

Sabah

Strong conservation management regimes in Sabah Turtle Islands National Park has led to a recovery in numbers (Kemf, *et al.*, 2000). In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

The Turtle Islands are major rookeries for green and hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have shown that this group of islands is a single well-defined marine turtle rookery with one population of green turtles. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. In 1996, a bilateral agreement was signed, establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

Peninsular Malaysia

WWF conducts the Community Education and Awareness Programme on Turtle Conservation in partnership with the Department of Fisheries at the recently established Ma' Daerah Turtle Sanctuary Centre, a hatchery and interpretation centre, in the Terengganu state on the east coast of peninsular Malaysia. This Sanctuary is a nesting site primarily of green turtles, although some olive ridley and leatherback also nest here. The programme aims to establish local community interest and action groups for the conservation of turtles in Ma'Daerah, to build the capacity of local communities on turtle conservation, and to lobby for the gazettal of Ma'Daerah as a turtle sanctuary (McLellan *et al.*, 2004).

Maldives:

Status:
CMS actions: Not a Party to CMS.
Other actions:

MALTA:
Status:
CMS actions: None reported.
Other actions:

Marshall Islands:
Status: Not a Party to CMS.
CMS actions:
Other actions:

MAURITANIA:
Status: The Banc d'Arguin National Park is an important nesting and feeding ground for this species of turtle. Several thousand turtles per year are killed as by-catch in the local shark fishery (Kemf, *et al.*, 2000). Satellite telemetry studies in Guinea Bissau with the support of the International Foundation for the Banc D'Arguin (FIBA), indicate that green turtles move between nesting areas in Guinea Bissau and feeding grounds in The Banc D'Arguin National Park in Mauritania (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: Turtles enjoy some protection in the Banc d'Arguin National Park which is supported by WWF (Kemf, *et al.*, 2000). This important nesting and feeding ground for green turtles has been supported by WWF since 1976. A regular tagging programme is now needed to build on these initial telemetry studies and clarify the movement of these turtles. As a first measure towards this, WWF and partners will conduct a training workshop on turtle tagging and census techniques at the beginning of the 2004 nesting season (McLellan *et al.*, 2004).

Mauritius (including Rodrigues):
Status:
CMS actions: Not a Party to CMS.
Other actions:

Mexico:
Status: All species of Mexican sea-turtle are under threat. The East Pacific green (or black) turtle had almost disappeared by the 1977 (Kemf, *et al.*, 2000). There has been a more than 80% decrease in the population in Pacific Mexico (IUCN, 2003).

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

F.S. Micronesia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

MOROCCO (?):
Status:
CMS actions: None reported.

Other actions: Between 1989 and 1993, WWF supported a project to survey the extent of mortality and to identify key breeding, feeding and overwintering areas for green turtle (Kemf, *et al.*, 2000).

Mozambique:

Status: Shallow coastal areas such as the Sofala Bank, rich in sea grasses, are prime feeding grounds for green turtles which make them especially vulnerable to bycatch in the shrimp trawl fishery (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Myanmar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Namibia:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Nauru (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS:

Status: Reported as breeding in the Netherlands Antilles (van Buurt, 1984).

CMS actions: None reported.

Other actions:

NEW ZEALAND (Tokelau):

Status: Reported as breeding (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Nicaragua:

Status: It is uncertain whether the current increase in the nesting female numbers in Tortuguero, Costa Rica, will be hampered by the ongoing catch of thousands of green turtles for their meat in Nicaragua (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA (?):

Status:

CMS actions: None reported.
Other actions:
Niue (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:
Oman:
Status: The Masirah Channel and Sawqirah Bay were major green turtle nesting areas. The harvest of eggs and meat which had proceeded for generations was in severe decline (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: The government of Oman has been concerned to protect the remaining green turtle. Surveys have been undertaken (Kemf, *et al.*, 2000).
PAKISTAN:
Status:
CMS actions: None reported.
Other actions:
Palau:
Status:
CMS actions: Not a Party to CMS.
Other actions:
PANAMA:
Status:
CMS actions: None reported.
Other actions:
Papua New Guinea:
Status:

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).
PERU:
Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen,
villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale

of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: None reported.

CMS actions:

Other actions: The Turtle Islands are major rookeries for green and hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have shown that this group of islands is a single well-defined marine turtle rookery with one population of green turtles. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. WWF was instrumental in the facilitation of cooperation between the two countries, leading to the signing in 1996 of a bilateral agreement establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

PORTUGAL (?):

Status: *Chelonia mydas* is a rare visitor to Portuguese waters. Most individuals observed at Madeira and the Azores are juveniles (Portugal National Report, 2002).

CMS actions: Monitoring activities for *Caretta caretta* will detect *Chelonia mydas.* Future activities targeting *Caretta caretta* will benefit this species indirectly (Portugal National Report, 2002).

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions: The Samoan Government declared its political commitment to establishing its 120,000km2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary

in 2002 (McLellan *et al.*, 2004).

SAO TOME AND PRINCIPE:

Status: None reported.
CMS actions:
Other actions:

SAUDI ARABIA:

Status: None reported.
CMS actions:
Other actions:

SENEGAL:

Status: This species is present in abundance in the National Park of Delta of the Saloum. There is also a presence in the north of the country in the National Park of the Barbary Coast (Senegal National Report, 2002).

Feeding grounds in Sine Saloum, are considered to be regionally important for marine turtles. However, turtles are under many threats here as elsewhere, including through local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan *et al.*, 2004).

CMS actions: Intensive conservation and protection work is carried out. There will be in future, consolidation of current work by putting in place a national strategy for the conservation of turtles (Senegal National Report, 2002).

Other actions: WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

Through consultation with WWF and other NGOs and the local communities, the Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, effectively protecting fisheries and biodiversity covering more than 7,500 sq. km. These represent a doubling of the marine protected areas for Senegal, and will protect regionally important feeding and nesting grounds for five species of marine turtles. Local communities strongly support the protected areas as a means to safeguard these important natural resources for the future (McLellan *et al.*, 2004).

Seychelles:

Status:
CMS actions: Not a Party to CMS.

Other actions: WWF funded a field study of green turtle in the 1980s, leading to a number of government conservation measures (Kemf, *et al.*, 2000).

Sierra Leone:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Singapore:

Status:
CMS actions: Not a Party to CMS.
Other actions:

SLOVENIA:

Status:
CMS actions: None reported.
Other actions:

Solomon Islands:
Status:
CMS actions: Not a Party to CMS.
Other actions:

SOMALIA:
Status:
CMS actions: None reported.
Other actions:

SOUTH AFRICA:
Status;
CMS actions: None reported.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:
Status:
CMS actions: None reported.
Other actions:

SRI LANKA:
Status:
CMS actions: None reported.
Other actions:

Sudan:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Suriname:
Status: There is a distinct green turtle population breeding in Suriname and feeding in waters off the Brazilian coast (Kemf, *et al.*, 2000). Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since the 1980s WWF has supported research and successful antipoaching projects in Suriname and Brazil. Protected areas have been set up (Kemf, *et al.*, 2000). Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan developed by WWF and partners has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan

et al., 2004).

In Suriname, WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations, such as the community-based Stidunal, are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

SYRIAN ARAB REPUBLIC:

Status:

CMS actions: None reported.

Other actions:

U.R. TANZANIA:

Status: The population size is not known. It was estimated to be about 300 individuals nesting annually in 1982 in Tanzania. The population trend is not known, however, there is much evidence that a number of former turtle nesting areas have been vacated and those suitable nesting sites are in decline. Reported to be breeding at Saadani, Bagamoyo, Kilwa (?), Mtwara, Pemba, Zanzibar and Mafia Islands and adjacent smaller islands. Recent estimates in two sites are of 50 nesting females in Mafia and 30 in Mnemba Island, Zanzibar (U.R. Tanzania National Report, 2002).

CMS actions: Seventeen active nesting beaches on Mafia Island are monitored regularly by Mafia Island Turtle and Dugong Conservation Programme. A proposal has been developed by the Mafia Island District with assistance from the Mafia Island Turtle and Dugong Conservation Programme to close Nyoro, Shung-mbili and Mbarakuni Islands adjacent to Mafia for temporary settlements part or whole year for turtle nesting to recover. A technical committee that will coordinate all turtle conservation programmes in The United Republic of Tanzania has been formed (U.R. Tanzania National Report, 2002).

Other actions: WWF is working with local communities on Mafia Island on a variety of natural resource management topics, including fisheries management, alternative non-destructive fishing ventures and marine turtle conservation. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and Born Free Foundation, amongst others (McLellan *et al.*, 2004).

Over the last nesting season on Mafia Island, over 10,000 hatchlings were produced from nest protection, and the rate of human poaching fell to 4% of previous levels. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: There is near total egg harvest in this country (Kemf, *et al.*, 2000). By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were,

and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various WWF sponsored conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

TOGO (?):

Status:

CMS actions: None reported.

Other actions:

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Trinidad and Tobago:

Status:

CMS actions: Not a Party to CMS.

Other actions:

TUNISIA:

Status: The extensive seagrasses of the Gulf of Cabes are a major foraging area for green turtle. Until the late 1980s around 3,000 were being killed annually in the Gulf, and a total of 6,000 in Tunisia as a whole (Kemf, *et al.*, 2000).

CMS actions: None reported.

Other actions: Between 1989 and 1993, WWF supported a project to survey the extent of mortality and to identify key breeding, feeding and overwintering areas (Kemf, *et al.*, 2000).

Turkey:

Status: Green turtles breed on the Turkish coasts of the Mediterranean Sea (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF and other NGOs are working to protect Turkey's nesting turtles. Many of the nesting beaches are now protected areas (Kemf, *et al.*, 2000). The first systematic surveys of nesting beaches for the two marine turtle species breeding on the Turkish coasts of the Mediterranean Sea — the loggerhead and green turtle — started in 1979. In 1988, 17 sites were designated as Marine Turtle Nesting Sites. however, a recent report from WWF indicated that 64 per cent of these sites are not adequately protected. The report, In the Tracks of Marine Turtles: Assessment of Marine Turtle Nesting Sites 2003,was distributed during the First Turkish National Marine Turtle Symposium, which was held in December 2003 in Istanbul, Turkey and organized by WWF-Turkey. A draft National Action Plan for Marine Turtles was formulated during the Symposium. It included recommendations to prepare a final National Action Plan for the conservation of marine turtles and their habitats as soon as possible; to establish marine turtle rescue and rehabilitation centres; and to standardize methods employed in conservation and monitoring of the nesting sites (McLellan *et al.*, 2004).

Tuvalu:

Status:

Not a Party to CMS.

CMS actions:
Other actions:

United Arab Emirates:

Status:
CMS actions: Not a Party to CMS.
Other actions:

United Kingdom (Anguilla):

Status: Reported as breeding (Richardson and Gumbs, 1984). Numbers of green turtle are starting to recover in Anguilla since a 5 year moratorium on harvesting the species was imposed in 1995 (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.
Other actions:

UNITED KINGDOM:

Status: ***Grand Cayman***

The green turtle has been prized for its meat since the 1500s, especially in Caribbean islands like Grand Cayman (Kemf, *et al.*, 2000).

Saint Helena*

Breeding reported (Mortimer and Carr, 1987).

CMS actions: None reported.
Other actions:

United States:

Status: The incidence of tumours in green turtle populations started to rise dramatically in Hawaii and Florida in the 1980s where over half the animals were found to be affected (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: In the United States, green turtles are protected by the Endangered Species Act (Animal Diversity Web, 2004). Strong conservation management regimes in Florida have led to a recovery in green turtle numbers (Kemf, *et al.*, 2000).

URUGUAY:

Status: No information available (Uruguay National Report, 2002).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions:

Vanuatu:

Status:
CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of

people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. Before the performances, many people were unaware of the endangered status of marine turtles, yet as a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:

Status: Aves Island is the site of the only known major green turtle rookery in the eastern Caribbean (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF has funded a survey at Aves Island which is now a sanctuary (Kemf, *et al.*, 2000).

Viet Nam (?):

Status: Populations of loggerhead, leatherback, green and hawksbill turtles are in serious decline (Kemf, *et al.*, 2000). Up to 300 green turtles nest in Con Dao National Park annually (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF has been working at one of the biggest nesting sites of green turtles since 1995, in Con Dao National Park, an archipelago 60km off the south coast of Viet Nam. WWF commenced its work with a marine turtle monitoring project, and broadened the training over successive years to include 'reef check' monitoring training (in 1998), MPA management and ecosystem monitoring (from 1998), and sponsoring visits by Park personnel to other ASEAN MPAs. In 2000, a national Asian Development Bank (ADB) /WWF project used Con Dao National Park as a demonstration site aimed at integrating marine biodiversity conservation into the overall environmental management of the island system. Following this and other studies, a formal plan for the establishment of a representative system of MPAs (covering a proposed 17% of the EEZ) was drafted by the Ministry of Fisheries, in consultation with national specialists and other organisations including WWF and IUCN. The network currently comprises 15 proposed sites, with a focus on tropical island ecosystems, some of which host other turtle nesting populations, and provide critical offshore turtle habitats. This system is expected to be approved in early 2004, and WWF will advocate Con Dao National Park, with its history of trained personnel and ecosystem monitoring, as a model of management for the rest of the network (McLellan *et al.*, 2004).

Yemen:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Additional information - Western Sahara (br?)*:

Reported as possibly breeding here (UNEP-WCMC, 2004).

Status:

None.

Actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Dermochelys coriacea* (Vandelli, 1761)

SYNONYMS: -

COMMON NAME: Leatherback; Leathery Turtle; Luth; Trunkback turtle (English); Tortue luth (French); Canal; Tinglada; Tortuga laud (Spanish)

RANGE STATES: ALBANIA; Algeria; Angola; Antigua and Barbuda; ARGENTINA; AUSTRALIA; Bahamas; Bahrain; Bangladesh; Barbados; Belize; BENIN; Brazil; Brunei Darussalam; Cambodia; Canada; CAMEROON; CHILE; China; Colombia; Comores; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Costa Rica; COTE D'IVOIRE; CROATIA; Cuba; CYPRUS; Djibouti; Dominica; Dominican Republic; Ecuador; EGYPT; El Salvador; Eritrea; Equatorial Guinea; Fiji; FRANCE (including Corsica, French Guiana, Guadeloupe); Gabon; GAMBIA; GHANA; GREECE; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; Iceland; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; ITALY; Jamaica; Japan; KENYA; Kiribati; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; Lebanon; Liberia; LIBYAN ARAB JAMAHIRIYA; Madagascar; Malaysia; Maldives; MALTA; Marshall Islands; MAURITANIA; Mauritius; Mexico; Micronesia (Federated States of); MONACO; MOROCCO (?); Mozambique; Myanmar; Namibia; Nauru; NETHERLANDS (Aruba); NEW ZEALAND; Nicaragua; NIGERIA; NORWAY; Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU (?); PHILIPPINES; PORTUGAL; Russian Federation; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Seychelles; Sierra Leone; SLOVENIA; Solomon Islands; SOMALIA; SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; SYRIAN ARAB REPUBLIC; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO; Tonga; Trinidad and Tobago; TUNISIA; Turkey; Tuvalu; United Arab Emirates; UNITED KINGDOM (including British Virgin Islands); United States (including Alaska, Hawaiian Islands, Puerto Rico, United States (Virgin Islands); URUGUAY; Vanuatu; Venezuela; Viet Nam; Yemen; international waters (Mediterranean Sea, Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: CR A1abd (Sarti Martinez, 2000)

CONSERVATION STATUS AND ACTIONS:

The leatherback turtle has a worldwide distribution. Very little is known about the distribution of post-hatchlings and juveniles (IUCN, 2003). Nesting occurs on beaches of tropical seas in the Atlantic, Indian and Pacific oceans and occasionally in the subtropics and Mediterranean (Pritchard, 1980). Most sites are located between 30°N and 20°S (Groombridge, 1982). Away from the nesting site, individuals are known to move into temperate waters to feed. Major non-breeding leatherback areas include, the New England area of north-east U.S.A., including the Gulf of Maine (Lazell, 1980); the eastern Atlantic, notably parts of the Bay of Biscay (Duron and Duron, 1980); the east Pacific between Peru and Ecuador (G. M. Hurtado, pers. comm. to M. R. Márquez in Groombridge, 1982), and the east coast of Australia (Cogger, 1979; Limpus and McLachlan, 1979).

The Leatherback turtle was widely considered to be on the brink of extinction in the mid 20th century. However, in the early 1980s, although the total population of leatherbacks was found to be much larger than had previously been thought, and no evidence for an overall decline in the species was found, breeding populations were mostly of relatively small size (with only a few hundred, or fewer, females nesting annually), were widely scattered through the tropics, and were often subject to heavy exploitation for food (Pritchard and Cliffton, 1981; Ross, 1982a). Perhaps half a dozen sites appeared to hold a few hundred females per year, and many held only a few individuals.

The first attempt to evaluate the world population was done by Ross in 1979 (Ross 1982), estimating than 29,000 to 45,000 adult leatherback existed in the world, not counting the rookeries of the Eastern Pacific which had not been discovered yet. Pritchard estimated in 1982 that the world population consisted of 115,000 adult females, and considered that the Mexican population supports up to 60% of the global total. In 1996, Spotila and collaborators provided the most recent global estimation, compiling published data, unpublished information and personal comments from 28 leatherback nesting sites, estimating that 20,000 to 30,000 adult females existed at that time in the world. This represents a reduction of the global population of 78% from Pritchard's estimation in 14 years, less than a single generation.

Recently, there have been only four major Leatherback nesting areas where over 1,000 females have been recorded nesting annually: the Pacific coast of Mexico, French Guiana (with a population that is apparently partly shared with Suriname), Trengganu (Peninsular Malaysia) (which has experienced huge declines), and the Kepala Burung (Vogelkop) region of Irian Jaya, Indonesia. A nesting population on the coast of Gabon would appear to be a fifth nesting population of global significance (UNEP-WCMC, 2003).

Regional population estimates for nesting adult leatherback turtles are as follows: 18,800 in the Western Atlantic, 4,021 in the Caribbean, 4,787 in the Eastern Atlantic, 445 in the Indian Ocean, 1,838 in the Western Pacific (Spotila *et al.,* 1996) and 1,690 in the Eastern Pacific (Spotila *et al.,* 2000).

ALBANIA:

Status: One specimen was caught in the 1960s (Haxhiu, 2002).

CMS actions: None reported.

Other actions: The University of Tirana and the Natural Sciences Museum are updating information on marine turtles in Albania, including their status along the Albanian coasts, and are developing awareness programmes among Albanian people and fishermen (Hazhiu, 2002)

Algeria:

Status: Leatherback turtles have been recorded here (Groombridge, 1990)

CMS actions: Not a Party to CMS.

Other actions:

Angola:

Status: Nesting leatherback turtles have been recorded here (Huntley, 1972). At least 30 leatherback nests were reported on one beach in the Parque Nacional da Quicama in December 1971 (Huntley, 1972).

CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ARGENTINA:

Status: Leatherback turtles have been reported to occur here (Chebez, 1987; Richard, 1988).

CMS actions: None reported.

Other actions: The Peyu Project is an NGO that promotes community education and awareness of the issues marine turtles are facing, as well as scientific research on Argentinean coasts. The project also seeks to promote research funding for people and institutions interested in the conservation of marine turtles. The Peyu Project also integrates with other regional projects, such as Kerumbé in Uruguay and Tamar in Brazil (Proyecto Peyu, 2003).

AUSTRALIA:

Status: Only a small population of leatherback turtles have been found breeding and nesting in eastern Australia, mainly from December to January, and they do not nest in Australia in any significant numbers. Animals from populations in Papua New Guinea, Malaysia and Indonesia use the continental waters of Australia to feed and migrate to temperate waters. While a small number of females nest in scattered sites in Queensland, New South Wales and the Northern Territory, there have only been a small number of sightings off the mid-west coast of Australia, and very rarely there are sightings off Victoria and Tasmania (Australia National Report, 2002).

While a small number of females nest in scattered sites in Queensland, New South Wales and the Northern Territory, there have only been a small number of sightings off the mid-west coast of Australia, and very rarely there have been sightings off Victoria and Tasmania (Australia National Report to CMS, 2002).

Only one or two females were recorded nesting annually along l00km of Queensland coast from Mon Repos beach at Bundaberg north to Round Hill Head (Limpus, 1982, 1984, 1994a; Limpus and McLachlan, 1979). Leatherbacks were also recorded as nesting in northern New South Wales by Tarvey (1993).

CMS actions: Various research topics including development of GIS-based models for indigenous management, monitoring the impact of trawling and other commercial fisheries, populations studies are mentioned in the Australia National Report (2002).

Other actions: Despite its World Heritage status, the Great Barrier Reef Marine Park (GBRMP), until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR. (McLellan *et al.*, 2004).

Firstly, GBRMPA has adopted a scientific recommendation that a minimum of 25-30% of the Marine Park be protected from fishing, and that the green zones network will protect critical nesting, foraging and migration habitats of marine turtles, amongst other endangered species.

WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. Sea Rangers are Aboriginal community representatives who have the responsibility of managing their natural resources. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

Bahamas:

Status: Leatherback turtle nesting has been recorded here (Anon., 2001), but in small numbers (Anon., 2001).

CMS actions: Not a Party to CMS.

Other actions:

Bahrain:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status: Leatherback nesting has been recorded here (Islam, 2002). One confirmed nest was observed in Shill Banyar Gula in May 2001 (Islam, 2002).

CMS actions: Not a Party to CMS.

Other actions:

Barbados:

Status: Leatherback nesting has been recorded here, but only a few each year (Horrocks, 1987, 1992).

CMS actions: Not a Party to CMS.

Other actions: In 1992, the NGO Widecast produced the 'Sea Turtle Recovery Plan for Barbados' for the UNEP- Caribbean Environmental Program. The plan was produced in response to the objectives of the Specially Protected Areas and Wildlife Protocol (SPAW protocol), an instrument derived from the Cartagena Convention (a regional convention for the Great Caribbean region), and was part of a series of plans developed in the Caribbean for the protection and conservation of marine turtles. The plan determines the status and distribution of marine turtles in Barbados, identifies threats to marine turtles in the region and proposes solutions for such threats; it also sets out recommendations for governmental and non-governmental organisations (Horrocks, 1992).

BELGIUM (v)*:

Status: Leatherback turtles have been reported from Belgium (UNEP-WCMC, 2004). The first record was noted by van Gompel (1990) and the species was subsequently recorded by Haelters and Kerckhof (1999).

CMS actions: None reported.

Other actions:

Belize:

Status: Leatherback turtles have been reported here (Stafford, 1998). This species is rare, found in low densities it is unlikely to be seen, and only known from a few localities (Ministry of Natural Resources' Land Information Centre, 1998).

CMS actions: Not a Party to CMS.

Other actions:

BENIN:

Status: Leatherback turtles are second most frequently observed species of marine turtle after the olive ridley (Benin National Report, 2002). Nesting has been confirmed in Benin (Dossou-Bodirenou *et al.,* 1999; Abdoulaye, pers. comm.).

CMS actions: According to the Benin National Report (2002), conservation activities include safeguarding of supposed egg-laying sites. Future activities will involve raising the awareness of the public.

Other actions:

Brazil:

Status: The species has been recorded nesting in Espirito Santo (Carr *et al.*, 1982; Sternberg, 1981), Rio Grande do Sul and Santa Catarina (Soto *et al.*, 1997), and Rio de Janeiro (Barata and Fabiano, 2002). Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: The TAMAR project, initiated by the Brazilian Institute of Forestry in 1980, aims to produce information for the preservation and conservation of turtles. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).

Currently the project involves research on the behaviour and population genetics of turtles, research on turtle reproduction, incubation, and hatchlings as well as on other aspects of their biology (Projeto Tamar, 2003).

Brunei Darussalam:
Status:

CMS actions: Not a Party to CMS.
Other actions:

Cambodia:
Status: One leatherback was recorded in May 2001 (Stuart *et al.*, 2002).

CMS actions: Not a Party to CMS.
Other actions:

CAMEROON:
Status: Nesting remains to be confirmed on beaches in northern Cameroon in the area between Kribi and the Nigerian border (Fretey, 2001). Leatherbacks used to nest in Cameroon in greater numbers according to local sources (Fretey, 1999).

CMS actions: During 2000, inventories of nesting sites of marine turtles that visit Cameroon's coasts were undertaken in southern Cameroon; tagging activities have been also developed in the Campo-Ma'an and Douala-Edea reserves (UNEP/CMS, 2000).

Other actions:

Canada:
Status: The species occurs in Canada regularly (Goff, 1988; James, 2000a and b).

CMS actions: Not a Party to CMS.

Other actions: The Canada Wildlife Service is currently developing a recovery plan for this species in the Atlantic Coast. The Strategy of the plan includes the identification of critical habitats for Pacific population recovery and areas of potential conflict, the development of a database and the reporting all sightings of this species sightings. Other activities involving tagging, telemetry and workshops have also been undertaken (Species at Risk, 2003).

On a more local level, the Nova Scotia Leatherback Turtle Working Group is a collaborative conservation and research initiative that involves scientists, fishermen, coastal communities, boat operators and other people interested in the conservation of Llatherbacks. It has operated since 1997 and recuperation and conservation of the species are its aims. Part of the conservation effort is the involvement of commercial fishermen as partners in the research (LTWG, 2003). The Nova Scotia Leatherback Turtle Working Group (LTWG) conducts research in the Canadian Atlantic coast focused in the species' distribution and movement, genetics, necropsy, and histopathology

(LTWG, 2003).

Cape Verde*:

Status: The species has been recorded here by UNEP/CMS (2000) and Lazar and Holcer (1998). López-Jurado *et al.* (2000) noted that there were isolated sightings by fishermen and some non-confirmed references that it nests on Boavista.

CMS actions: Not a Party to CMS.

Other actions:

CHILE:

Status: The species is a regular non-breeding visitor to Chile. The population size of leatherbacks in Chile is unknown. Published work indicates that "this is the most abundant marine turtle species in Chilean seas, as it is the most frequently caught by fishermen". In March and April 1990, 14 specimen adults were recorded, one in Valdivia and 13 in Region VIII (Chile National Report, 2002).

Brito (1998) reported on an initiative to collect information on sea turtles and their relationship with the swordfish drift net fishery. A total of 82 new records of this species were obtained for Chilean waters, including four marked individuals from Central America and Mexico, thus indicating the origin of Chilean animals; in addition, the range of the species was extended to 41°S. Frazier (1990) noted an estimate of at least 250 individuals caught annually by the San Antonio swordfish fishery (Brito, 1998).

CMS actions:

SERNAPESCA and CPPS Workshop 2001 was held in Valparaíso, Chile to define priority action guidelines of a programme for the conservation of marine turtles (Chile National Report, 2002).

Other actions:

The National History Museum and the National Fisheries Service are promoting the protection of marine turtles by providing information on the protection and care of turtles to artisanal fisheries organisations and small industries. This does not involve specific legal measures (UNEP-WCMC, 2003).

China:

Status: Leatherback turtles are rarely recorded here – one individual was caught in a set-net between 1991-1994 (UNEP-WCMC, 2003). The species is reported as nesting in the South China Sea, and occasionally as far north as the Yellow Sea (Huang 1982, Zhou 1983). Márquez (1990) noted that nesting occurred in the provinces of Kuangtung, Fukien, Chekiang, Kiangsu, Shangtung and Liaoning. Leatherback turtles have been recorded in Taiwan (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions: The Leatherback Turtle is listed as Critically Endangered in the Chinese Red Data Book and as Category II in the State Protected Wildlife (Zoological Division of Chinese Biodiversity Information Center, 2001).

Colombia:

Status: Madaune (2002) considered Acandi and Playona beaches as the most important nesting sites for leatherback turtles in Colombia. Pinzon (2000) reported that there is biannual nesting of the species in the north of the Colombian Caribbean between Gauchaca Beach and the Buritaca mouth. About 100 (Ross, 1982a) or 200-250 (Anon., 1981a) females were reported as nesting annually along the Gulf of Uraba, but in 1997 a survey in the Caribbean found only 8 nesting Leatherbacks (Amorocho *et al.*, 1999).

CMS actions: Not a Party to CMS.

Other actions: There are several conservation initiatives ongoing in Colombia, including the initiatives of the Ministry of the Environment that denominated the marine turtle as a species whose conservation is a priority. A protection program of the Leatherback has been based here since 1993, which focuses on education, research and protection activities, and on increasing awareness in local communities and national authorities (Madaune, 2002). Other initiatives for turtle conservation include technical workshops to update the information produced in the country. Although mostly targeted at Colombian researchers and conservation authorities, these workshops are international (Amorocho, 2002).

On the Caribbean coast of Colombia, WWF is providing support to a community-based leatherback turtle conservation project in the Urabá Gulf. This project includes environmental education on the conservation status of marine turtles and support to protected areas important for the turtles. The Colombian government released its National Marine Turtle Conservation Strategy in 2003, in which WWF played a part in drafting, and facilitating discussion by relevant parties and stakeholders. Building upon the National Strategy and current project work, WWF is initiating a proposal to safeguard important nesting beaches and wetland feeding areas of marine turtles in the Chocó and Urabá region (McLellan *et al.*, 2004).

Comoros:

Status:

CMS actions: Not a Party to CMS.

Other actions:

CONGO :

Status: The 100km section of South Atlantic, between Mayumba (Gabon) and Conkouati (Congo) constitutes the world's second most important egg-laying area for the leatherback turtle. Leatherback turtles have been observed near the beaches of Pointe-Noire. The species is present in the Conkouati National Park (Congo National Report, 2002). An average of 1,000 Leatherbacks nests have been found here each year according to UNEP/CMS (2000).

CMS actions: The Program for the Protection of Marine Turtles in Central Africa (PROTOMAC) included a campaign in 2001 to observe marine turtle nesting sites on the Congolese coastline. It concentrated on three areas: south of Pointe-Noire, the beaches of Pointe-Noire, and North Kouilou. South of Pointe-Noire there was substantial evidence that egg-laying sites had been raided and that the shells of turtles had been taken. On the beaches of Pointe-Noire and north of Pointe-Noire, the PROTOMAC team has observed the landing of netted or live turtles by self-employed fishermen who claim that they have been caught accidentally (Congo National report to CMS, 2002).

Other actions: The 'Association Congolaise de l'Education pour l'Environnement et la Nature' (ACEN) [Congolese Association for Education on Nature and the Environment] has monitored and evaluated the violation of turtle nests by poachers in the Conkouati National Park. (Congo National report to CMS, 2002).

D.R. CONGO:

Status: Past literature refers to the leatherback in the country, and there is a museum specimen of an embryo (UNEP/CMS, 2000). Minor and solitary nesting has been recorded (Márquez, 1990). Beaches situated between Mayumba (Gabon) and the Noumbi River in the Democratic Republic of Congo represent some of

the most important nesting sites for the leatherback turtle in the world (McLellan *et al.*, 2004).

None reported.

CMS actions:

IUCN has proposed a trans-border marine reserve between the two countries to include all of the most significant nesting sites (McLellan *et al.*, 2004).

Other actions:

Costa Rica:

Status:

Some nesting occurs along much of the Caribbean coast of the country (Carr *et al.*, 1982). A moderate-sized leatherback rookery comprising around 500 females per year is situated at Matina beach (Carr *et al.* 1982). An estimated 150-368 females nested in the Parque Nacional Tortuguero in 1990-1991 (Leslie *et al.*, 1996), but in 1995 just 70 clutches were deposited along 35km of beach (Campbell *et al.*, 1996). On the Pacific coast, the species nests on Playa Naranjo, a 6km beach within Santa Rosa National Park (Groombridge, 1982) and in Las Baulas National Park (Steyermark *et al.*, 1996).

The species appeared to have undergone an increase in abundance on Playa Naranjo. During September-November 1971, 18 females were tagged and 106 nesting emergences were recorded over 50 days. In November 1981, during only two nights, 22 and 10 females were tagged in 8.5 and 2.0 hours, respectively. During the first night 44 Leatherbacks emerged and tracks of 118 that had emerged over the previous 3-4 nights were counted (UNEP-WCMC, 2003).

In Las Baulas National Park on the Pacific coast leatherback numbers nesting at Playa Grande reached a peak of 1,600 in 1988 and 1989 but declined to 469 in 1994-1995. This was perhaps due to the recent increase in development in the area surrounding nesting beaches, as well as incidental catch of leatherbacks in offshore fisheries (Steyermark *et al.*, 1996). In 1991-1992 a total of 229 Leatherbacks were tagged at the nearby Playa Langosta beach (Chaves *et al.*, 1996).

CMS actions: Not a Party to CMS.

Other actions: Ecology Project International, established an education and monitoring program in the Pacuare Natural Reserve in 2000, in collaboration with university students from the USA, Costa Rica and other countries of Central and South America, as well as with community participation. The program has trained several students and has created awareness in the community regarding the importance of conserving this species (Ecology Project International, 2003).

There are also several NGOs working specifically in marine turtle conservation and education programmes that are focused on both Costa Rica and other Central American countries. These include PRETOMA and the Parismina Turtle Commission. In Costa Rica, research has been undertaken on the predation of sea turtle by jaguars, fertility assessment projects, nesting activities, reproduction and emergence success (Mosier *et al.*, 2002), reproductive biology and tagging programmes (Byles and Fernandez, 1998).

COTE D'IVOIRE:

Status: Leatherback nesting has been recorded (UNEP/CMS, 2000).

CMS actions: A preliminary inventory of nesting sites between Abidjan and the border with Liberia has been undertaken. Nesting sites are monitored and protected in the Azagny National Park (UNEP/CMS 2000).

Other actions:

CROATIA:

Status: The species is recorded as an occasional visitor to this country (Lazar and Tvrtkovic, 1998).

CMS actions: None reported.

Other actions:

Cuba:

Status: The species nests at Guantanamo Bay (Anon., 2003a) and occasionally in the Peninsula de Guanahacabibes, Cayo Blanco and Cayo Caguama (Moncada and Rodriguez, 1996).

CMS actions: Not a Party to CMS.

Other actions: Research has been undertaken on turtle interactions with fisheries and on occasional catches of leatherback turtles by Cuban fishermen (Keinath *et. al*, 1996).

CYPRUS:

Status: Several individuals have been recorded off the west coast (Demetropoulos and Hadjichristophorou, 1989).

CMS actions: None reported.

Other actions:

Djibouti:

Status: Djibouti is listed as a Range State by CMS (2003).

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status: Leatherbacks have been recorded nesting in the Dominican Republic (Ross and Ottenwalder, 1983), although this is reportedly uncommon according to local informants. The species was thought to nest occasionally in very low densities on suitable beaches anywhere in the Republic, but four areas of more concentrated Leatherback nesting were identified on information from locals: Playa del Muerto, Playa Macao (both in Altagracia Province), Playa San Luis and Playa des Aguilas (Pedernales Prov.). Based on interviews with local informants, and assuming that each turtle nests three times during a 60 day season, it was tentatively estimated that 300 *Dermochelys* nested annually in the Dominican Republic (Ross and Ottenwalder, 1983). An estimate of 500 nests per year was given by Márquez (1990).

CMS actions: Not a Party to CMS.

Other actions:

Ecuador:

Status: ***Mainland***

The species is recorded nesting in small numbers along most of the mainland coast (Green and Ortiz-Crespo, 1982).

Galapagos Islands
Leatherback turtles reportedly occur in the Galapagos Islands (UNEP-WCMC, 2003), and nesting is reported (Green and Ortiz-Crespo, 1982).

CMS actions: Not a Party to CMS.
Other actions:

EGYPT:
Status: Leatherback turtles reportedly occur in Egypt (Frazier and Salas, 1984)

CMS actions: None reported.
Other actions:

El Salvador:
Status: Low density leatherback nesting probably occurs sporadically (Hasbún and Vásquez, 1999).

CMS actions: Not a Party to CMS.

Other actions: The Project Ayutzin for the conservation of marine turtles has worked, since 1994, for the protection of the species that visit Playa Toluca in La Libertad Department. The project is a joint effort between the community inhabiting the coast and the NGO, CESTA (CESTA, 2003). CESTA and the University of El Salvador have conducted research into the hatching success of marine turtles at the Toluca Beach (CESTA, 2003).

Equatorial Guinea:
Status: Leatherback turtles reportedly nest both on the continent to the south (Mba *et al.*, 1998a; 1998b) and on Bioko island (Tomás *et al.*, 1999). Nesting has been confirmed on the islands of Corisco Bay, but not on Annobón (Fretey, 2001). The species nests regularly and in significant numbers in Equatorial Guinea, both on the continent (Mba *et al.*, 1998a, b) and on Bioko island (Tomás *et al.*, 1999).

CMS actions: Not a Party to CMS.

Other actions: Conservation activities developed by CUREF-Cardiff University and ECOFAC include coastal surveys, captures, turtle consumption monitoring, awareness campaigns and park guards training (Formia *et al.*, 2003).

Eritrea:
Status:
CMS actions: None reported.
Other actions:

Fiji:
Status: Leatherback turtles nest here according to Márquez (1990). Leatherback nestings and sightings have been recorded for Savusavu region, Qoma, Yaro passage, Vatulele and Tailevu (WWF Pacific, 2003). The number of leatherbacks is likely to be around 20-30 individuals (WWF Pacific, 2003). According to WWF Pacific (2003) this species is not common in Fiji but there have been recorded sightings and four nesting attempts in Fiji. Although the numbers are low in Fiji, the significance of the population is likely to be high, due to the very low numbers in the region. It has been suggested that most leatherbacks are merely passing through Fiji on westerly moving ocean currents, and may represent the remains of a relic population.

CMS actions: Not a Party to CMS.

Other actions: In 1998, the Government, in collaboration with the University of the South Pacific and NGOs, developed "The Fiji Sea Turtle Conservation Strategy" This is being used to manage the species' conservation efforts although it has not been formally adopted by the government. The strategy identifies a number of actions for turtle conservation, namely institutional capacity building, limitation and regulation of the harvest, education and awareness, marine conservation workshops, protection of nesting sites and nesting turtles, protection of foraging areas and foraging turtles, captive turtles, pollution, bycatch, and a regional strategy (WWF Pacific, 2003).

FRANCE:

Status:

French Guiana

Eight beaches between the estuaries of the Maroni (Marowijne) River on the Suriname border and the Organabo River in the east provided a major nesting area for Leatherback (J. Fretey, *in litt.* to IUCN CMC, 26 May 1981; Pritchard, 1971a; Pritchard, 1979).

The historically most important leatherback nesting beach in the world is located at Awala-Yalimapo beach. One of the continual natural disturbances to nesting beaches is coastal erosion. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

About c 4,500-6,500 nesting females have been recorded annually in French Guiana, although this number only represents a fraction of the total population as not all females breed in every season (Fretey and Lescure, 1979). This population is apparently partly shared with Suriname. The annual number of nesting females was estimated at 15,000 in 1971 (Pritchard, 1971a). This very large population was thought to be by far the most important leatherback nesting area in the world prior to the discovery of major nesting in Pacific Mexico. Due to marine action, the major Organabo beach moved westwards during the 1970s, and by 1979 was reduced to a sandspit washed over at high tide. Nesting may have decreased to some extent during this period (Schulz, 1979).

However, at least some of the French Guiana leatherbacks have shifted their nest sites westward toward the Suriname border, and most nesting subsequently occurred at Les Hattes-Awara (at the junction of the Maroni and Mana Rivers), with some nesting occurring on beaches that did not exist in 1960-1970 (Fretey and Lescure, 1979; P. C. H. Pritchard, *in litt.* to IUCN CMC, 2 February 1982).

The 1979 population was of approximately the same size as that reported in 1971, with an estimated total mature female population of 13,996-19,596 (J. Fretey, *in litt.* to IUCN CMC, 26 May 1981; Fretey and Lescure, 1979). Only a fraction of the total population will nest in a given year (P. C. H. Pritchard, *in litt.* to IUCN CMC, 2 February 1982) and between 4,500-6,500 females in a season (Fretey and Lescure, 1979). It was reported (Schulz, 1979) that the nest sites were so crowded that a considerable number of nests were destroyed by later-nesting females, also there was massive disturbance of nesting turtles since cars could be driven right onto the beach (Schulz, 1979).

Girondot and Fretey (1996) summarised the nesting records for the period 1978-1995. More than 50,000 nestings were recorded annually in 1988 and 1992, but only 10,000-15,000 annually in 1978-1986, 1993, and 1995, with intermediate numbers of 20,000-30,000 annually in 1987, 1989, 1991 and 1994. In 1998, 7,800 nestings were counted on the Hattes beach (Talvy *et al.*, 2002). Girondot *et al.* (2002) examined density-dependent nest destruction of Leatherbacks in French Guiana and Suriname. They found that the proportion of successful nests was very low (10%) on the Yalimapo-Awala (= Hattes)

beach, compared with Costa Rica (57%), Puerto Rico (75%) and the US Virgin Islands (67%), but the reasons for this were not clear.

French Polynesia
Leatherback turtles are recorded from French Polynesia (Fretey, 1987; Fretey and Lebeau, 1985)

Guadeloupe
Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

Martinique
Occasional to sporadic leatherback turtle nesting has been recorded in Martinique according to UNEP-WCMC (2003), although others claim it is frequent (Delaugerre, 1988; Duguy, 1989; Fretey, 1996; Oliver, 1986; National Marine Fisheries Service and U.S. Fish and Wildlife Service, 2001; Thiebaut and le Milinarie, 1992).

New Caledonia Leatherback turtles are rarely recorded in New Caledonia (IFRECOR, 1998).

CMS actions: None reported.

Other actions: ***French Guiana***
According to WWF-Guianas, in French Guiana there are several initiatives being undertaken by universities, NGOs, governmental agencies, research centres and in protected areas that involve marine turtle conservation. Indigenous communities and fishermen are involved in the projects' activities. These activities include: raising of awareness in tourists and school children, tourism management, tagging female turtles, producing surveys of nesting activities, patrolling and assessing turtle and fisheries interactions (WWF-Guianas, 2003). Girondot (2000) has carried out research on the influence of temperature in sex determination in marine turtles. French Guiana: Research has been carried out on sea turtle nesting activity and behaviour (Mosier *et al.*, 2002), nesting seasons (Kalb and Wibbels, 2000) and density dependence and sex-ratio of hatchlings (Byles, *et al.* 1998).

In French Guiana, WWF works with a local Amerindian organisation, Kulalasi, in monitoring, poaching mitigation, tourist management, and reinforcing the Amana Nature Reserve management. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Gabon (?):
Status: Beaches situated between Mayumba (Gabon) and the Noumbi River in the Democratic Republic of Congo represent some of the most important nesting sites for the leatherback turtle in the world (McLellan *et al.*, 2004). *D. coriacea* frequents all of the beaches in Gabon, from the Pointe-Pongara across from Libreville all the way to the Congo (Fretey and Girardin, 1988, 1989).

During the 1999/2000 nesting season, monitoring of a site stretching between Mayumba and the border resulted in the counting of nearly 30,000 nests, representing the coming to shore of between 4,222 and 7,096 females (Billes *et al.*, 2000). These new data place Gabon and the Conkouati region in a

position of primary importance, along with French Guiana, for the worldwide conservation of *D. coriacea* (Fretey, 2001).

CMS actions: Not a Party to CMS.

Other actions: The Smithsonian National Zoological Park conducts health assessments and conservation programmes as part of the FVP's Caribbean/Atlantic Sea Turtle Health Assessment Program (WCS, 2002; Deem, 2003). A tagging programme to study reproductive success, as well as *in situ* protection systems and awareness campaigns have been developed. It has been proposed that the conservation efforts of several agencies, including IUCN, should extend into the Congo in order to protect a greater area. The WCS has also realised conservation activities in Corisco Bay and Pointe Pongara as well as monitoring programmes on the trade of sea turtle meat and eggs in the markets (Formia, 2003).

IUCN has proposed a trans-border marine reserve between the two countries to include all of the most significant nesting sites. Until recently none of the beaches in the protected areas of Gabon had been monitored consistently during the nesting season. WWF, together with a suite of local project partners under the coordination of the regional marine turtle organisation, Kudu, made the first estimate of nesting turtles near the city of Gamba in the 2002- 2003 season (McLellan *et al.*, 2004).

Important baseline data on the number of leatherbacks which came ashore to nest was collected, and will form the basis for repeat monitoring and tagging programmes in the future. The project partners also undertook environmental education activities, aimed at increasing the awareness of the endangered status of the turtles, and initial conservation measures to protect them (McLellan *et al.*, 2004).

GAMBIA (?):

Status: Only one Leatherback shell has been found on the Gambian coast (UNEP/CMS, 2000).

CMS actions: According to UNEP/CMS (2002) four coastal protected areas have been identified as being very important for marine turtles. However, UNEP/CMS (2002) do not report any monitoring activities or research undertaken nor do they mention community or NGO participation in conservation.

Other actions:

GHANA:

Status: Márquez (1990) referred to minor and solitary nesting, whereas Carr and Campbell (1995) stated that nesting occurred all along the coast.

CMS actions: Community based training programmes have been organised to build national capacity and to set up institutional infrastructure for sea turtle conservation programmes (UNEP/CMS, 2000).

Other actions:

GREECE:

Status: Leatherback turtles have been recorded in Greece (Margaritoulis, 1986).

CMS actions:

Other actions: None reported.

Guatemala:

Status: Leatherback turtles reportedly nest here on the Caribbean coast between Cabo de Tres Puntas and Rio Montagua (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: The Wildlife Rescue and Rehabilitation Association is a Guatemalan non-profit organisation created for the preservation of wildlife and wild habitats in the country. Near the village of Hawai, this Association has developed community-based projects on the conservation of *D. coriacea*, which include the protection of hatcheries against theft and other threats (Juarez and Muccio, 1997). Studies have been carried out on the pivotal temperatures in the production of sexes in leatherback turtles (Mosier *et al.*, 2002).

GUINEA:

Status: Leatherback turtles are frequently observed and encountered in fishing nets between October and December (the last three months of the rainy season). (Guinea National Report, 2002). Leatherback turtles nests and eggs have been recorded (UNEP/CMS, 2000).The Leatherback occurs widely, particularly in the north-west (Guinea National Report to CMS, 2002).

CMS actions: Future activities include restoration of the habitat following the guidelines of the National Strategic Action Plan for Biological Diversity in respect of Marine Turtles, training of administrators of the said habitats, raising the awareness of fishermen and sailors so that they can contribute to the conservation of marine turtles and strengthening of institutional powers (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status: Leatherback turtles reportedly nest on the Bijagos Islands in the Orango National Park (Barbosa *et al.*, 1998), but only a few individuals/nests were recorded during two years of surveying (Barbosa *et al.*, 1998). UNEP/CMS (2000) estimate 10 or so leatherbacks nest in the Bijagos Islands

CMS actions: None reported.

Other actions:

Guyana:

Status: The beaches of the Guianas (French Guiana, Suriname and Guyana) host the largest Atlantic leatherback turtle nesting beaches in the world. One of the continual natural disturbances to nesting beaches is coastal erosion. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004). Small numbers were found nesting at Shell Beach (Groombridge, 1982) although, according to Márquez (1990), up to 500 nests per year have been recorded. There have been significant increases in nesting (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: The Guyana Marine Turtle Conservation Society was formed in 2000 with the aim of promoting conservation, management and restoration of marine turtles in Guyana. It develops surveys and protection patrols, education awareness, community empowerment and research. (Guyana Marine Turtle Conservation Society, 2003).

Shell Beach hosts leatherback turtle nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve. The Guyana Marine Turtle Conservation Society, has conducted monitoring, beach

protection, and enforcement of fishing bans during the nesting season (McLellan *et al.*, 2004).

In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project - an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:

Status: The species has been recorded in Haiti (Ottenwalder, 1996).

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions: Projects monitoring the nesting and hatching of *D. coriacea* have been developed in the Plapaya beach by the NGO Mopawi (UNEP-WCMC, 2003).

Iceland (v)*:

Status: Leatherback turtles have been reported from Iceland (Petersen, 1984; UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

INDIA:

Status: Moderate-scale nesting has been recorded in the Union Territory of the Andaman and Nicobar Islands (Bhaskar, 1979a; Sivasundar, 1996). In April 1979 about 80 Leatherback excavations were found on Great Nicobar Island and about 70 in January 1979 on Little Andaman (Bhaskar, 1979a). Isolated Leatherbacks occasionally nested on the mainland, including part of the west coast, south to Kerala, and the central east coast (Bhaskar, 1979b; Frazier, 1982). Mainland nesting reportedly occurred more frequently around the turn of the century, for example around Quilon in southern Kerala (Bhaskar, 1979b). Granite blocks and embankments, designed as defences against sea erosion, prevent turtles approaching beaches on much of the Kerala coast (Anon., 1981b). *Dermochelys* has been recorded nesting in small numbers in Lakshadweep (Bhaskar, 1979b).

CMS actions: None reported.

Other actions: The National Sea Turtle Conservation Project in India was launched in 1998 with the aim of protecting *Lepidochelys olivacea*, but it also has conservation and protection strategies for all the other turtle species nesting in the country. A project undertaken by the Indian government includes activities which encompass critical habitats for sea turtles both on-shore and offshore. Its activities include surveys, monitoring programmes, fisheries interactions, community and NGOs participation, awareness raising and education, research support and other support for regional and international co-operation and

collaboration for sea turtles conservation (Choudhury *et al.*, 2001).

Indonesia:

Status: Leatherback populations underwent dramatic declines from the 1970s onwards (Spotila *et al.*, 2000).

Halmahera

Some leatherback turtle nesting was recorded at the northern tip of P. Morotai (near Halmahera) (Groombridge, 1982).

Irian Jaya

Leatherback turtles nest on the north coast of the Kepala Burong (Vogelkop) part of Irian Jaya (Polunin and Nuitja, 1995; Márquez, 1990). This is reported to be a major nest site (R. V. Salm, *in litt.* to IUCN CMC, 1 October 1981; Salm, 1981). Suárez *et al.* (2000) reported that there were 3,000-5,000 nests annually along the north Vogelkop coast of Irian Jaya, and Putrawidjaja (2000) reported a total of 2,983 nestings on Jamursba-Medi beach in 1999. Additionally, fewer than 20 nested at Inggresau (on P. Yapen, Irian Jaya) (R. V. Salm, *in litt.* to IUCN CMC, 1 October 1981; Salm, 1981).

Java

Leatherback turtles occasionally nest on beaches on the south coast of Java (Polunin and Nuitja, 1995; Márquez, 1990). Sukamade Beach in south-east Java is regarded as the most important sea turtle nesting area in Java (Blouch *et al.*, 1981) 16 nests were recorded between June-August 1980, after an absence of four years, and 21 nests were found in 1981 (Anon., 1982a; R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982). Additionally, about one female a year might have nested on Citerem and Cibuniaga Beaches in south-east Java (R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982).

Sulawesi

Fewer than five female leatherback turtles a year nest in south-east Sulawesi (R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982).

Sumatra

Leatherback turtles nest in West Sumatra and Bengkulu Provinces in Sumatra (Polunin and Nuitja, 1995; Márquez, 1990). Possibly fewer than 20 female nest per year near Bengkulu (R. V. Salm, *in litt.* to IUCN CMC, 27 January 1982).

CMS actions: Not a Party to CMS.

Other actions: ***Irian Jaya***

There are tagging and genetic studies of the last large leatherback nesting population in the Pacific at Irian Jaya, Indonesia (McLellan *et al.*, 2004).

I.R. Iran:

Status: Leatherback turtles have been recorded here (Kinunen and Walczak, 1971).

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status: Vagrant leatherback turtles have been recorded here (Smiddy, 1993, 1996,

1999). Migrations of this species along Irish coasts peak in late summer (August-October), but no hard data on numbers are available. Most sightings are off the west and south-west coasts (Ireland National Report to CMS, 2002).

CMS actions: None reported.

Other actions:

ISRAEL:

Status: This species is rare. In 2001, one female got stranded and injured in a fisherman net. She was treated at the rehabilitation center but died (Israel National Report, 2002). Although emergence crawls, or apparent nesting have been recorded no adequately documented instance of *Dermochelys* nesting in the Mediterranean is known (Groombridge, 1990).

CMS actions: Israel has turtle rehabilitation centres (Israel National Report, 2002).

Other actions:

ITALY:

Status: Leatherback turtles have been recorded here by Pastorelli (1999), but there is no confirmed instance of the species nesting in the Mediterranean (Groombridge, 1990).

CMS actions:

Other actions: None reported.

Jamaica:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status: The Leatherback Turtle was first recorded nesting in Japan in 2001 (Kamezaki *et al.*, 2002).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN*:

Status: Leatherback turtles have been recorded here (UNEP-WCMC, 2004). The first record was noted by Kinzelbach (1986) and summarised by Disi (1998).

CMS actions: None reported.

Other actions:

KENYA:

Status: Leatherback turtles occur regularly in small numbers along most areas of the Kenyan coast, with higher concentrations in the northern parts. Seasonal variations in distribution is a major factor (Kenya National Report, 2002). The species was recorded by Wamukoya and Haller (1996), but no indication of numbers was provided. Although occasional nesting was noted by Márquez (1990) there is no evidence of this from other sources.

CMS actions: Monitoring activities have been undertaken within the framework of coastal zone and biodiversity monitoring. However, habitat protection activities within the framework of coastal zone and marine protected areas management and habitat restoration activities have been conducted only when oil spills and pollution are being addressed (Kenya National Report to CMS, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

Kiribati:
Status:
CMS actions: Not a Party to CMS.
Other actions:

D.P.R. Korea:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Republic of Korea:
Status: Not a Party to CMS.
CMS actions:
Other actions:

Kuwait:
Status: Leatherback turtles were first recorded here only very recently (Al Mohanna and Meakins, 2000).

CMS actions: Not a Party to CMS.
Other actions:

Lebanon:
Status: Leatherback turtles have been recorded here according to Groombridge (1990).

CMS actions: Not a Party to CMS.
Other actions:

Liberia:
Status: Solitary leatherback turtles have been reported to nest here (Márquez, 1990), but this has not been confirmed according to UNEP/CMS (2000).

CMS actions: Not a Party to CMS.
Other actions:

LIBYAN ARAB JAMAHIRIYA:
Status: Leatherback turtles have been recorded here (Groombridge, 1990).

CMS actions: Not a Party to CMS.
Other actions:

Madagascar:
Status: Leatherback turtles have been recorded here as vagrants only (Glaw and Vences, 1994). Three decades of strong protection have led to more than fourfold increases in the small annual nesting population of leatherbacks in neighbouring South Africa. This population is believed to be representative of a larger nesting population in Mozambique and turtles nesting in South Africa

are known to forage in the waters between Mozambique and Madagascar. (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Malaysia:

Status:

Peninsular Malaysia

Leatherback nesting was noted as concentrated along a 20km beach at Rantau Abang Trengganu State on the east coast, where c. 1,500 females nested annually. However, this population was found to be declining (Siow and Moll, 1982). The yield of *Dermochelys* eggs in Trengganu declined by 66% from 1956 to 1982 (because the number of eggs collected was not the same as the number laid, and because of different sampling techniques, this figure can only be an approximation of population decline). Between 1,000-2,000 females nested annually (1974 data quoted in Ross, 1982a). By 1995 the population was severely depleted, with nestings representing less than 1% of levels recorded in the 1950s (Chan and Liew, 1995, 1996). In 2002 no eggs were laid although three landings were detected. There was a calamitous collapse of the colony at Trengganu, from more than 3,000 females in 1968, to 20 in 1993, and just two in 1995 (UNEP-WCMC, 2003).

Sabah

Leatherbacks are not known to nest in Sabah, but have been occasionally sighted at sea in the area (K. Proud, *in litt.* to IUCN CMC, 12 May 1982; De Silva, 1978).

Sarawak

Noted as nesting (Tisen and Bali, 2002).

CMS actions: Not a Party to CMS.

Other actions:

Peninsular Malaysia

WWF conducts the Community Education and Awareness Programme on Turtle Conservation in partnership with the Department of Fisheries at the recently established Ma' Daerah Turtle Sanctuary Centre, a hatchery and interpretation centre, in the Terengganu state on the east coast of peninsular Malaysia.This Sanctuary is a nesting site primarily of green turtles, although some leatherback also nest here.The programme aims to establish local community interest and action groups for the conservation of turtles in Ma'Daerah, to build the capacity of local communities on turtle conservation, and to lobby for the gazettal of Ma'Daerah as a turtle sanctuary (McLellan *et al.*, 2004).

Sarawak

Sarawak has one of the oldest programmes in the world for sea turtle conservation and management; various government agencies as well as five laws are relevant for turtle conservation; despite this the population has decreased by 90% in the past 50 years. The government has undertaken several major steps to avoid further declines, including extensive scientific studies, total protection of turtle nesting beaches and strengthening of existing laws (Braken and Bali, 2000).

Maldives:

Status: Leatherback turtles have been recorded as occasional visitors here (Anon., 2003b).

CMS actions: Not a Party to CMS.

Other actions: Recently the Government of the Maldives has imposed a total ban on catching and selling any marine turtle in the Maldives. However, egg collection is still not regulated (Inmaldives, 2003).

MALTA:

Status: Leatherback turtles have been recorded here according to Lanfranco (1983), but there is no confirmed evidence for *Dermochelys* nesting anywhere in the Mediterranean (Groombridge, 1990).

CMS actions: None reported.

Other actions:

Marshall Islands:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MAURITANIA:

Status: Solitary Leatherback turtles have been recorded nesting here (Márquez 1990) although there is little information (UNEP/CMS, 2000). Leatherbacks have been observed several times in Lévrier Bay (UNEP/CMS, 2000) and numerous sightings at sea or on beaches in Mauritania have been made since the 1970s (Maigret, 1983). If regular nesting in Lévrier Bay is confirmed, then this would be the most northern location for the eastern Atlantic. Females, which nested in northern South America, may have visited these waters (Eckert, 1998).

CMS actions: According to the UNEP/CMS (2000), preliminary inventories of nesting sites have been developed.

Other actions:

Mauritius:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Mexico:

Status: Leatherback turtles have been recorded nesting in good numbers on parts of the Pacific coast of Mexico (Groombridge, 1982; Márquez *et al.*, 1981, Márquez, 1978) such as the c.1,000km of coast from Maruata (Michoacan) south to the Isthmus of Tehuantepec (Oaxaca) (Pritchard and Cliffton, 1981). Major nesting beaches were located on the south-east coast of Guerrero between Bahia Dulce and Barra de Teconapa and at Bahia de Chacahua. Other localities included Mexiquillo, Colola, Maruata and Boca de Apiza in Michoacan; Mismaloya in Jalisco; Cuyutlan in Colima; Petacalo and Piedra de Tlacoyunque in Guerrero; La Escobilla and Bahia Blanca in Oaxaca. A secondary nesting beach was discovered on the south-west coast of Baja California (Márquez *et al.*, 1981).

Mexico had c.30,000 females annually, and a total female population of between 50,000 (M. R. Márquez, *in litt.* to IUCN CMC, 26 February 1982) and 75,000 (Pritchard and Cliffton, 1981). This latter figure was more than twice the estimate for the previous world population. Extensive aerial surveys on 31st October and 1st November, 1980, along approximately 1,000 km of coast from Maruata (Michoacan) south to the Isthmus of Tehuantepec (Oaxaca) revealed significant to high density Leatherback nesting along much of the coast. Hundreds of kilometres of Leatherback nesting beaches were surveyed on which nesting density was about one nest per 50m at maximum (Pritchard and Cliffton, 1981).

Major nesting beaches were located on the south-east coast of Guerrero

between Bahia Dulce and Barra de Teconapa (an estimate of 5,000 females nesting per season) and at Bahia de Chacahua. Other localities included Mexiquillo, Colola, Maruata and Boca de Apiza in Michoacan; Mismaloya in Jalisco; Cuyutlan in Colima; Petacalo and Piedra de Tlacoyunque in Guerrero; La Escobilla and Bahia Blanca in Oaxaca. A secondary nesting beach was discovered on the south-west coast of Baja California (Márquez *et al.*, 1981).

Sarti *et al.* (1996, 1998) estimated that fewer than 1,000 females nested on the Pacific coast during the 1995-1996 nesting season, based on counts of 5,222 nests and an average annual frequency of 5.3 nests per female. Kemf *et al.* (2000) report that the number of females reported as nesting on the Pacific beaches of Mexico has declined tenfold in less than a decade.

CMS actions: Not a Party to CMS.

Other actions: Due to a drastic decline of the nesting population of *D. coriacea* in the Mexican Pacific, the Fishing National Institute, in co-ordination with the National University of Mexico (UNAM), started a research project aimed at understanding the causes of such decline and intensifying protection activities. Protection of females and eggs and monitoring activities are constantly maintained at Llano Grande Beach (the third densest Leatherback nesting site). In the five major rookeries for the Leatherback an intensive tagging programme has been implemented (Arenas *et al.*, 1998).

Other activities in the Pacific Coast consist of aerial surveys of the entire Pacific coast of Mexico, workshops for standardisation of terms, definitions and methods, and training of personnel (Arenas *et al.*, 1998).

Research undertaken includes studies on mortality rates, fibropapillomas case studies (Mosier *et al.*, 2002), nest management (Kalb *et al.* 2000), genetic stock identification, genetic population structure (Abreu-Grobois *et al.* 1998), nesting population size in the Mexican pacific (Epperly and Braun, 1998), and analysis of egg composition (Byles, *et al.* 1998).

F.S. Micronesia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MOROCCO (?):

Status: Leatherback turtles have been recorded here (UNEP/CMS, 2000), although there is little information available on the presence of Leatherback turtles along the Moroccan coast (Bons and Geniez, 1996). Two females tagged in French Guiana were found in this area (Fretey, 2001).

CMS actions: None reported.

Other actions:

Mozambique:

Status: The leatherback turtle is found in Mozambique waters and also come ashore to nest. Shallow coastal areas such as the Sofala Bank, rich in sea grasses, are prime feeding grounds for green turtles which make them especially vulnerable to bycatch in the shrimp trawl fishery (McLellan *et al.*, 2004).

Three decades of strong protection have led to increases in the small annual nesting population of leatherbacks (in neighbouring South Africa) more than fourfold. This population is believed to be representative of a larger nesting population in Mozambique and turtles nesting in South Africa are known to forage in the waters between Mozambique and Madagascar. (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:

Status: One leatherback nesting attempt is reported (Maxwell, 1911) but no recent data are available. Leatherbacks are very rare; a female attempted to nest near the mouth of the Ye River in Tenasserim in 1862, and the species was apparently familiar to inhabitants of the Arakan coast at the turn of the century (Maxwell, 1911).

CMS actions: Not a Party to CMS.

Other actions:

Namibia:

Status: Leatherback turtles have been recorded along the entire coast of Namibia and are concentrated in West Bay (UNEP/CMS, 2000).

CMS actions: Ninety per cent of the Namibian coast is protected, there does not appear to be any interference between indigenous Namibians and turtles in this country (UNEP/CMS 2000). No conservation actions undertaken by the government or NGOs are reported by UNEP/CMS (2000).

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME).The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Nauru:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS:

Status:

Aruba

Leatherback turtles have been recorded possibly nesting in Aruba (Anon., 1995).

Netherlands Antilles

There is evidence of occasional nesting on Bonaire and St Maarten (Sybesma, 1992).

CMS actions: None reported.

Other actions: ***Netherlands Antilles***
In 1992, the NGO Widecast produced the 'Sea Turtle Recovery Plan for the Netherlands Antilles' for the UNEP-Caribbean Environmental Program. The plan was part of a series of plans developed in the Caribbean for the protection and conservation of marine turtles. The plan's objective is to help marine turtle population recovery in the Antilles and to collect as much information as possible regarding their distribution; the plan also aims to promote public awareness on the species conservation and recovery (Sybesma, 1992).

NEW ZEALAND:

Status: Leatherback turtles have been recorded here (Gill, 1997).

CMS actions: None reported.

Other actions:

Nicaragua:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA:

Status: Leatherback turtles have been recorded here (UNEP/CMS, 2000).

CMS actions: None reported.

Other actions:

NORWAY:

Status: Leatherback turtles have been recorded here (Brongersma, 1982; Gulliksen, 1990).

CMS actions: None reported.

Other actions:

Oman:

Status: Although occasional nesting was noted by Márquez (1990) there is no evidence of this from other sources.

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status: One dead leatherback was recorded here in 1988 (Firdous, 1989).

CMS actions: None reported.

Other actions:

Palau:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PANAMA:

Status: Low density leatherback nesting probably occurs sporadically on the Pacific coast (Cornelius, 1982; Meylan, 1985). In 1979, two important nesting localities were discovered on the Caribbean coast, at Playa Chiriqui and Playa

Changuinola; in addition, a site was already known at Bahia Aglatomate, in the San Blas Islands (Carr *et al.*, 1982). Ordoñez *et al.* (2002) recorded 735 Leatherback tracks on Chiriqui Beach, Bocas del Toro province in 1999. Ordoñez et al. (2000) have carried out research into the nesting populations in Bocas the Toro Archipelago where Leatherbacks are the most common species.

CMS actions: None reported.

Other actions:

Papua New Guinea:

Status: Leatherbacks have nested regularly, but in small numbers, on many parts of the north coast and on some of the larger islands, including sites in West and East Sepik Provinces, Madang, and Milne Bay Province, and on Manus Island, New Britain, New Ireland and others. Although sea turtle populations in general were reported to be slowly declining in most areas of Papua New Guinea (PNG), there appear to be no specific data on Leatherbacks (Spring, 1982). In 1989 a minimum of 76 clutches were laid on a beach near Piguwa (Hirth *et al.*, 1993). Few quantitative data are available about important marine turtle habitats in PNG (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

As a first step in this programme, a national population survey of leatherbacks in collaboration with the PNG government and the Village Development Trust (a national community conservation organisation) is planned for the next nesting season. The survey aims to identify population distribution and the impacts of coastal development on leatherback feeding and breeding grounds (McLellan *et al.*, 2004).

PERU (?):

Status: The leatherback turtle possibly nests in Peru (Pritchard, 1971a; Márquez, 1990). The distribution of the species is still unknown in Peru (Peru National Report to CMS, 2002).

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: Alfaro-Shigueto *et al.* (2000) have studied the mortality of marine turtles in fisheries and results have shown this species to be in 16% of the captures between 1993 and 1994, being mostly caught by gillnets.

WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and

sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: Leatherback turtles have been listed as occurring here by CMS and by Kadir (2002).

CMS actions: Protection of marine turtle habitats and nesting sites is addressed through a much broader programme on the establishment and management of protected areas. Currently, there are about 31 marine areas being managed as protected areas by the Department of Environment and Natural Resources. In the Philippine Biodiversity Conservation Priority-Setting Program, 12 marine areas have been identified as priority areas for conservation to protect marine turtles (Philippines National Report to CMS, 2002).

Regarding law enforcement, PAWB's Wildlife Monitoring Team is closely monitoring trade and apprehending traders of marine turtle by–products. Trade in this species has been greatly reduced thanks to these measures. The Philippines have also been active in pursuing international partnership for the conservation of marine turtles through a Memorandum of Understanding with the Malaysian government on the joint management of TIHPA. Field-work for the expansion of the coverage of the TIHPA to include the Berao Islands of Indonesia has been initiated together with Malaysian government. Training and conservation planning with Indonesian groups had been undertaken. These initiatives will lead to the formalisation of a partnership with the government of Indonesia through a tripartite agreement, which will be done in the near future (Philippines National Report to CMS, 2002).

Other actions:

PORTUGAL:

Status:

Mainland

Leatherbacks are rare, though regular visitors. (Portugal National Report, 2002).

Azores

Leatherbacks are occasionally captured accidentally at the Azores where they are a regular visitor (Portugal National Report to CMS, 2002).

Madeira

Leatherbacks are regular visitors (Portugal National Report to CMS, 2002).

CMS actions: Onboard observation at the Azores fishing fleet is being carried out (Portugal National Report to CMS, 2002). According to UNEP-CMS (2000) research projects win the Azores and Madeira Islands include tagging, collection of information on turtle by-catch and its effects, satellite tracking, heavy metal analysis and analysis of stomach contents, autopsies, and growth studies.

Other actions:

Russian Federation:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status: Small-scale leatherback nesting has been reported here (Groombridge, 1982), with 120 nesting events (crawls and pits) recorded in 1999 (Butler, 2002).

CMS actions: None reported.

Other actions: In 1992, the NGO Widecast produced the 'Sea Turtle Recovery Plan for Saint Kitts and Nevis' for the UNEP-Caribbean Environmental Program. The plan was part of a series of plans developed in the Caribbean for the protection and conservation of marine turtles. The plan determines the status and distribution of marine turtles in Saint Kitts and Nevis, identifies threats to marine turtles in the region and proposes solutions to such threats; the plan enhances information exchange at national and regional levels (Eckert and Honebrink, 1992; Orchard, 1994).

Saint Lucia:

Status: Leatherback nesting here has been described as "sporadic to occasional" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status: Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions:

SAO TOME AND PRINCIPE:

Status: Leatherback nesting sites have been recorded on Sao Tome (Graff, 1996) and Principe (UNEP/CMS, 2000; Rosseel in Fretey, 1998). Three juvenile Leatherbacks were accidentally captured on the island of Principe in March (Fretey, 2001). Since 1988, heavy exploitation of sea turtles for meat, eggs, and scutes has been reported (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: In 1994, a collaborative project between the European programme ECOFAC and the Peace Corps confirmed the non-sustainable exploitation of sea turtles and their by-products on the island of São Tome. Following this survey, ECOFAC initiated regular monitoring efforts, relocation of threatened nests, and public awareness programmes. From 1998 to 2001, a specific project dedicated to the conservation of sea turtles called 'Projeto Tàtô' and funded by a national program (PIN) STP/CE took over this study. Projecto Tàtô carried out complete coastline surveys, regular monitoring of significant nesting beaches and of turtle captures at sea, nest relocation in protected hatcheries, as well as awareness campaigns among locals, students, tourists, government officials and tortoiseshell artisans

(Formia *et al.*, 2003). It is now known that *D. coriacea* lays eggs on the beaches of the archipelago and has been observed at sea (males and females are present) (UNEP-WCMC, 2003).

Unfortunately, due to lack of funding and a national institution willing to take over the project, 'Projeto Tàtô' stopped its activities in May 2001. All the actions concerning sea turtles on the archipelago are now being revised, and the goal is to set up a local organization that can carry out these various activities. A local NGO called "Marapa" has been identified to implement all the turtle work (Fretey *et al.*, 2002). Marapa built two new egg hatcheries at the end of 2002 (Formia *at al* 2003).

SAUDI ARABIA:

Status:

CMS actions: None reported.

Other actions:

SENEGAL:

Status: Leatherback turtles are common in central Senegal in the Saloum Delta National Park, and reported in the north in the Barbary Coast National Park. No precise information about the size of the population is available (Senegal National Report to CMS, 2002). Feeding grounds in Sine Saloum, Senegal, are considered to be regionally important for marine turtles. However, turtles are under many threats here as elsewhere, including through local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan et al., 2004).

CMS actions: There are plans for a national strategy for the conservation of turtles (Senegal National Report, 2002).

Other actions: According to Fretey *et al.* (2002), there are successful conservation projects in the Joal-Fadiouth and Palmarin region that have stopped the consumption of turtle meat and the sale of carapaces. Local radio stations have contributed broadcasting conservation messages. It has also been proposed that the knowledge of marine turtles in Senegalese waters and their nesting behaviour and the monitoring of beaches should be improved in the near future. Communities should be involved in all processes (McLellan *et al.*, 2004).

WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal.As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, effectively protecting fisheries and biodiversity covering more than 7,500 sq. km. These represent a doubling of the marine protected areas for Senegal, and will protect regionally important feeding and nesting grounds for five species of marine turtles. Local communities strongly support the protected areas as a means to safeguard these important natural resources for the future (McLellan *et al.*, 2004).

Serbian and Montenegro:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Seychelles:

Status: Leatherback turtles have been recorded nesting here occasionally by Márquez, (1990) but there is no evidence of this from other sources.

CMS actions: Not a Party to CMS.
Other actions:

Sierra Leone:

Status: Although there have been no sightings of the species off the Sierra Leone mainland, a small nesting zone has been confirmed on the island of Sherbro (Fretey and Malaussena, 1991).

CMS actions: Not a Party to CMS.
Other actions:

SLOVENIA:

Status:

CMS actions: Not a Party to CMS.
Other actions:

Solomon Islands:

Status: Leatherback turtles have been recorded nesting on several islands of the group. The most important areas are on Choiseul and New Georgia, and Ysabel each with 50-100 nests annually, and Ysabel, with over 100 nests (Vaughan, 1981).

CMS actions: Not a Party to CMS.
Other actions:

SOMALIA:

Status: Leatherback turtles have been recorded nesting here occasionally by Márquez, (1990) but there is no evidence of this from other sources.

CMS actions: None reported.
Other actions:

SOUTH AFRICA:

Status: Medium density leatherback nesting has been recorded along the Kwa Zulu coast (Tongaland) of Natal (Frazier, 1982; Hughes, 1982a). The numbers of nesting females increased from five in 1966 to 70 in 1977/78 (Hughes, 1982a). Further increases to over 100 per season were observed in 1995 (Hughes, 1996).

CMS actions: None reported.

Other actions: Three decades of strong protection have led to increases in the small annual nesting population of leatherbacks more than fourfold. This population is believed to be representative of a larger nesting population in Mozambique and turtles nesting here are known to forage in the waters between Mozambique and Madagascar. This makes the importance of marine protected areas such as the recently extended Bazaruto National Park and newly created Quirimbas National Park in Mozambique extremely important for protecting developmental and feeding grounds of these turtles (McLellan *et al.*, 2004).

As part of the region plan to implement the Sodwana Declaration, The Natal Parks Board initiated a turtle research program at the Turtle Beaches/Coral Reefs of Tongaland, and designated a Ramsar site in October 1986 (Wetlands International, 2003). WWF South Africa has also developed a conservation management project along the coastline of St Lucia Marine Reserve (WWF-ZA, 2003). The Conservation Management and Monitoring is the longest running research project of its kind in southern Africa. It carries out annual surveys, and seeks to determine the size and distribution of nesting populations of Loggerhead and Leatherback Turtles (WWF-ZA. 2003).

The leatherback turtles of the Tongaland beaches of KwaZulu-Natal, South Africa, have been the subject of a monitoring and patrol programme, led by KZN Wildlife and supported by WWF and others, that has been running since 1969 (McLellan *et al.*, 2004).

WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will be implemented in South Africa, Namibia and Angola, and will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:

Status: Leatherback turtles have been recorded here(Pascual, 1985; Pino, 1996a and b).

Ceuta

Stranded leatherback turtles have been recorded here in 1980, 1982 and 1983 (Fernandez and Moreno, 1984).

Canary Islands

Leatherback sightings in Macaronesia are rare, except perhaps in the Canary Islands where the bodies of turtles caught accidentally in industrial fishing nets wash up on the shore (Brongersma, 1968; Fretey, 2001).

CMS actions: None reported.

Other actions: A programme in the Canary Islands is currently being developed for the study and conservation of this species. The 'Centro Oceanografico de Malaga' has been studying marine turtles for over 20 years. The interactions of *D. coriacea* with fisheries and its migratory patterns have been studied and genetic analysis and tagging programmes have been undertaken (Kasparek, 2001).

SRI LANKA:

Status: Historically, Sri Lanka was the major breeding ground for the leatherback in the Indian Ocean (Deraniyagala, 1953). Leatherback populations underwent dramatic declines from the 1970s onwards (Spotila *et al.,* 2000). Frazier (1982) reported turtles nesting mainly in the south-east on the Yala coast, with probably less than 100 females nesting annually.

Widespread nesting was recorded in the south in 1997-1998 (Amarasooriya, 2001; Amarasooriya and Jayathilaka, 2002). Leatherbacks were noted as nesting on the beaches of Induruwa, Kosgoda, Mavela, Usangoda, Ambalantota, Bundala and Yala (Mutukumara, 1998).

CMS actions: IUCN, in collaboration with the Department of Wildlife Conservation, has produced a National Marine Turtle Conservation Action Plan for Sri Lanka and declared a marine sanctuary (Sri Lanka National Report to CMS, 2002).

Other actions: Amarasooriya and Jayathilaka (2000) studied marine turtle nesting in the north-western, western and southern part of the country. Results indicate that leatherback turtle nesting occurs on the majority of the beaches surveyed.

Sudan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Suriname:

Status: The beaches of the Guianas (French Guiana, Suriname and Guyana) host the largest Atlantic leatherback turtle nesting beaches in the world. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

Nesting occurs in the Galibi Reserve on the Suriname side of the Marowijne estuary, and further west in the Bigisanti area (Matapica and Krofajapasi beaches) east of Paramaribo (Groombridge, 1982). Nesting has been reported in the Galibi Reserve on the Suriname side of the Marowijne estuary, and further west in the Bigisanti area (Matapica and Krofajapasi beaches) east of Paramaribo (Groombridge, 1982).

The total number of nests, probably representing virtually all Leatherback nesting in Suriname, rose fairly steadily from 95 in 1964 to 1,625 in 1975 (Schulz, 1975) and to 3,900 in 1979 (Schulz, 1982). This rise in numbers was thought to be due at least in part to nesting females shifting from the French Guiana sites (Schulz, 1982). Assuming a two-year nesting cycle and three nests per female each year, about 650 females nested in 1975 at Bigisanti and 200 at Galibi (Schulz, 1975). In 1999, 4,200 nests were counted and it was estimated that the total number was over 10,000 (Hilterman et al., 2002). Estimates from the Galibi National Park population indicated 1,635 in 1970, which increased to 8,812 in 1980 and the last report from 1985 stated that there were 12,401 individuals.

CMS actions: Not a Party to CMS.

Other actions: Sea turtle activities are co-ordinated by a local Amerindian organisation, Stinasu, which promotes sustainable development and ecotourism. Organisations involved with turtle conservation are the Biotopic Foundation, the Oceanic Society and the University of Suriname. Stinasu, established the first ban on marine turtle eggs harvesting in 1968, since then the organisation, supported by others, has undertaken fieldwork, awareness programmes and international collaboration. Conservation work has been carried out mostly at the Galibi Nature Reserve (WWF, 2003a; Hilterman *et al.*, 2000). Studies have been undertaken in Suriname on nesting ecology (Mosier *et al.*, 2002), nest paternity and genetic variation (Byles *et al.*, 1998).

In Suriname, WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations, such as the community-based Stidunal, are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

SWEDEN (v)*:

Status: Leatherback turtles have been recorded here (Mathiasson, 1995).

CMS actions: None reported.

Other actions:

SYRIAN ARAB REPUBLIC:

Status:

CMS actions: None reported.

Other actions:

U.R. TANZANIA:

Status: Population size and trends are not known for leatherbacks in Tanzania. One mortality each was recorded in Dar-Es-Salaam and Mafia since Jan. 2001 (U.R. Tanzania National Report, 2002). Although occasional nesting was noted by Márquez (1990), this is contradicted by the Tanzania National Report to CMS (2002) which stated that there is no nesting record.

CMS actions: There is monitoring of mortalities in Mafia Islands. There are plans to form a technical committee to coordinate all turtle conservation programmes in Tanzania (U.R. Tanzania National Report, 2002).

Other actions: WWF is working with local communities on Mafia Island on a variety of natural resource management topics, including fisheries management, alternative non-destructive fishing ventures and marine turtle conservation. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and Born Free Foundation, amongst others (McLellan *et al.*, 2004).

Over the last nesting season on Mafia Island, over 10,000 hatchlings were produced from nest protection, and the rate of human poaching fell to 4% of previous levels. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: The leatherback turtle is found in the waters of peninsular Thailand. It breeds on the airport beach in Changwat Phuket, in the Laem Phan Wa marine reserve in Phuket, and in coastal Changwan Phangnga (Bain and Humphrey, 1980). It was found in waters of peninsular Thailand, and breeds on the airport beach in Changwat Phuket, in the Laem Phan Wa marine reserve in Phuket, and in coastal Changwan Phangnga (Bain and Humphrey, 1980). In 1992-1993 at least 28 nests were recorded on the Phuket and Phangnga coastline (Settle, 1995). In 1997-1998 a survey found nine nests at Phra Thong island in the south (Aureggi *et al.*, 1999). The Andaman Sea population was decimated by near-total, long-term egg harvest (Limpus, 1995). Leatherback populations underwent dramatic declines from the 1970s onwards (Spotila *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

TOGO:

Status: Solitary leatherback turtles have been recorded nesting here (Márquez, 1990). Neonates have also been been recorded (UNEP/CMS 2000). There are three Leatherback eggs in a museum collection, but no recent data on this species exist (UNEP/CMS, 2000).

CMS actions: The Office of Fauna and Hunting (DFC) has labelled/tagged eight turtles of this species which were washed up on the beach (Togo National Report, 2002).

Other actions:

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Trinidad and Tobago:

Status: Some leatherback nesting has been recorded, mainly on the north and east coasts of Trinidad, where the nesting population was estimated at 400-500 females in 1971 (Bacon, 1970; Carr *et al.*, 1982; Chu Cheong, 1990; Ross, 1982a; Sternberg, 1981). There may be 1,000 nests per year (Márquez, 1990). In 1991 a minimum of 300 nests were laid in Trinidad and at least 50 nests in Tobago (Godley *et al.*, 1993). There have been significant increases in nesting (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions:

TUNISIA:

Status: Leatherback turtles have been recorded here by Hachaichi (1985) and reported as occurring regularly by Bradai and El Abed (1998).

CMS actions: Future activities to be decided (Tunisia National Report, 2002).

Other actions:

Turkey:

Status: Leatherback turtles have been recorded here only very recently (Baran, 1998; Taskavak and Farkas, 1998)

CMS actions: Not a Party to CMS.

Other actions:

Tuvalu:

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Arab Emirates:

Status:

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status: Leatherback turtles have been recorded here (Langton, 1999a; b; Morgan, 1989). Many reports of its occurrence in UK waters from 1997 to 2003 are described by the British Marine Life Study Society at http://ourworld.compuserve.com/homepages/BMLSS/turtles.htm

Anguilla

Leatherback turtles have been recorded nesting on the main island and Scrub Island (Richardson and Gumbs, 1984; Oldfield, 1999; Anguilla National Trust, 2003).

British Indian Ocean Territory

Leatherback turtles have been recorded here as vagrants (Oldfield, 1999).

British Virgin Islands

Leatherback turtles have been recorded nesting here (Eckert *et al.*, 1992).

Declines in the numbers nesting were reported from 1987 to 1989 (Cambers and Lima, 1990). Only small numbers were nesting in the early 1990s, with fewer than 10 per year on Tortola (Cambers and Lima, 1990; Eckert *et al.*, 1992) This species only nests between late March and June and the annual nesting population consists of approximately 10-15 individuals with 39 nests in

1998, 33 nests in 1999 and 63 nests in 2000 (UK National Report to CMS, 2002). In 2001 the figure increased to an all time high of 63 verified nesting activities (Hastings, 2003).

Cayman Islands
Leatherback turtles have been recorded nesting here during a survey between 1971 and 1991 (Wood and Wood, 1994) but none was found in 1998 and 1999 (Aiken *et al.*, 2001).

Grenada
Leatherback nesting here has been described as "occasional to sporadic" by the National Marine Fisheries Service and U.S. Fish and Wildlife Service (2001).

Montserrat
Leatherback turtles have been rarely recorded nesting and breeding here (Jeffers and Meylan, 1984; Oldfield, 1999).

Saint Helena
A single Leatherback was recorded about 1km off the coast of Ascension Island in December 2001 (White and George, 2002).

CMS actions: A Species Action Plan (SAP) for marine turtles in the UK has been published. A three year project investigating the exploitation of marine turtles in the UK Overseas Territories is now underway, funded by DEFRA and co-ordinated by the Marine Turtle Research Group and Marine Conservation Society. The study will provide information on the current conservation status, population trends, exploitation patterns and genetics of marine turtles in these territories, as well as providing recommendations for future conservation, monitoring and management efforts (UK National Report to CMS, 2002).

In October 2001, the DEFRA funded project Turtles in the Caribbean Overseas Territories was launched, to assess the status and exploitation of Hawksbill *Eretmochelys imbricata*, Green *Chelonia mydas*, Leatherback *Dermochelys coriacea*, and Loggerhead *Caretta caretta* Turtles in Anguilla, Bermuda, the British Virgin Islands, the Cayman Islands, Montserrat, and the Turks and Caicos Islands. Assessment will include fieldwork and genetic stock analysis at foraging grounds and nesting beaches, and evaluation of legal/illegal turtle harvesting (UK National Report to CMS, 2002).

Other actions:

United States:

Status: On the Atlantic coast small scale nesting is recorded from Georgia (Pete and Winn, 1998a and b; Richardson and Richardson; 1995; Frick *et al,* 2002), and Florida (mainly in Martin and Palm Beach counties) (Lund, 1978), with isolated records from North Carolina (Anon., 1980; Rabon *et al.*, 2003). There are no nesting sites in the US continental Pacific coast, according to the action plan produced by the National Marine Fisheries Service and US Fish and Wildlife Service (1998); however, it seems that there are important feeding areas there. Leatherback turtles have been recorded from the west coast in California (Starbird *et al.*, 1993, 1995) to 60°N in Alaska (Hodge, 1979). It has also been recorded on the east coast (Lazell, 1980; Leary, 1957; Lund, 1978; Shoop and Kennedy, 1993).

According to the National Marine Fisheries Service and US Fish and Wildlife Service (1992) nesting trends appeared to be stable, but populations faced significant threats in the marine environments; it reported its main nesting occurrence was in south-western Florida. Bagley *et al.* (1998) reported

finding 12 nests in the Archie Carr National Wildlife Refuge, Florida in 1996. Calleson *et al.* (1998) recorded the species nesting in north-west Florida.

American Samoa
Leatherback turtles have been recorded here (Grant, 1994; UNEP-WCMC, 2003).

Federated States of Micronesia
Leatherback turtles have been occasionally recorded here (Buden and Edward, 2001).

Puerto Rico: Nesting recorded on islands adjacent to Puerto Rico, including Culebra, Mona and Vieques (Carr *et al.*, 1982). A study in 1981 recorded 26 Leatherback nests during the entire season on Vieques (P. C. H. Pritchard, *in litt.* to IUCN CMC, 2 February 1982).

U.S. Virgin Islands: Annual emigration rates averaged 34.1% and the migration interval was 2 years according to Boulon *et al.* (1996). 50 to 70 leatherbacks were recorded as nesting at Sandy Point on St Croix (Anon., 1981a). There have been significant increases in nesting and St. Croix (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: The National Marine Fisheries Service (NMFS) and US Fish and Wildlife Service produced a recovery plan in 1992 that was aimed at helping the species recover to self-sustainable levels. The major action to achieve this aim focused on: long term habitat protection and ensuring hatching success in the most important nesting beaches; determination of the distribution and seasonal movements for all life stages; reduction of threats from marine pollution and reduction of incidental catches by commercial fisheries. In 1998 the NMFS produced the action plan for the species recovery in the US Pacific coast (UNEP-WCMC, 2003).

Actions proposed were focused on incidental catches by the US and international fisheries; supporting to other countries in their efforts to census and protect nesting beaches in the Pacific; determination of movement patterns; determination of US population size and determination of stock home ranges. The Caribbean Conservation Corporation Sea Turtle Survival League was founded in 1959 and since then it has been undertaking research and education projects in order to protect marine turtles in the Caribbean (UNEP-WCMC, 2003).

Research has been carried out into familial relationships among nesting females using genetic techniques; genetic structure and relatedness to nesting populations; satellite tracking; reproductive endocrinology; nesting activities; distribution in the eastern coast and Caribbean islands; ontogeny of diving and feeding behaviour in Leatherback hatchlings (Mosier *et al.*, 2002). Scientists from the USA have also carried out research on the acoustic orientation and sound discrimination of hatchlings, body temperature during inter-nesting intervals, aquatic predation of leatherback turtles (Kalb and Wibbels, 2000); Leatherback strandings on the coasts of Georgia; heart rates and diving behaviour (Epperly and Braun, 1998); identification of individual and mating behaviour inferral by means of molecular genetics; hatchling near shore movements (Byles *et al.*, 1998) competition for prey with sunfish, migration patterns (Keinath *et al.*, 1996)

URUGUAY:

Status: The latest status of the species in Uruguay is not available (Uruguay National Report, 2002), but in the past leatherbacks have been fairly often recorded as strandings or caught in marine fisheries (Fallabrino *et al.*, 2000).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions: The Karumbé project involves Uruguayan fishing communities in marine turtle conservation projects, by means of education in schools, communication of the status and threats facing marine turtles in Uruguay and worldwide, and teaching local people techniques to release and resuscitate caught turtles. The project is also aiming to achieve that Uruguay ratifies the Inter-American Convention for marine turtles protection and conservation, as it is the only country that has not ratified it yet (Karumbé, 2003).

Vanuatu:

Status: Leatherback turtles have been recorded nesting here (Márquez, 1990).

CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. As a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:

Status: Leatherback turtles have been recorded here (National Marine Fisheries Service and U.S. Fish and Wildlife Service, 2001), particularly on the Paria Peninsula (Hedelvy *et al.*, 2000). In 2000 a total of 37 gravid females were tagged (Guada *et al.*, 2002).

CMS actions: Not a Party to CMS.

Other actions: The Working Group for Marine Turtles from Venezuela and the NGO Widecast have prepared an action plan for marine turtle recuperation in this country. The plan aims to update information, establish guidelines for research and management and contribute to decision-making. Conservation initiatives developed in Venezuela include projects in Miranda, Sucre and Nueva Esparta States, in the Roques Archipelago; and also include conservation and biology courses and workshops (Tierraviva, 2003). Other initiatives for the species conservation include the creation of a sea turtle centre in Cipara, de Paria Peninsula, as recommended by the Action Plan for the Recovery of Sea Turtles in Venezuela. The main objective of this centre is to protect and monitor nests on the beach. Activities will include turtle tagging, beach surveys, interaction with fisheries, and volunteer training (Guada *et al.*, 2000). Studies on the interaction of marine turtles with artisanal fisheries and turtle monitoring activities have been carried out in Venezuela (Mosier *et al.*, 2002).

Viet Nam:

Status: Leatherback turtles were recorded here in the 19th century (Stuart *et al.* 2002) but there is little recent information, although their occurrence was noted by Kadir (2002). Populations of loggerhead turtles are in serious decline in Viet Nam (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: There are proposals for a network of protected areas (Kemf, *et al.*, 2000).

Yemen:

Status: Leatherback turtles have been recorded as occasionally nesting nesting here by Márquez (1990), but there is no evidence of this from other sources. It is listed as a Range State by CMS (2003).

CMS actions: Not a Party to CMS.

Other actions:

Additional information – Western Sahara*:

Status: Leatherback turtles have been recorded here (UNEP/CMS, 2000), although there is little information available on the presence of Leatherback turtles along the Western Sahara coast (Bons and Geniez, 1996).

Acions: None.

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Note: reference in the text which are not given in full in the REFERENCE section, may be found in the following report:

UNEP-WCMC (2003). Report on the status and conservation of the Leatherback turtle, *Dermochelys coriacea.* UNEP-WCMC, Cambridge, U.K.

* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Eretmochelys imbricata* (Linnaeus, 1766)

SYNONYMS: -

COMMON NAME: Hawksbill Turtle (English); Caret; Tortue à bec de faucon; Tortue à écailles; Tortue imbriquée (French); Tortuga carey; Tortuga de carey (Spanish)

RANGE STATES: Algeria; Angola; Antigua and Barbuda; AUSTRALIA; Bahamas; Bahrain (?); Bangladesh; Barbados; Belize; BENIN (?); Brazil; Brunei Darussalam; Cambodia; CAMEROON; Cape Verde; CHILE (Easter Island); China (including Taiwan); Colombia; Comoros; CONGO (?); CONGO, DEMOCRATIC REPUBLIC OF THE; Cook Islands; Costa Rica; Côte d`Ivoire; Cuba; Djibouti; Dominica; Dominican Republic; Ecuador (including Galapagos Islands); EGYPT; El Salvador; Equatorial Guinea; Eritrea; Fiji; FRANCE (including French Guiana, French Polynesia, Guadeloupe, Martinique, New Caledonia, Réunion, Society Islands, Tuamotu Islands, Wallis and Futuna Islands (?));Gabon (?); GAMBIA; GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; IRELAND; ISRAEL; Jamaica; Japan; KENYA; Kiribati; Korea, Democratic People`s Republic of; Korea Republic of; Kuwait; Liberia; Madagascar; Malaysia; Maldives; Marshall Islands (?); MAURITANIA; Mauritius (?); Mexico; Micronesia (Federated States of); MOROCCO; Mozambique; Myanmar; Namibia (?); Nauru; NETHERLANDS (Aruba, Bonaire, Curaçao, Saba, Sint Eustatius, Sint Maarten); NEW ZEALAND (Tokelau); Nicaragua; NIGERIA; Oman; PAKISTAN; Palau; PANAMA; Papua New Guinea; PERU; PHILIPPINES; PORTUGAL; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; Singapore; Solomon Islands; SOMALIA (?); SOUTH AFRICA; SPAIN; SRI LANKA; Sudan; Suriname; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO (?); Tonga; Trinidad and Tobago; Tuvalu (?); United Arab Emirates (?); United Kingdom (Anguilla); UNITED KINGDOM (Ascension Island, Bermuda, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Montserrat, Pitcairn (?), Turks and Caicos Islands); United States (including American Samoa, Guam, Hawaiian Islands, Northern Mariana Islands, Puerto Rico, United States Virgin Islands); Vanuatu; Venezuela; Viet Nam; Yemen; international waters (Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: CR A1bd (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

The hawksbill turtle has a pan-tropical distribution, and has only rarely been reported away from the tropics. The species is often found by divers close to coral reefs (Kemf, *et al.*, 2000).

Nesting occurs throughout the range but rarely in large numbers; only five sites have populations of more than 1,000 females nesting annually (Kemf, *et al.*, 2000). Since nesting sites tend to be more dispersed than in other species, breeding colonies are isolated so that as populations are depleted replenishment by immigration from elsewhere is unlikely. Extirpation of a population will result in irreversible loss of genetic diversity (McLellan *et al.*, 2004).

Although global population numbers for sea turtle species do not exist, there are an estimated 8,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). There is strong evidence for significant worldwide decline (Kemf, *et al.*, 2000). According to Meylan and Donnolly (1999) there have been large declines in many populations distributed throughout the range and there seems to be no evidence to suggest that the recent declines (last 20-40 years) were preceded by a population increase (IUCN, 2003). Given the current population sizes and the historical levels of exploitation, a decline of 80% can be inferred. However, two petitions have been put forward to the Red List Standards and Petitions Subcommittee (1996), challenging the interpretation of the data and the conclusion that there has been an 80% reduction of the global population in the last three generations.

The hawksbill turtle is the sole source of commercial tortoiseshell (also known as "carey") used in jewellery, and have been hunted for centuries for this reason. Intensive overharvesting for shells probably continues to constitute the major threat to the species. In recent decades, eastern Asia, especially Japan, has been a major consumer of tortoiseshell. Through international conventions and national legislation some countries have managed to restrict trade (Kemf, *et al.*, 2000). Despite this legal protection a large amount of illegal trade in hawksbill shells and products persists, with Southeast Asia remaining one of the major regions of supply (McLellan *et al.*, 2004). As with other species, the hawksbill turtle is also threatened by the loss of nesting and feeding habitats, excessive egg-collection, fishery-related mortality, pollution, and coastal development (Kemf, *et al.*, 2000).

Albania (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Algeria:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Angola:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:
Status:
CMS actions:

Other actions: Not a Party to CMS.

AUSTRALIA:

Status: Hawksbill turtles migrate from New South Wales, Northern Territory, Queensland, Western Australia, Indonesia, and Papua New Guinea to breeding and nesting sites in Western Australia, north Queensland and the Northern Territory. In addition, many migrate to breeding sites in neighbouring countries including PNG, Vanuatu, and the Solomon Islands. Breeding occurs year round in the Northern Territory, the Torres Strait and the northern Great Barrier Reef. The Western Australian stock is centred in the southern north-west shelf, with an annual nesting population of possibly several thousand females. Hawksbill turtles are also occasional visitors to Tasmania (Australia National Report, 2002). The highest density of nesting populations of hawksbill turtles in the Pacific, at Milman Island in the Great Barrier Reef, is declining (McLellan *et al.*, 2004).

CMS actions: Nesting sites are being monitored and research has been carried out on GIS-based models for indigenous management, effects of commercial fishing activities and ecotourism (Australia National Report, 2002).

Other actions: WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. Sea Rangers are Aboriginal community representatives who have the responsibility of managing their natural resources. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

WWF's involvement with marine turtle conservation at Ningaloo Reef, one of the longest fringing coral reefs in the world, began with its participation in a campaign to halt a proposed beachside marina and hotel. WWF has supported a community monitoring project involving the local community, local government, and state government conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

The GBR Marine Park, until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR, which will benefit marine turtle conservation enormously (McLellan *et al.*, 2004).

Work is also being carried out in the Great Barrier Reef to prevent unregulated land-based pollution, which has been shown to degrade many inshore marine ecosystems, including marine turtle habitats (McLellan *et al.*, 2004). A report released by WWF in 2001 entitled "Clear? ... or Present Danger" was pivotal in raising government and public awareness of this issue (McLellan *et al.*, 2004).

Bahamas:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bahrain (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:
Bangladesh:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Barbados:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Belize:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BENIN (?):
Status: A relatively weaker population than that of *Chelonia mydas* is found here (Benin National Report, 2002).

CMS actions: Nesting sites are protected (Benin National Report, 2002).

Other actions:
Brazil:
Status:
CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and protect marine turtles through research, conservation actions and community involvement. The work was soon extended nation-wide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).
Brunei Darussalam:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CAMEROON:
Status:
CMS actions: None reported.
Other actions:
Cape Verde:
Status:
CMS actions: Not a Party to CMS.
Other actions:
CHILE

(including Easter Island):

Status: Reported on Easter Island, with a specimen trapped in fishing gear in the central Chilean zone. Its presence on the Chilean coast is doubtful (Chile National Report, 2002).

CMS actions: There are future plans to assess distribution in Chile (Chile National Report, 2002).

Other actions:

China (including Taiwan):

Status: Not a Party to CMS.

CMS actions:

Other actions:

Colombia:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

Comoros:

Status:

CMS actions: Not a Party to CMS.

Other actions:

CONGO (?):

Status:

CMS actions: None reported.

Other actions:

D.R. CONGO:

Status: None reported.

CMS actions:

Other actions:

Cook Islands:

Status: Not a Party to CMS.

CMS actions:

Other actions: WWF is working with communities to ensure that local people have access to the information they require to sustainably manage their natural resources, including marine turtles. Part of this is through supplying tags to those communities in the outer islands who want to participate in a tagging programme, as well as directly tagging and releasing turtles caught in Rarotonga Lagoon (McLellan *et al.*, 2004).

Costa Rica:

Status: Tortuguero, on the Atlantic coast of Costa Rica, is a nesting site for hawksbill turtles (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions:

COTE D'IVOIRE:

Status:

CMS actions: None reported.

Other actions:

Cuba:

Status: Harvest for domestic trade continues to occur within the country (Kemf, *et al.*, 2000). Cuba continues to take hawksbills in its waters, and has in the past tried unsuccessfully to obtain permission to trade legally under CITES; however, Cuba is participating in regional dialogues on the species' conservation. Southern Cuba is probably the most important feeding ground (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology (CIM) at Guanahacabibes (McLellan *et al.*, 2004). Current research into the genetics of hawksbills in Cuban waters is ongoing with the University of Cuba and CIM (McLellan *et al.*, 2004).

WWF is advocating regional cooperation on hawksbill conservation and management, as the solutions require a regional approach, and is working closely with the Cuban government through our presence in Cuba. WWF is also studying alternatives to the marine turtle harvest in Cuba with local scientists, including a study of the nutritional and cultural value of the turtles, and seeking partners to address the issue of decommissioning the Cuban hawksbill stockpile (McLellan *et al.*, 2004).

Djibouti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status: In 2000, Cuba, together with Dominica, proposed to CITES that they reopen international trade with Cuba selling hawksbill turtle shells to Japan. Harvest for domestic trade continues to occur within the country (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ecuador (including Galapagos Islands):

Status:

CMS actions: Not a Party to CMS.

Other actions: Studies carried out by NOAA in the Atlantic Ocean suggest that adaptations to the fishing gear can significantly reduce bycatch of marine turtles. Working closely with the IATTC and NOAA, WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-hooks to circular hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status:

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Fiji:

Status: Harvest of hawksbill turtle shell for domestic trade continues to occur within the country (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: ***French Guiana***

Hawksbill turtles nest on French Guiana's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

Mayotte (br)*

Occurrence reported (Frazier, 1985).

CMS actions: None reported.

Other actions: ***French Guiana***

Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action has recently been finalised and submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Gabon (?):

Status: All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) in Gabon (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

GAMBIA:

Status:

CMS actions: None reported.

Other actions:

GHANA:

Status:

CMS actions: None reported.

Other actions:

Grenada:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Guatemala:

Status:

CMS actions: Not a Party to CMS.

Other actions:

GUINEA:

Status: Spread out particularly in the northwestern zone of Guinea. This species is frequently observed and encountered in fishing nets between October and December (Guinea National Report, 2002).

CMS actions: If the technical and financial means are acquired, systematic research on the species will be undertaken (Guinea National Report, 2002).

Other actions:

GUINEA-BISSAU:

Status:

CMS actions: None reported.

Other actions:

Guyana:

Status: Hawksbill turtles nest on this country's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan has been finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Shell Beach in Guyana hosts hawksbill nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve. Under the coordination of the Guyana Marine Turtle Conservation Society, WWF has, over the years, supported most marine conservation initiatives including monitoring, beach protection, and enforcement of fishing bans during the nesting season. In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project — an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Honduras:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

INDIA:

Status:

CMS actions: None reported.

Other actions:

Indonesia:

Status: Between 1966 and 1972, hawksbill turtle shell from 150,000 adults were exported from Indonesia, mainly to Japan and there was also a major trade in other turtle products (oil, meat and leather). Harvest of turtle shell for domestic trade continues to occur within the country (Kemf, *et al.*, 2000). The Indonesian populations are some of those that have declined the most (IUCN, 2003).

CMS actions: Not a Party to CMS.

Other actions: ***Berau***
In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Berau Islands (Kemf, *et al.*, 2000).

I.R. Iran:

Status:

MS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ISRAEL:

Status:

CMS actions: Monitoring activities for other species may detect this one (Israel National Report, 2002).

Other actions:

ITALY (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions: WWF is conducting a campaign to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of

marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status: Japan was a major consumer of tortoiseshell until 1994 (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Along most areas of the Kenyan coast, with higher concentrations in the northern parts and there is strong seasonal variations in distribution (Kenya National Report, 2002).

CMS actions: The hawksbill is monitored within the framework of coastal zone and biodiversity monitoring (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

Kiribati:

Status:

CMS actions: Not a Party to CMS.

Other actions:

D.P.R. Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Kuwait:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Liberia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Madagascar:

Status: This species nests in Madagascar (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Community-based conservation projects have been set-up in the Fort Dauphin area (Kemf, *et al.*, 2000). In 2002/2003 WWF initiated tagging activities in northern Madagascar, and commenced a trade assessment at two high-risk sites together with small scale awareness activities (McLellan *et al.*, 2004).

Malaysia:

Status: ***Peninsular Malaysia***

The hawksbill turtle population is very low in Terengganu, Peninsular Malaysia (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: ***Sabah***

In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

The Turtle Islands are major rookeries for hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have been conducted. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. In 1996 a bilateral agreement was signed, establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

Maldives:

Status:

CMS actions: Not a Party to CMS.

Other actions:

MALTA (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Marshall Islands (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

MAURITANIA:

Status:

CMS actions: None reported.
Other actions:

Mauritius (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:

Mexico:
Status: All species of Mexican sea-turtle are under threat and are harvested in huge quantites (Kemf, *et al.*, 2000). The northern Yucatan coast of Mexico is likely to be the major nesting area globally (McLellan *et al.*, 2004). Thanks to conservation efforts, the hawksbill turtle is starting to recover in the Yucatan area (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

F.S. Micronesia:
Status: Not a Party to CMS.
CMS actions:
Other actions:

MOROCCO:
Status:
CMS actions: None reported.
Other actions:

Mozambique:
Status: Hawksbill are found in Mozambique waters and also come ashore to nest (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Namibia (?):
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Nauru:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS:

Status: Reported as breeding in the Netherlands Antilles (van Buurt, 1984).

CMS actions: None reported.

Other actions:

NEW ZEALAND (Tokelau):

Status: Breeding reported (Balazs, 1982).

CMS actions: None reported.

Other actions:

Nicaragua:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA:

Status:

CMS actions: None reported.

Other actions:

Oman:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status:

CMS actions: None reported.

Other actions:

Palau:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PANAMA:

Status: Playa Chiriqui, a beach in western Panama, was historically the most important nesting site of hawksbills in the Caribbean. However, overexploitation of the turtles for the international shell trade has reduced the population by over 85% (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: Research has been conducted into hawksbill turtles in Panama and in the

Leeward and Windward Islands (Kemf, *et al.*, 2000). Recently, one of the two communities Amerindians, custodians of the beach and its natural resources, has decided to protect the turtles. WWF is working in partnership with the Caribbean Conservation Corporation to secure the recovery of the hawksbills at Playa Chiriqui, by building capacity among the Amerindians for the design and implementation of a tourist scheme that translates conservation efforts into tangible community benefits (McLellan *et al.*, 2004).

Papua New Guinea:

Status: Not a Party to CMS.

CMS actions:

Other actions: The potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities is being investigated. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

PERU:

Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status:

CMS actions: None reported.

Other actions: In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands, Sipadan Islands, and the Berau Island (Kemf, *et al.*, 2000).

The Turtle Islands are major rookeries for hawksbill turtles in Southeast Asia. They comprise three Sabah, Malaysia islands, and six Philippines islands. Tagging activities, egg production monitoring and genetic studies have been conducted. As a result, it was agreed that this island group needed to be treated as one management unit, despite both sets of islands being protected independently under their individual country's legislation. In 1996 of a bilateral agreement was agreed on, establishing the Turtle Islands Heritage Protected Area (TIHPA), the world's first transboundary protected area for marine turtles (McLellan *et al.*, 2004).

The islands continue to be managed by their respective country's management authorities, but under a uniform set of guidelines developed by the Joint Management Committee - comprised of representatives from each of the two countries (McLellan *et al.*, 2004).

PORTUGAL (?):

Status: The hawksbill is a rare visitor to the Madeira and the Azores EEZs. The nearest population is located in the Caribbean. Most individuals observed at Madeira and the Azores are juveniles (Portugal National Report, 2002).

CMS actions: Monitoring activities for *Caretta caretta* will detect *Eretmochelys imbricata* and protection activities for *Caretta caretta* will benefit this species indirectly (Portugal National Report, 2002).

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Vincent and the Grenadines:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Samoa:

Status:

CMS actions: Not a Party to CMS.

Other actions: The Samoan Government has declared its political commitment to establishing its 120,000km^2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary in 2002 (McLellan *et al.*, 2004).

SAO TOME AND PRINCIPE:

Status:

CMS actions: None reported.

Other actions:

SAUDI ARABIA:

Status: None reported.

CMS actions:

Other actions:

SENEGAL:

Status: *Eretmochelys imbricata* has been seen in the centre of the country and it has been spotted in the north in the Park of the Barbary Coast, but there has been no precise information about the size of the population (Senegal National Report, 2002). Turtles are under many threats, including local consumption of both turtle meat and eggs. Artisanal fishermen sometimes purposefully capture adult turtles in known foraging grounds on days when their fishing captures are low (McLellan *et al.*, 2004).

CMS actions: There are plans for a national strategy for the conservation of turtles

(Senegal National Report, 2002).

Other actions: WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, which will protect regionally important feeding and nesting grounds for five species of marine turtles (McLellan *et al.*, 2004).

Seychelles:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF funded a field study of hawksbill turtle in the Seychelles in the 1980s leading to a number of government conservation measures (Kemf, *et al.*, 2000).

Sierra Leone:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Singapore:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Solomon Islands:
Status: By the 1970s, Arnavon Island still had the greatest aggregations of hawksbill turtles in the South Pacific, but they were under threat because of increased accessibility offered by outboard motors. Harvest of hawksbill turtle shell for domestic trade continues to occur within the country (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF has undertaken various hawksbill conservation efforts in Arnavon since 1979, including surveys and training wardens (Kemf, *et al.*, 2000).

SOMALIA (?):
Status:
CMS actions: None reported.
Other actions:

SOUTH AFRICA:

Status: None reported.
CMS actions:

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SPAIN:
Status:

CMS actions: None reported.

Other actions:

SRI LANKA:

Status:

CMS actions: None reported.

Other actions:

Sudan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Suriname:

Status: Hawksbill turtles nest on this country's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action has recently been finalised and submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

U.R. TANZANIA:

Status: It was estimated that 50 females nested annually in 1982. The population trend is not known but there is much evidence that a number of former turtle nesting areas have been vacated and that suitable nesting sites are in decline. Hawksbill was recorded in Mafia Island, Mtwara and Zanzibar. Of 24 nests on Shungi-mbili Island (adjacent to Mafia Island) six were Hawksbill. During Jan.-Jun. 2002, three nests were recorded in Mafia (U.R Tanzania. National Report, 2002).

CMS actions: There is a Mafia Island Turtle and Dugong Conservation Programme. Seventeen active nesting beaches on Mafia Island are monitored regularly. A proposal has been developed by the Mafia Island District with assistance from the Mafia Island Turtle and Dugong Conservation Programme to close Nyoro, Shung-mbili and Mbarakuni Islands adjacent to Mafia, for temporary settlements duyring part or all of the year for turtle nesting to recover. A technical committee that will coordinate all turtle conservation programmes in

Tanzania has been formed (U.R Tanzania. National Report, 2002).

Other actions: WWF is working with local communities on marine turtle conservation on Mafia Island. Additional support for the turtle conservation programme is provided by the Wildlife Conservation Society (WCS) and the Born Free Foundation, amongst others. Part of WWF's work in this area has also been to support the new zoning measures in Mafia Island Marine Park, which are anticipated to reduce bycatch levels of marine turtles in no-fishing zones (McLellan *et al.*, 2004).

Thailand:

Status: By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were, and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various WWF sponsored conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

TOGO (?):

Status:

CMS actions: None reported.

Other actions:

Tonga:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Trinidad and Tobago:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Tuvalu (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Arab Emirates (?):

Status:

CMS actions: Not a Party to CMS.

Other actions:

United Kingdom (Anguilla):

Status: Breeding reported (Richardson and Gumbs, 1984). Numbers of hawksbill turtle are starting to recover in Anguilla since a five year moratorium on harvesting of the species was imposed in 1995 (Kemf, *et al.*, 2000).

CMS actions: Anguilla is not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status: Breeding reported in Saint Helena (UNEP-WCMC, 2004).

CMS actions: None reported

Other actions:

United States:
Status:
CMS actions: Not a Party to CMS.
Other actions:
URUGUAY:
Status:
CMS actions: None reported.
Other actions:
Vanuatu:
Status:
CMS actions: Not a Party to CMS.

Other actions: WWF supported (together with the South Pacific Regional Environmental Programme) a local theatre group to give performances to raise awareness of marine turtle conservation, and invite local communities to participate in marine turtle monitoring. The marine turtle conservation theatre programme involves the collection of information and stories upon which the theatrical group base their performances, and the recruitment of "turtle monitors" to provide a network of people concerned about turtle conservation. By 2003, as many as 150 turtle monitors in approximately 80 Vanuatu coastal villagers and the "Turtle Monitors Network" were participating in the programme. As a result of the post-theatre discussions, some villages imposed 10 year bans on turtle killing (McLellan *et al.*, 2004).

Venezuela:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Viet Nam (?):
Status: Populations of hawksbill turtles are in serious decline (Kemf, *et al.*, 2000), and in danger of becoming locally extinct (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: There are proposals for a network of protected areas (Kemf, *et al.*, 2000).
Yemen:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Additional information - Western Sahara *:
Status: Breeding reported as possibly occurring here (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Lepidochelys kempii* (Garman, 1880)

SYNONYMS: -

COMMON NAME: Atlantic Ridley; Gulf Ridley; Kemp's Ridley; Mexican Ridley (English); Lépidochelyde de Kemp; Ridley de Kemp; Tortue de Kemp (French); Cotorra; Tortuga iora; Tortuga marina bastarda (Spanish)

RANGE STATES: Algeria; Canada; Cuba; FRANCE; IRELAND; ITALY; Mexico; MOROCCO; PORTUGAL; SPAIN; United Kingdom (Anguilla); UNITED KINGDOM (including Bermuda, British Virgin Islands, Cayman Islands, Montserrat, Turks and Caicos Islands); United States; international waters (Gulf of Mexico, Atlantic Ocean)

RED LIST RATING: CR A1ab (Marine Turtle Specialist Group, 1996)

CONSERVATION STATUS AND ACTIONS:

Kemp's ridley turtle is restricted to the Gulf of Mexico and coastal waters of the western Atlantic Ocean of the United States and prefers shallow sandy and muddy habitats (Kemf, *et al.*, 2000). Nesting of this species occurs conspicuously in broad daylight, and apart from sporadic nesting elsewhere, takes place only in one location in Mexico (McLellan *et al.*, 2004).

Kemp's Ridleys are the rarest and most endangered sea turtle of the world (Portugal National Report, 2002), and nearly went extinct (Kemf, *et al.*, 2000). Although world wide population numbers for sea turtle species do not exist, there are an estimated 1,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). The nesting population crashed from more than 40,000 turtles coming ashore in a single day in the late 1940s to a few hundred females nesting in an entire season in the late 1980s (McLellan *et al.*, 2004). As a result of an enormous conservation effort the species is undergoing a remarkable recovery, although nesting numbers are still low (McLellan *et al.*, 2004). There was massive exploitation of eggs until this species received protection in 1965 (Kemf, *et al.*, 2000).

Algeria:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Canada:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Colombia (br?)*:
Occurrence reported (UNEP-WCMC, 2004).
Status:
Not a Party to CMS.
CMS actions:
Other actions: WWF has been involved with training for marine turtle conservation and management in the Colombian Pacific. Additionally, WWF's ecoregional

programme for the Colombian and Ecuadorian Pacific includes planning that takes into account important turtle nesting sites (McLellan *et al.*, 2004).

Cuba:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology at Guanahacabibes (McLellan *et al.*, 2004).

FRANCE:

Status:

CMS actions: None reported.

Other actions:

IRELAND:

Status:

CMS actions: None reported.

Other actions:

ITALY:

Status:

CMS actions: None reported.

Other actions: WWF is conducting a campaign in Italy to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

MALTA (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

MAURITANIA*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Mexico:

Status: Apart from sporadic nesting elsewhere, nesting takes place on only one 20km beach at Rancho Nuevo in the Gulf of Mexico. In the past tens of thousands nested here, but today arrivals are numbered in the hundreds, although the species is starting to recover in this area (Kemf, *et al.*, 2000)

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and 1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000). Surveys into Kemp's ridley turtle have been conducted. The species is undergoing a recovery in response to conservation

efforts at Nuevo Rancho. All nests are protected and fishermen are required to use turtle excluder devices to reduce capture of the turtle in their nets (Kemf, *et al.*, 2000).

MOROCCO:

Status:

CMS actions: None reported.

Other actions:

NETHERLANDS (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

PORTUGAL:

Status: The population is still extremely low, but growing slightly. Most individuals observed at Madeira and the Azores are juveniles and it may well be that this species uses Macaronesian waters regularly as a developmental habitat. However, the low population numbers drastically reduce the chances of sighting this species (Portugal National Report, 2002).

CMS actions: Monitoring activities for *Caretta caretta* will detect this species. No future activities planned to specifically target this species, but activities for *Caretta caretta* will benefit it indirectly (Portugal National Report, 2002).

Other actions:

SENEGAL*:

Status: Lack of precise detail on the presence of the species although it has been spotted in the centre of the country (Senegal National Report, 2002).

CMS actions: Note that CMS does not currently consider Senegal to be a range state. However, according to the Senegal National Report (2002), a national strategy will be put in place for the conservation of turtles.

Other actions: WWF has funded a number of protected areas for turtles in Senegal (Kemf, *et al.*, 2000).

SPAIN:

Status:

CMS actions: None reported.

Other actions:

United Kingdom (Anguilla):

Status:

CMS actions: Anguilla is not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status:

CMS actions: None reported.

Other actions:

United States:

Status: The species prefers shallow sandy and muddy habitats, such as the coastal lagoons of Louisiana, Texas and Alabama (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Lepidochelys olivacea* (Eschscholtz, 1829)

SYNONYMS: -

COMMON NAME: Olive Ridley; Pacific Ridley (English); Ridley du Pacifique; Tortue bâtarde; Tortue de Ridley; Tortue olivâtre (French); Tortuga golfina; Tortuga olivacea (Spanish)

RANGE STATES: Angola; Antigua and Barbuda; AUSTRALIA; Bahrain; Bangladesh; Barbados; BENIN; Brazil; Brunei Darussalam; Cambodia; CAMEROON; Canada; Cape Verde; CHILE; China; Colombia; Comores; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; Costa Rica; COTE D'IVOIRE; Cuba; Djibouti; Dominica; Dominican Republic; Ecuador; EGYPT; El Salvador; Equatorial Guinea; Eritrea; FRANCE (including French Guiana, New Caledonia); Gabon; GAMBIA; GHANA; Grenada; Guatemala; GUINEA; GUINEA-BISSAU; Guyana; Haiti; Honduras; INDIA (including Andaman Islands, Laccadive Islands, Nicobar Islands); Indonesia; Iran (Islamic Republic of); Iraq; ISRAEL; Jamaica; Japan; KENYA; Korea, Democratic People`s Republic of; Korea, Republic of; Kuwait; Liberia; Madagascar; Malaysia; Maldives; MAURITANIA; Mexico; Mozambique; Myanmar; NEW ZEALAND; Nicaragua; NIGERIA; Oman; PAKISTAN; PANAMA; Papua New Guinea; PERU; PHILIPPINES; Qatar; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; SAO TOME AND PRINCIPE; SAUDI ARABIA; SENEGAL; Seychelles; Sierra Leone; Singapore; Solomon Islands; SOMALIA; SOUTH AFRICA; SRI LANKA; Sudan; Suriname; TANZANIA, UNITED REPUBLIC OF; Thailand; TOGO; Trinidad and Tobago; United Arab Emirates; United States (Hawaiian Islands, Puerto Rico, United States Virgin Islands); Venezuela; Viet Nam; Yemen; international waters (Atlantic Ocean, Indian Ocean, Pacific Ocean)

RED LIST RATING: EN A1bd (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

The Olive Ridley is present throughout the Antilles, the north coast of South America, west Africa, the Indian Ocean, Australia and Southeast Asia. Despite this wide distribution, the species has only been observed around continents and large islands, where large flotillas are sometimes seen moving between nesting and feeding grounds. The main nesting beaches are on the eastern Pacific coasts of Central America, from Mexico to Costa Rica, in northeastern India and Suriname. The species is famous for its *arribadas* when mass egg-laying takes place over a number of days (Kemf, *et al.*, 2000).

Although global population numbers for Olive Ridley do not exist, there are an estimated 800,000 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). There is evidence for a significant decline and crude calculations based on the data provided by the Marine Turtles Specialist Group indicate that the reduction since the late 1960s has been close to 50% (Kemf, *et al.*, 2000; Red List Standards and Petitions Subcommittee, 1996). However, a petition has been presented to Red List Standards and Petitions Subcommittee claiming that there is evidence of large numbers of nesting turtles, and increasing numbers in some areas (IUCN, 2003).

Olive Ridley populations are in sharp decline due to poaching of eggs, beach development, fishing and pollution. The belief that turtle eggs have aphrodisiac properties is a major threat to Olive Ridley populations in Central and South America. Populations of Olive Ridley are sometimes threatened with disease, particularly tumours, which may be caused by pollution (Kemf, *et al.*, 2000). The Olive Ridley will always be vulnerable because such a large proportion of its reproductive effort is concentrated in only a few locations. Human caused or natural disturbances to nesting beaches and internesting areas can have huge repercussions on the whole population (McLellan *et al.*, 2004).

Angola:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME).The project mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

Antigua and Barbuda:

Status:

CMS actions: Not a Party to CMS.

Other actions:

AUSTRALIA:

Status: The Australian population of the Olive Ridley turtle is poorly documented. They migrate from feeding ground in Queensland, the Northern Territory and Western Australia to reach breeding and nesting sites in the Gulf of Carpentaria (Queensland) and the Arafura Sea (Northern Territory). They have not been recorded nesting in Western Australia. The females nest all year round (Australia National Report, 2002).

CMS actions: Numerous research papers on subjects including monitoring nesting sites, GIS-based models for indigenous management, effects of commercial fishing activities, ecotourism (Australia National Report, 2002).

Other actions: The GBR Marine Park, until recently, had not been well protected with respect to marine turtle habitats. However, the GBR Marine Park Authority is in the process of establishing a network of no-take zones throughout all 70 bioregions of the GBR, which will benefit marine turtle conservation enormously (McLellan *et al.*, 2004).

The principal focus of WWF's work in the Great Barrier Reef is the prevention of unregulated land-based pollution, caused by agricultural land clearing and poor land management practices upstream in the rivers that

discharge into the Marine Park (McLellan *et al.*, 2004).

Over 80% of the northern coastline of Australia is owned and managed by indigenous Aboriginal people. WWF is working in partnership with Indigenous Sea Rangers on joint projects that include marine debris surveys and turtle research and monitoring. WWF assists Aboriginal communities to establish their own marine turtle monitoring programmes by providing training, equipment, additional funding and professional support. This enables Aboriginal communities, via their Sea Rangers, to monitor their own marine turtle resources and in so doing, provide valuable scientific data about the turtles in their region. Sea rangers from Dhimurru Land Management Aboriginal Corporation have been conducting helicopter based turtle monitoring along the Cape Arnhem coastline since 1996 (McLellan *et al.*, 2004).

The movements of Olive Ridley turtles which nest on the Tiwi Islands north of Darwin, are largely unknown. WWF is currently launching a tracking study of these turtles which will reveal migration patterns between nesting and foraging grounds, and details about currently unknown foraging areas and foraging behaviour (McLellan *et al.*, 2004).

Bahrain:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Barbados:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BENIN:

Status: This species is seen with increasing frequency according to people inhabiting the coast (Benin National Report, 2002).

CMS actions: Various actions including publicity, education, raising awareness and safeguarding of supposed egg-laying sites are being carried out (Benin National Report, 2002).

Other actions:

Brazil:

Status:

CMS actions: Not a Party to CMS.

Other actions: Until the end of the 1970s, there were no marine conservation programmes in Brazil. Marine turtles were in grave danger of local extinction through capture in fishing nets, adult females killed for meat and nests being destroyed. In 1980, the Brazilian Institute of Forestry created the TAMAR Programme, to save and protect marine turtles through research, conservation actions and community involvement. The work was soon extended nationwide from the original project sites, and focuses on the identification of species, the main nesting sites, the nesting seasons, and the socio-economic reasons for the overexploitation of marine turtles by coastal communities. Accompanying this has been a large education and awareness-raising campaign (McLellan *et al.*, 2004).

Brunei Darussalam:

Status:

CMS actions: Not a Party to CMS.
Other actions:

Cambodia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

CAMEROON:
Status:
CMS actions: None reported.
Other actions:

Canada:
Status:
Not a Party to CMS.
CMS actions:
Other actions:

Cape Verde:
Status:
CMS actions: Not a Party to CMS.
Other actions:

CHILE:
Status: It has been reported in Region V (Valparaíso) and Region VIII, in Lirquén and Arauco (Chile National Report, 2002).

CMS actions: The SERNAPESCA and CPPS 2001 Workshop was held in Valparaíso to define priority action guidelines of a programme for the conservation of marine turtles. There is a lack of adequate funding for research and logistic support to cover the Chilean littoral and oceanic islands. (Chile National Report, 2002).

Other actions:

China:
Status: Occurrence reported in Taiwan (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Colombia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Comores:
Status:
CMS actions: Not a Party to CMS.
Other actions:

CONGO:
Status: Very few egg-laying sites are known. Ridley Turtles have been observed near the beaches of Pointe-Noire (to the north) and are present in the Conkouati National Park. They have been accidentally captured by fishermen out at sea. (Congo National Report, 2002).

CMS actions: None reported.
Other actions:

D.R. CONGO:

Status: None reported.
CMS actions:
Other actions:

Costa Rica:

Status: Nancite is one of the world's main Olive Ridley nesting beaches (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: The turtles are protected whilst nesting at Nancite (Kemf, *et al.*, 2000).

COTE D'IVOIRE:

Status:

CMS actions: None reported.

Other actions:

Cuba:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF has supported habitat protection in a key marine protected area, Jardines de la Reina, and supported enforcement action to aid in the decommissioning of turtle nets within the park. Turtle nesting monitoring has also been carried out in conjunction with Centre for Molecular Immunology at Guanahacabibes (McLellan *et al.*, 2004).

Djibouti:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Dominican Republic:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Ecuador:

Status: Reported in the Galapagos Islands (UNEP-WCMC, 2004). Since the 1960s, Olive Ridleys have been killed for their leather. An estimated 450,000 turtles, mainly Olive Ridleys were slaughtered during the 1970s in Ecuadorian waters to for the international trade (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Working closely with the IATTC and NOAA,WWF is undertaking a pioneering effort in the Eastern Pacific to test such gear fixes for their efficiency and conservation impact. This work is designed to facilitate the shift of the Ecuadorian artisanal fisheries fleet from traditional j-hooks to circular hooks and provide them with dehooking equipment and training (McLellan *et al.*, 2004).

EGYPT:

Status:

CMS actions: None reported.

Other actions:

El Salvador:

Status:

CMS actions: Not a Party to CMS.

Other actions: Since 1995, WWF has focused its Central American marine turtle conservation

activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

Equatorial Guinea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Eritrea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

FRANCE:

Status: ***French Guiana***
Olive Ridley turtles nest on French Guiana's beaches. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: ***French Guiana***
Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Gabon:

Status: All species of turtle on the Gabon coast are threatened by direct harvesting and as a bycatch of multinational fishing fleets. There are no laws to protect sea turtles (other than leatherbacks) (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: A regional marine turtle organisation, Kudu, made the first estimate of nesting turtles near the city of Gamba in the 2002-2003 season. Important baseline data on the number of Olive Ridleys which came ashore to nest, were collected in this season, and will form the basis for repeat monitoring and tagging programmes in the future. The project partners also undertook environmental education activities, aimed at increasing the awareness of the endangered status of the turtles, and initial conservation measures to protect them (McLellan *et al.*, 2004).

GAMBIA:

Status:

CMS actions: None reported.

Other actions:

GHANA:

Status:

CMS actions: None reported.

Other actions:

Grenada:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Guatemala:
Status:
CMS actions: Not a Party to CMS.
Other actions:
GUINEA:
Status:

CMS actions: Future actions will include in-depth research, protection and restoration of the habitat, and public communication and information campaigns (Guinea National Report, 2002).

Other actions:
GUINEA-BISSAU:
Status:
CMS actions: None reported.
Other actions:
Guyana:
Status: Olive Ridley turtles nest on this country's beaches, including Shell Beach. Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000, WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

Shell Beach hosts Olive Ridley nests. WWF and UNDP are providing the technical and financial support to the extensive consultation that is needed to formally declare and manage this beach as a reserve. Under the coordination of the Guyana Marine Turtle Conservation Society, WWF has, over the years, supported most marine conservation initiatives including monitoring, beach protection, and enforcement of fishing bans during the nesting season. In the last few nesting seasons, WWF has supported educational camps for local communities and supported the Almond Bay women's coconut project - an alternative livelihood option to the poaching of turtle eggs. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly, local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

Haiti:
Status:
CMS actions: Not a Party to CMS.
Other actions:
Honduras:
Status:
CMS actions: Not a Party to CMS.
Other actions:
INDIA:
Status: Some of the main nesting beaches of Olive Ridley are found along India's

Gahirmatha coast in the Orissa mangroves. In the 1970s an estimated one million Olive Ridleys (of both sexes) visited Gahirmatha to lay 50,000,000 eggs per year. The Orissa mangroves are threatened by the massive local prawn aquaculture industry which has removed more than 30km^2 out of the total 115.5km^2 of mangrove habitat (Kemf, *et al.*, 2000).

One of the main threats to marine turtles in Orissa is from trawl fishing in the 'no fishing' zones and non-compliance over the use of Turtle Excluder Devices, even though they are mandatory by law (McLellan *et al.*, 2004). In 1999 alone, 13,000 Olive Ridleys were killed in Orissa by fishing trawlers (Kemf, *et al.*, 2000). Trawlers operating illegally in the coastal protected area during the nesting season cause an increased number of turtle strandings and mortality (McLellan *et al.*, 2004).

The mass nesting phenomenon used to be concentrated northwards at the Gahirimatha and Devi river mouths, but coastal erosion and development have pushed the nesting turtles further south to the Rushikulya river mouth. Beach development, erosion and predation are all serious threats to the mass nesting (McLellan *et al.*, 2004).

CMS actions: None reported.

Other actions: In 1975 the government declared the Bhitarkanika Wildlife Sanctuary, but the prawn aquaculture industry seriously threaned the nesting habitat of Olive Ridleys. In 1997 the Orissa Government passed a law preventing further development in the B.W. Sanctuary (Kemf, *et al.*, 2000). WWF is engaged in dialogue with the fishing community and the government in order to regulate the fishing operations and develop turtle-friendly fishing practices (McLellan *et al.*, 2004).

Beach protection work in 2003 included creating awareness in the surrounding villages of the endangered status of Olive Ridley turtles, protecting the nests from predators, and subsequently collecting and releasing the hatchlings into the sea. WWF India is also starting to address marine turtle conservation awareness in the south-east state of Tamil Nadu through traditional folk theatre, and through beach cleaning and stakeholder meetings in the central western state of Goa (McLellan *et al.*, 2004).

Indonesia:

Status:

CMS actions: Not a Party to CMS.

Other actions: ***Berau***

In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included Berau Island (Kemf, *et al.*, 2000).

I.R. Iran:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ISRAEL:

Status:

CMS actions: None reported.

Other actions:

ITALY:

Status:

CMS actions: None reported.

Other actions: WWF is conducting a campaign in Italy to decrease mortality of marine turtles due to bycatch. WWF has supported the presence of independent observers on Italian longline fishing fleets to monitor fish catches and document the extent of marine turtle and shark bycatch and mortality. This type of monitoring programme is limited by the high costs involved, and the alternative is to involve the fishing industry in collecting the data. These data will provide valuable information about the rate and nature of fishing interactions, in order to guide future mitigation measures. WWF is also creating a management plan for their five Italian Rescue Centres, the goal of which is the veterinary treatment, rehabilitation and release at sea of marine turtles (McLellan *et al.*, 2004).

Jamaica:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Japan:

Status:

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Along most areas of the Kenyan coast, with higher concentrations in the northern parts and there is strong seasonal variations in distribution (Kenya National Report, 2002).

CMS actions: Olive Ridley turtles are monitored within the framework of coastal zone and biodiversity monitoring (Kenya National Report, 2002).

Other actions: In 1996, WWF joined forces with the Kenya Wildlife Service, the Fisheries and Forest Departments and local communities to develop a long-term management strategy integrating conservation and development priorities of the Kiunga Marine National Reserve. The project has focused on developing sustainable and equitable methods of using the reserve's resources. Community participation in protecting nesting marine turtles is fostered through an incentive scheme for nests discovered and protected throughout the season. The community has also actively participated in ongoing monitoring of marine turtles and their habitats (McLellan *et al.*, 2004).

WWF has recently hosted a marine turtle training course for KESCOM (Kenya Sea Turtle Committee) (McLellan *et al.*, 2004). WWF is working with national committees for marine turtle to ensure that marine resources are used sustainably by local communities and that critical habitats for marine turtles, as well as coral fish and dugongs, are protected (McLellan *et al.*, 2004).

D.R. Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status:

CMS actions: Not a Party to CMS.
Other actions:

Liberia:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Madagascar:
Status:
CMS actions: Not a Party to CMS.
Other actions:

Malaysia:
Status: ***Peninsular Malaysia***
The Olive Ridleys have suffered serious declines in the past ten years in Terengganu (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: ***Peninsular Malaysia***
WWF conducts the Community Education and Awareness Programme on Turtle Conservation in partnership with the Department of Fisheries at the recently established Ma' Daerah Turtle Sanctuary Centre, a hatchery and interpretation centre, in the Terengganu state on the east coast of peninsular Malaysia. This Sanctuary is a nesting site primarily of green turtles, although some Olive Ridley and leatherback also nest here.The programme aims to establish local community interest and action groups for the conservation of turtles in Ma'Daerah, to build the capacity of local communities on turtle conservation, and to lobby for the gazettal of Ma'Daerah as a turtle sanctuary (McLellan et al., 2004).

Sabah
In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands and Sipadan Island (Kemf, *et al.*, 2000).

Maldives:
Status:
CMS actions: Not a Party to CMS.
Other actions:

MAURITANIA:
Status:
CMS actions: None reported.
Other actions:

Mexico:
Status: Some of the main nesting beaches of Olive Ridley are found here. On one beach in the 1960s, an estimated 30,000 Olive Ridleys nested here in a single *arribada.* Illegal harvesting has been carried out since the 1960s and continued despite a sharp decline in numbers. All species of Mexican sea-turtle are under threat. Today populations of the species are starting to recover in this area, although 500,000 eggs were removed from a Oaxaca beach in 1996 (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect all of Mexico's turtles in the 1980s and

1990s. Public awareness, research, the setting up of protected areas, etc were all facets of the conservation project (Kemf, *et al.*, 2000).

Mozambique:

Status: Turtles are found in the waters of Mozambique and also come ashore to nest (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Work has been conducted by WWF in 2001 on turtle bycatch in shrimp fisheries and on the use of turtle excluder devices (TEDs) (McLellan *et al.*, 2004). A WWF online public advocacy campaign urging Mozambique's Ministers to take action to prevent further losses of turtles was launched in February 2003. As a result of this, and WWF's work with the relevant Ministers, a new Regulation for Marine Fisheries was approved by the Council of Ministers in October 2003, which made TEDs compulsory in trawl nets in Mozambique (McLellan *et al.*, 2004).

In an effort to reduce long-line turtle bycatch by illegal and unlicensed longline fishing vessels in Mozambique waters, the Government has begun to intercept these vessels, through a military team based at Bazaruto Archipelago National Park (McLellan *et al.*, 2004). Marine turtles are among the species benefiting from a number of marine protected areas set up on the coast (Kemf, *et al.*, 2000).

Myanmar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

NEW ZEALAND (Tokelau):

Status:

CMS actions: None reported.

Other actions:

Nicaragua:

Status:

CMS actions: Not a Party to CMS.

Other actions: WWF started a campaign to protect Pacific Olive Ridley turtles in 1987. Since 1995, WWF has focused its Central American marine turtle conservation activities on the Nicaraguan, Honduran, Costa Rican and El Salvador coasts (Kemf, *et al.*, 2000).

NIGERIA (?):

Status:

CMS actions: None reported.

Other actions:

Oman:

Status:

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status:

CMS actions: None reported.

Other actions:

PANAMA:

Status:

CMS actions: None reported.

Other actions:

Papua New Guinea:

Status: Few quantitative data are available about important marine turtle habitats in PNG.

CMS actions: Not a Party to CMS.

Other actions: WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

PERU:

Status:

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is conducting a project to conserve marine turtles along the coast of Peru. This involves monitoring by-catch, conducting a publi awareness campaign and DNA analyses.

Other actions: WWF has worked in Peru with local partners on various initiatives, including a turtle conservation project south of Lima, law enforcement on land and at sea, initiatives against by-catch and illegal consumption, and environmental education and awareness campaigns with local fishermen, villagers and public authorities. One of the outstanding achievements of this work was the recent reduction (by two thirds) of the number of commercial establishments selling turtle meat in the Pisco Paracas area. This was a direct result of numerous control operatives set-up to prevent both the capture and sale of marine turtles (McLellan *et al.*, 2004).

PHILIPPINES:

Status: None reported.

CMS actions:

Other actions: In 1993 an ASEAN Regional Symposium on Marine Turtle Conservation was held, which brought together experts from throughout the Asia Pacific region. The establishment of transboundary protected areas was recommended. Areas proposed included the Phillippine-Sabah Turtle Islands, Sipadan Islands, and the Berau Island (Kemf, *et al.*, 2000).

PORTUGAL (v)*:

Status: Occurrence reported in Madeira (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Saint Kitts and Nevis:

Status: Not a Party to CMS.

CMS actions:

Other actions:

Saint Lucia:

Status:

CMS actions: Not a Party to CMS.
Other actions:

Saint Vincent and the Grenadines:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Samoa:

Status:
CMS actions: Not a Party to CMS.

Other actions: The Samoan Government has declared its political commitment to establishing its 120,000km^2 Economic Exclusive Zone as a Whale, Shark and Turtle Sanctuary in 2002 (McLellan *et al.*, 2004).

SAO TOME AND PRINCIPE:

Status:
CMS actions: None reported.
Other actions:

SAUDI ARABIA:

Status:
CMS actions: None reported.
Other actions:

SENEGAL:

Status: Olive Ridleys have been spotted in the centre of the country and in the north in the National Park of the Barbary Coast. There is no precise information on the size of the population (Senegal National Report, 2002).

CMS actions: A national strategy for the conservation of turtles will be put in place (Senegal National Report, 2002).

Other actions: WWF has funded a number of protected areas for turtles in Senegal (Kemf, *et al.*, 2000). WWF has worked with partners "le village des tortues" on raising awareness of the need for marine turtle conservation in Senegal. As a result, the consumption of turtles has stopped in some villages where turtles were traditionally eaten (McLellan *et al.*, 2004).

The Government of Senegal recently announced the establishment of a network of four marine protected areas in Senegal's coastal zone, which will protect regionally important feeding and nesting grounds for five species of marine turtles (McLellan *et al.*, 2004).

Seychelles:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Sierra Leone:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Singapore:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Solomon Islands:

Status: Not a Party to CMS.

CMS actions:
Other actions:

SOMALIA:

Status:
CMS actions: None reported.
Other actions:

SOUTH AFRICA:

Status:
CMS actions: None reported.

Other actions: WWF is starting a project to assess and reduce the bycatch of threatened seabirds, sharks and turtles on longline fisheries in the Benguela Current Large Marine Ecosystem (BCLME). The project will mainly concentrate on increasing the understanding of the nature and scale of impacts, raising awareness of the conservation issues, training and capacity building of the fishing industry and government, demonstration trials of known mitigation measures, and encouraging the active participation of the fishing industry in dealing with this issue (McLellan *et al.*, 2004).

SRI LANKA:

Status:
CMS actions: CMS has funded a tagging programme, implemented by the turtle Conservation Project.

Other actions:

Sudan:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Suriname:

Status: Some of the main nesting beaches of Olive Ridley are found here (Kemf, *et al.*, 2000). Egg poaching and incidental capture by fisheries off the coast are both seriously threatening marine turtles in this region (McLellan *et al.*, 2004).

CMS actions: Not a Party to CMS.

Other actions: Since 2000,WWF has played a key role in establishing a functioning network for marine turtle conservation across French Guiana, Suriname and Guyana. A Regional Sea Turtle Conservation Programme and Action Plan has recently been technically finalised and been submitted for official endorsement nationally and regionally. It provides a framework for integrated scientific initiatives (including research and monitoring), conservation and public awareness campaigns, and collaboration among local, national and regional entities involved in marine turtle conservation in the Guianas (McLellan *et al.*, 2004).

WWF is currently supporting most marine turtle conservation initiatives which are coordinated under the Foundation for Nature Conservation (Stinasu) – a semi-government organisation. Local Amerindian organisations, such as the community-based Stidunal, are becoming increasing involved in managing, and benefiting from, marine turtle conservation initiatives. WWF has been involved in building field stations on remote beaches, training rangers, supporting sustainable tourism initiatives, and promoting fishing closures in front of a nesting beach reserve. WWF has supported marine turtle conservation in this country for more than 20 years through marine turtle research, supporting enforcement of conservation regulations, developing ecotourism, encouraging selective fishing gear use, and reducing turtle meat and egg take. Increasingly,

local organisations and communities are playing an integral role in the conservation of marine turtles in the Guianas (McLellan *et al.*, 2004).

U.R. TANZANIA:

Status: Population size and trends are not known. There is no nesting record of Olive Ridley Turtle in Tanzania. Formerly nested in Maziwi Island (Tanga Region) which became inundated in the 1980s and which may have been the only (known?) nesting sites in Tanzania. There have been no mortality records in Mafia since January 2001 but fishermen say they do occur from time to time (Tanzania, U.R. National Report, 2002).

CMS actions: There is monitoring of mortalities in Mafia Islands. A technical committee will be formed to coordinate all turtle conservation programmes in Tanzania (U.R. Tanzania National Report, 2002).

Other actions:

Thailand:

Status: By the 1970s, all turtle species in Thailand were subject to commercial egg collection and the harvest was in decline. Drift nets in coastal waters were, and remain, a major threat causing accidental drownings (Kemf, *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: Since 1980 there have been various conservation activities to protect Thailand's turtles, including surveys, anti-poaching patrols, and village-based projects (Kemf, *et al.*, 2000).

TOGO:

Status:

CMS actions: None reported.

Other actions:

Trinidad and Tobago:

Status: Not a Party to CMS.

CMS actions:

Other actions:

United Arab Emirates:

Status:

CMS actions: Not a Party to CMS.

Other actions:

United States:

Status:

CMS actions: Not a Party to CMS.

Other actions:

URUGUAY*:

Status: There are only three records of Olive Ridleys in Uruguay. Therefore the species is not researched (Uruguay National Report, 2002).

CMS actions: Four future research lines have been established: genetic, impacts from fisheries, environmental education, and feeding areas (Uruguay National Report, 2002).

Other actions:

Venezuela:

Status:

CMS actions: Not a Party to CMS.

Other actions:
Viet Nam (?):
Status:

CMS actions: Not a Party to CMS.

Other actions: There are proposals for a network of protected areas (Kemf, *et al.*, 2000).
Yemen:
Status:
CMS actions: Not a Party to CMS.
Other actions:

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* Range State not yet included in the CMS range list for this species.

REVIEW OF CONCERTED ACTION SPECIES

REPTILIA: CHELONIIDAE

SPECIES: *Natator depressus* (Garman, 1880)

SYNONYMS: *Chelonia depressa*

COMMON NAME: Flatback (English); Cayunne; Chelonée à dos plat; Coffre; Tortue à bahut; Tortue marine à dos plat (French); Tortuga franca oriental (Spanish)

RANGE STATES: AUSTRALIA; Indonesia (?); Papua New Guinea

RED LIST RATING: DD (Red List Standards and Petitions Subcommittee, 1996)

CONSERVATION STATUS AND ACTIONS:

Flatback turtles inhabit subtidal soft-bottomed habitats of the continental shelf (Great Barrier Reef Marine Park Authority, 2004). They have the most limited range of any marine turtle species, being found only around the northern half of Australia, and in the seas between northern Australia and southern parts of Indonesia and Papua New Guinea. Flatbacks only very rarely leave the shallow waters of the continental shelf, and nest only in northern Australia, where beaches on small offshore islands are the most important sites (McLellan *et al.*, 2004).

The restricted range means that the flatback is extremely vulnerable to habitat loss, especially of breeding sites, but the major threat appears to be incidental catch by the numerous fishing vessels operating in waters favoured by these turtles (McLellan *et al.*, 2004). Since the species is not highly valued by indigenous peoples, it is rarely subject to direct hunting. Populations of flatbacks are sometimes threatened with disease, particularly tumours, which may be caused by pollution (Kemf, *et al.*, 2000).

Although global population numbers for sea turtle species do not exist, there are an estimated 7,500 nesting females of this species based on nesting beach monitoring reports and publications from the early to mid 1990s (Caribbean Conservation Corporation and Sea Turtle Survival League, 2004). Kemf, *et al.* (2000) reported the nesting population at 10,000 females, but point out that populations have never been monitored. The flatback is probably the least threatened marine turtle species (Kemf, *et al.*, 2000) but there are reasons why some declines may be expected in the future (Red List Standards and Petitions Subcommittee, 1996).

AUSTRALIA:

Status: All known breeding sites of the flatback turtle are in Australia. Breeding is centred in the southern Great Barrier Reef around Peak, Wild Duck, Curtis and Facing islands. However, low density nesting by flatbacks occurs on many mainland beaches and offshore islands north of Gladstone. The largest amount of nesting occurs on Crab Island in western Torres Strait This species is considered vulnerable in Australia (Great Barrier Reef Marine Park Authority, 2004).

CMS actions: None reported.

Other actions: Wild Duck Island National Park (Queensland) was set up in 1982 specifically for flatbacks (Euro Turtles, 2001). WWF's involvement with marine turtle conservation at Ningaloo Reef began with its participation in a campaign to halt a proposed beachside marina and hotel. WWF has supported a community monitoring project involving the local community, local government, and state government conservation agencies since 2002. WWF staff are also working with all other stakeholders in the region, in order to develop a coordinated and collaborative Conservation Strategy for marine turtles on the Ningaloo Reef and adjacent beaches. WWF is also extending its community turtle conservation work to other sites along the northwest coast of Western Australia, including into the Kimberley region, where the focus will be on community participation and sustainable catch by indigenous Aboriginal people (McLellan *et al.*, 2004).

Indonesia (?):

Status: The flatback turtle has been reported in this country (Great Barrier Reef Marine Park Authority, 2004). It is protected (Anon., 2001).

CMS actions: Not a Party to CMS.

Other actions:

Papua New Guinea:

Status: The flatback turtle has been reported in this country (Great Barrier Reef Marine Park Authority, 2004).

CMS actions: Not a Party to CMS.

Other actions: Few quantitative data are available about important marine turtle habitats in Papua New Guinea. As a result, WWF and other partner organisations are currently investigating the potential of establishing a marine turtle monitoring programme that will provide valuable data as well as involve local communities. It is anticipated that the data generated from these surveys will become the baseline upon which national policies for the conservation and protection of marine turtles will be formulated (McLellan *et al.*, 2004).

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* Range State not yet included in the CMS range list for this species.

RAPID REVIEW OF CONCERTED ACTION SPECIES

ANNEX E: OTHER TAXA

REVIEW OF CONCERTED ACTION SPECIES

MAMMALIA: MUSTELIDAE

SPECIES: *Lontra provocax* (Thomas, 1908)

SYNONYMS: *Lutra provocax*

COMMON NAME: Huillin; Southern River Otter (English); Huillin; Loutre du Chili (*French*); Huillín; Lobito patagonica; Nutria chilena; Nutria de Chile (Spanish)

RANGE STATES: ARGENTINA; CHILE

RED LIST RATING: EN A1acd (Medina, 2000)

CONSERVATION STATUS AND ACTIONS:

This freshwater species was widely distributed in Chile and Argentina a century ago, from the Cauquenes and Cachapoal Rivers to the Magellan region in Chile but is now restricted to a few isolated areas, cut off from the riparian forest habitats they need (IUCN, 2003; Earthwatch Institute, 2004).

The distribution of the southern river otter has declined dramatically due to destruction of habitat, removal of vegetation, river and stream canalisation, and extensive dredging (which has recently become one of the most serious threats to otter habitat). Poaching is still a problem especially south of 43° S latitude and in Tierra del Fuego where there is practically no control of hunting. Extirpation of the river otter began in local basins but has become widespread (Medina, 2000).

The lack of re-establishment of the species is probably due to high mortality or reproductive failure following the dispersal of otters into unsuitable areas. This is resulting in a population that is becoming increasingly fragmented and more susceptible to local extinctions through hunting, habitat destruction, human disturbance, predation by domestic dogs, and demographic or environmental stochastic events. Therefore the present status of southern river otter must be considered precarious (Medina, 2000).

ARGENTINA:

Status: The Southern River Otter is very rare (IOSF, 2004) and is listed as 'Endangered' in the Argentine National Wildlife List (IUCN, 2003).

CMS actions: None reported.

Other actions: Monitoring of the Southern River Otter by IOSF in 2000 (IOSF, 2004).

CHILE:

Status: The Southern River Otter is listed in the Chilean Red Data Book of Vertebrates as being in danger of extinction (IUCN, 2003) and has disappeared from its northern range through hunting and loss of suitable habitat (Medina-Vogel *et al.,* 2003). Populations in freshwater habitats are confined to seven isolated areas between Cautin and Futaleufu (IUCN, 2003). Threats include poaching, freshwater pollution, deforestation, otters drowning in fishing nets and habitat destruction caused by draining of waterways (IOSF, 2004).

CMS actions: Various ongoing projects in Regions IX and X and ecological studies of

Lutra provocax are planned in the south of Chile (Chile National Report, 2002).

Other actions:

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* Range State not yet included in the CMS range list for this species.