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Seventh Meeting of National Focal Points for SPAs

Seville, 31 May - 3 June 2005

STATUS OF THE IMPLEMENTATION OF THE SPA PROTOCOL

*For reasons of economy, this document will be available
in a limited number at the meeting.
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STATUS OF THE IMPLEMENTATION OF THE SPA PROTOCOL

General introduction

In anticipation of the Seventh Meeting of Focal Points for SPAs concerning the implementing of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, to be held in Seville, from 31 May to 3 June 2005, RAC/SPA asked the Parties to the SPA Protocol to prepare national reports showing the progress made in implementing the Protocol in their respective countries, according to the improved format suited to the reporting system established in the context of the Barcelona Convention.

Countries that sent in reports

The twenty following countries sent in their reports to RAC/SPA on the date set:

Albania, Algeria, Bosnia-Herzegovina, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Morocco, Monaco, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia and Turkey.

Two of them (Italy and Cyprus) each sent a first report followed by a second, corrected, report.

Format adopted when presenting reports

According to the previously-indicated format, the information was to be presented as a summary that should be no longer than six pages. This was not respected by all the countries; some even sent 105-page-long reports (Bosnia-Herzegovina) and one was only 3 pages long (Turkey). The period that was to be covered by the national reports was that between the Sixth Meeting of Focal Points (Marseilles, 17-20 June 2003) and the Seventh Meeting, planned for Seville from 31 May to 3 June 2005, i.e. the two years from March 2003 to March 2005. In most of the reports, the period covered was from March (June or July) 2003 to March 2005; in some reports this restriction was not observed (Albania, Bosnia-Herzegovina, France, Greece, Serbia and Montenegro, Syria, Tunisia and Turkey) (see **Annex I**).

According to the correspondence sent by RAC/SPA to the Focal Points about preparing reports on the national aspect of the implementing of the SPA Protocol, the reports were to be based on four main lines, i.e.:

- a first part for general information, especially on the identity and function of the writer of the report, and the national organisations and/or bodies that contributed by providing pertinent information
- a second part describing the administrative and legislative steps taken, according to the terms of the Protocol, over the biennial period (2004-2005)
- a third part for information on how far implementation of the Protocol had proceeded at the technical level
- a fourth part where a description of the possible problems and constraints met when implementing the Protocol had been requested.

Although this structuring was generally kept to, some reports were constructed according to models that differed from the improved format suited to the Barcelona Convention reporting system (Bosnia-Herzegovina, France, Tunisia and Turkey). The Bosnian report was 105 pages long; everything that had anything to do with the environment was exhaustively treated, without respecting the four parts previously indicated. Here it should be said that according to the Constitution in force, the Federation of Bosnia-Herzegovina is in charge of regulating environmental protection (jointly between the Federal Government and the cantons). Turkey's report was extremely short and did not give all the information requested, including information about the writer.

Summary of National Reports on Implementing the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Introduction

The present document, which is a synthesis of the information collected from the national reports, was prepared on the basis of an improved format. For more clarity and synthesis, some information was given in the form of tables to make the progress made in implementing the SPA Protocol in the Mediterranean more clearly visible.

The general information that emerges from the national reports is that few new Specially Protected Areas have actually been created since the last Meeting of Focal Points (Marseilles, France, 2003). Efforts have focused more on improving institutional and regulatory aspects and on the tools aimed at protecting SPA and conservation of species and biodiversity, than on creating new Areas.

As to countries joining the relevant regional and international agreements, eight instruments are taken into consideration by the countries in their attempts to protect the marine environment generally and to protect species, resources and natural habitats of ecological and environmental interest for protecting wildlife.

The Barcelona Convention, the Convention on the Protection of the Mediterranean Marine and Coastal Environment and its Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, the Ramsar Convention on Wetlands, the Convention on Biological Diversity, the Berne Convention on the Conservation of Wildlife and Natural Habitats, the Bonn Convention on Conservation of Migrant Wild Fauna Species, the CITES Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the ACCOBAMS Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area.

For those countries that are members of the European Union (Spain, Italy, France, Slovenia, Greece, Malta and Cyprus), the directives on protection and conservation, particularly Directive 92/43/EC on Habitats and Directive 79/409/EC (Natura 2000), were integrated within the national legislation; they cover, according to the writers of the concerned reports, at least in part, the countries' obligations under the Protocol. The Protocol's remaining obligations are seen in certain counties (Greece) as secondary, given their lack of means (staff and equipment).

I- General information

The general information requested includes the identity of the writer of the report and the body or authority to whom s/he is responsible, and the parties or persons who contributed to the elaborating of the report and/or provided pertinent information, including their addresses. It should be noticed here that the reports were generally made by people employed by the national institutions or bodies or organisations responsible for the environment, nature protection and conservation more especially,

with, in some cases, contributions from NGOs. The information was provided by persons and/or bodies each competent in his/her field of activity or responsibility. The impression this part usually gives is of growing, sizeable support from the departments and individuals concerned by nature protection generally and protection of the marine and coastal environment in particular for the efforts made by the countries to implement the Protocol.

In most of the countries, responsibility for implementation belongs either to the central public administrative authorities or, at the same time, the central and regional governments (for local or regional issues), as is the case in Spain and, in part, Italy.

The information collected from the national reports on this general information part appears in **Annex I**.

II- Legal and/or administrative steps taken in pursuance of the Protocol

A summary of the information emerging from the national reports appears in **Annex II**. RAC/SPA reminded the Focal Points that the national reports had to be restricted to the inter-Meeting period 2003-2005, and that for legal measures it had been requested that a copy of a text that had come into force should accompany the report, or be handed in at the Meeting of Focal Points. No report contained any such copy. These should be provided at the coming Meeting in Seville. Also, RAC/SPA pointed out that in several reports the instruction that the report only deal with the period indicated had not always been respected.

As for the basic question concerning progress made in implementing the Protocol by adopting recent legislative and/or administrative measures, it emerges that the actual measures introduced to this end have not been very numerous during the period between the two Meetings. The year 2003 was more productive of legal instruments; in the European countries legal measures had been introduced to incorporate European Union regulations into their own national legislation. In all, 13 laws were passed, most of them in 2003, 5 decrees and legal notices (5) in Malta, a regional act in Spain, and an unspecified legal instrument for Turkey. As for administrative measures, these usually concerned the decisions of councils of ministers, acts funding activities especially on a regional scale (Spain), setting up boards of directors of parks and/or reserves, encouragement for work on databases and study and research projects, etc. In several countries, technical and scientific activities were carried on to enable legal texts, Protected Area management plans and activity regulatory plans to be prepared.

III- Technical implementation of the Protocol

III.1. Lists of Specially Protected Areas created in pursuance of Article 5: During the inter-Meeting period, four national parks were created, in Algeria (3) and Morocco (1). A marine reserve was created in Algeria and two others were declared in Spain; two reserves were cited as being partially protected in Cyprus.

III.2. Suggestions made to put areas within the national jurisdiction on the SPAMI List: Five suggestions were made on this subject during the inter-Meeting period (see **Annex III**), four by Algeria and one by Italy.

III.3. List of SPAs established in pursuance of Article 5: Only the following countries (France, Italy, Libya, Malta, Slovenia, Spain and Tunisia) appended lists to their reports. As for modifications of the borders or the legal status of SPAMIs, these were almost inexistent, both as regards the legal system and as regards SPAMI borders (see **Annex III**).

III.4. Non- indigenous species and GMOs: In most of the reports, it was noted that introductions of species were either not permitted or not yet signalled or still subject to authorization; however, in Spain, a list of non-indegenouss species was identified; in France, two species of Caulerpa, *C. taxifolia* and *C. racemosa*, were being monitored with a great deal of attention; in Greece, GMOs received import authorization; in Italy, 541 non-indigenous species were identified in the Mediterranean; in Lebanon, 22 invasive species were identified; in Libya, 22 invasive species were also identified; Tunisia provided a list of identified Lessepsian species.

III.5. Dispensations from protection measures: Dispensations from protection measures were almost inexistent in most of the countries except that in France 35 dispensations were granted for scientific purposes and in Malta dispensations were granted for four species for fish-farming purposes.

III.6. Inventory of elements of biodiversity: Under this heading information was requested on the dates of making or updating inventories of areas containing rare or fragile ecosystems and inventories of endangered or threatened floral and/or faunal species, appending the relative inventory/ies. The national reports gave only a partial response to this request, and few of them enclosed recent and/or updated inventories. This could be explained by the lack of means – especially human means, particularly taxonomists, as was stressed in the fourth part of the report (problems and constraints). The following information was provided by the countries about their inventories of the constituent elements of biodiversity.

Albania: an inventory of wetlands was published; the list of fauna species exists; a red book on flora and fauna is being prepared.

Algeria: the list of fauna and flora species and of ecosystems was prepared.

Bosnia-Herzegovina: the report included descriptive lists of Bosnian flora and fauna, particularly those in a nature park, but it was difficult to find a clear answer to the question asked.

Cyprus: no inventory mentioned, except for a piece of information on the 2004 revision of a database on potential areas and species to be protected.

Egypt: no inventory mentioned or appended to the report.

France: the inventory of areas of ecological and faunistic interest was appended to the report; a cartographical guide to the *Posidonia* meadow in two distribution areas was made available; other lists of sites were mentioned, but they are not recent.

Greece: no list was appended to the report; there was a reference to the database on sites in the Natura 2000 European network.

Israel: no inventory was appended nor any pertinent information.

Italy: four lists were appended, including one on introduced species and another on species proposed for Annex I of the European Habitats Directive.

Lebanon: no inventory was appended to the report.

Libya: no inventory was appended to the report; some studies are being done; the SDF was used.

Malta: no list was appended.

Morocco: no inventory was appended to the report; a biodiversity inventory for 7 protected areas was being started.

Serbia & Montenegro: no inventory was appended to the report.

Slovenia: no inventory was appended to the report.

Spain: the inventory of natural habitats was revised.

Syria: no inventory was appended to the report.

Tunisia: a list of non-indigenous species was presented; also, there was a reference to three inventories, the most recent dated 2001.

Turkey: no inventory was appended to the report.

III.7. Implementing Action Plans adopted in the MAP context

The Action Plans adopted in the MAP context concerned cetaceans, the monk seal, marine turtles, marine vegetation, bird species listed in Annex II to the Protocol, cartilaginous fishes, and introductions of species and invasive species in the Mediterranean. In the light of the reports, the interest shown in these species differed from one country to the next and one species to the next; however, marine turtles, vegetation, particularly Posidonia, and invasive species seemed to attract more interest than the monk seal (absent from some areas), cetaceans (with the exception of the three countries that are part of the Pelagos marine sanctuary project – France, Italy and Monaco) or cartilaginous fishes. In fact, implementing the Action Plan on Cetaceans and its related actions were better described by the countries belonging to the ACCOBAMS Agreement and the three countries that are part of the Pelagos marine sanctuary project than other countries where actions were carried on to mitigate the impacts of fishing at the level of by-catch of marine mammals (use of pingers) and/or marine turtles.

The activities carried on in the context of the conservation of marine turtles (monitoring of egg-laying areas and strandings, target training, public and fishermen's awareness, etc.) were numerous and showed the high degree of interest shown in marine turtles. As for marine plants, several actions were being carried out to mitigate the harmful effects of fishing and the urbanisation of the coast on Posidonia meadows, particularly the use bottom dragging gear at shallow depths and the destabilisation of the coasts.

Certain countries, particularly those on the southern shore of the mediterranean, were counting on the help of RAC/SPA and the SAP BIO project to help them implement their national action plans. Further details and information on implementing the secen Action Plans appear in **Annex V**.

III.8. Implementing other recommendations made by the Contracting Parties to the Protocol

At the Thirteenth Ordinary Meeting of Contracting Parties, held in November 2003, the Contracting Parties agreed on a set of recommendations on nature protection; among these recommendations were those concerning Biodiversity and SPAs; those relating to the sustainable management of coastal areas and the recommendation on integrating development and the environment. In this part of the report, information was requested on implementation of the above-mentioned recommendations.

Fifteen countries did not report anything on this subject; the five remaining reports contained the following information:

France: referred to the reports presented on the various MAP Protocols without describing or citing them.

Italy: a guide and an atlas were published (in English and Italian) on 22 protected marine areas and on the Pelagos marine sanctuary.

Malta: gave a package of information on the implementing of: the recommendation concerning Specially Protected Areas and Biodiversity and on training and public awareness; Malta joined ACCOBAMS on 13 February 2001. In addition:

- Malta participated in the joint IFAW/ACCOBAMS scientific campaign to collect whale sperm; an awareness and popularization action followed
- Coastal areas were being developed and a document related to this was being prepared
- Data was provided on a biennial basis to the National Statistics Office to promote the situation of threatened plant and animal species
- Malta took part in a training seminar on biodiversity in the Mediterranean in 2004 that targeted, among other objectives, adopting a standard system for evaluating data processing and biodiversity in the Mediterranean.

Syria: three training courses on marine protected areas were given; a national strategy and four Action Plans for the conservation of marine and coastal biodiversity, prepared in the context of SAP BIO, were adopted in 2004 at national level.

Tunisia: as part of the MedMPA project, a plan to manage the marine part of the National Park of Zembra and Zembretta was elaborated in consolidation with the management plan for the dry land part, elaborated as part of the MedWetCoast project.

IV- Brief description of all the problems and/or constraints met in implementing the Protocol

Among the 19 national reports submitted (see **Annex VI**), eight did not mention any particular problem or constraint; in the 11 remaining reports, the problems raised had to do with insufficient coordination and human resources (specialists, especially taxonomists) on a national scale, the lack of financial means, clashes of interest (in certain countries) between agents belonging to different institutions and, in the case of European Union countries, priority being given to implementing the European Directives.

Conclusion

Out of all the countries concerned, 20 responded to RAC/SPA's request, providing reports that described the progress made in their respective countries on implementing the Protocol on Specially Protected Areas and Biological Diversity in the Mediterranean over the inter-Meeting period 2003-2005. Except for some reports where the structure recommended by RAC/SPA was not respected, most of the other reports bore it in mind. The reports provided important information on the progress made, particularly as regards the legal and administrative steps taken and the technical implementation of the Protocol. Here it should be remembered that during the Meeting of Contracting Parties in Catania in 2003, many recommendations were adopted regarding biological diversity and Specially Protected Areas (Part II.B of Annex III). These recommendations concern data collection and periodical evaluation of the situation, planning and management, the implementing of Action Plans and the adoption of new Action Plans (cartilaginous fishes, bird species in Annex II to the 'SPA and Biodiversity Protocol', and introductions of species and invasive species). In the light of the reports, it seems that the Action Plans that attracted more attention than the others were those that concerned marine turtles and marine vegetation (especially *Posidonia*). The interest felt by the countries in other Action Plans differed from one country to the next; protection of cetaceans was the prerogative of the European countries that had erected a sanctuary (called Pelagos) jointly between France, Italy and Monaco, and the monk seal only interested the few countries where its presence was signalled. For the cartilaginous fishes, interest in these species can be termed 'growing', whereas introduced and invasive species hold the attention of most countries, but some of these suffer from a lack of the human and financial means that would allow them to monitor and assess the risks and impacts of these species on native species and their habitats (not enough taxonomists, especially in developing countries). As to the SPAMIs, the number of declared and/or proposed areas seems limited but it is obvious at the same time that much is being done by some countries to prepare the pertinent data and documents that would give in the medium term better performances as regards declaring and conserving SPAMIs.

Lastly, the national reports show several measures taken to protect the SPAMIs against any kind and source of pollution (oil dumping, dumping, passage of boats, etc.), but most of these measures are not recent.

List of Annexes to the Summary

Annex I: General information

Annex II: Legal and/or administrative measures introduced in pursuance of the Protocol

Annex III: List of SPAs created and/or proposed in pursuance of Article 5

Annex IV:

- Modification of the legal system for protected species
- Non-indigenous species and Genetically Modified Organisms
- Dispensations from protection measures
- Inventories of constituent elements of biodiversity

Annex V: Implementation of the seven Action Plans adopted in the context of the Mediterranean Action Plan (MAP): Cetaceans, Marine Turtles, Marine Vegetation, Birds on the List in Annex II to the Protocol, Cartilaginous Fishes, Invasive Species and Introduction of Species

Annex VI: Problems and constraints encountered when implementing the Protocol

ANNEX I

General information

Country	Period covered by the Report	Writer/s of the Repo	Contributing parties
ALBANIA	June 2003-March 2005	3 people in the Nature Protection department	
ALGERIA	2003-March 2005	Biodiversity division/Ministry of Land Use Planning and of the Environment	Environment/wilayas department – Forestry department – Ministry of the Environment – Ministry of Fishing and Halieutic Resources
BOSNIA-HERZEGOVINA	June 2000-31 December 2003	MAP office in Bosnia/Herzegovina	Federal ministries: - Agriculture, management of water and forests – Public works, physical planning and environment protection
CYPRUS	June 2003-March 2005	Department of Fishing and Marine Research	
EGYPT	2003-March 2005	Egyptian Agency for Environmental Affairs – Nature Conservation Sector Ministry of State for the Environment	Ministry of State for the Environment
FRANCE	1 January 2002-31 December 2003	Head Office/administrative and financial affairs Department/Nature and landscapes Ministry of Ecology and Sustainable Development	Regional PACA+Languedoc-Roussillon+Corsica departments -Port-Cros Park -Naval Prefecture, Toulon
GREECE	2001-2005	Head Office for the Environment/Environmental Planning division Ministry of the Environment, Planning and Public Works	Ministry/Agricultural Development and Food – Head Office for Forests – Head Office for Fishing Ministry/Merchant Navy
ISRAEL	February 2003-March 2005	International Affairs department Ministry of the Environment	Israeli Authority for Nature and Parks
ITALY	June 2003-March 2005	Head Office for Nature Protection Ministry /Environment and Territory	ICRAM: Central Institute for Scientific Research Applied to the Sea SIBM: Italian Marine Biology Society
LEBANON	July 2003-March 2005	Urban environment protection department	Ministry of the Environment -Scientists:- Centre for Marine Sciences-National Scientific Research Council-Balamand University
LIBYA	June 2003-March 2005	Environmental General Authority	Marine Biology Research Centre
MALTA	May 2003-March 2005	Nature Protection Unit/Environment Protection department (Environment and Planning Authority)	
MONACO	March 2003-March 2005	Foreign Affairs department Delegation/International and Mediterranean Environment – Ministry of State - Environment, Town Planning and Construction department	
MOROCCO	April 2003-March 2005	High Commission for Water and Forests and the Fight against Desertification (Parks and Reserves department)	

SERBIA & MONTENEGRO	January 2002-December 2003	Ministry of Environmental Protection and Planning	-Institute for Nature Protection -Institute of Marine Biology
SLOVENIA	June 2003-February 2005	PIRAN Regional Office/Nature Conservation Institute	
SPAIN	June 2003-March 2005	Head Office for Biodiversity Wildlife Division Ministry/Environment	Regional governments of the Balearic Islands, Catalonia, Andalusia and Valencia
SYRIA	2003-2004	General Commission for Environmental Affairs/Ministry of Local Administration and the Environment	Ministry of Agriculture and Agrarian Reform -Higher Institute of Marine Research
TUNISIA	January 2002-December 2003	National Environment Protection Agency	-Littoral Protection and Development Agency - National Institute of Marine Science and Technology -Head Office/Fishing and Aquaculture -Head Office of the Environment and Quality of Life (Ministry of the Environment and of Sustainable Development)
TURKEY	December 2002-March 2005		Authority for the Protection of Special Areas

ANNEX II

II. Legal and/or administrative measures introduced in pursuance of the Protocol, to:

Protect, preserve and manage marine and coastal areas of particular cultural or natural value (Article 3)
 Create marine and coastal SPAs (Article 5)
 Ensure protection (Article 6)
 Plan, manage, monitor and control SPAs (Article 7)
 Protect and and conserve species (Article 11)
 Introduction of species and/or GMOs
 Dispensation from protection measures

ALBANIA	<ul style="list-style-type: none"> -Decision of the Council of Ministers in 2003 approving the list of species of Albanian flora to be protected (on the basis of the Berne Convention) -Decision of the Council of Ministers on ‘rules for using caves’ -Decision of the Council of Ministers on the ‘designation of a wetlands system protected landscape’ -Law of 2004 on ‘protection of agricultural lands’ -Law of 2004 on the ‘Republic of Albania’s compliance with the Cartagena Protocol on Bio-security under the Biodiversity Convention’ -Decision of the Council of Ministers in 2005 on ‘protected area development committees’ -Other decisions of the Council of Ministers on funding conservation projects for 2 coastal lagoons -No SPA was designated during the inter-Meeting period -An Action Plan on protecting the environment against earth-origin pollution is being prepared -New rules for creating protected areas and against fishing are being discussed -No concrete measures as regards planning, developing and monitoring SPAs (Article 7)
ALGERIA	<ul style="list-style-type: none"> -The measures introduced during the inter-Meeting period were: -The Law of 2003 setting out rules for the use and exploitation of beaches -The Law of 2004 on hunting -The Law of 2003 on environment protection as part of sustainable development; the Report also mentions a set of legal instruments (laws, decrees, orders) covering the period up to and including 2002 (but this was mentioned in the Report to the Sixth Meeting of Focal Points) -The Decree of 2003 listing the Habibas Islands Marine Reserve -Several study projects are under way -Several legal tools banning the discharge of waste into SPAs or regulating the passage of ships or the introduction of species or even activities (Article 6e and 6h); but there are no precise references or copies in the Report -Decree setting out the standard status of national parks, but it dates from before 2003 -Bill on GMOs being prepared
BOSNIA-HERZEGOVINA	<ul style="list-style-type: none"> -The amendments to the Barcelona Convention have not yet been ratified -A law dated 2003 defines the precautionary principle and the polluter pays principle; it also governs environmental impact studies. There are no legal tools that are specific to the coastal areas -In 2003 a set of laws on water, nature and air protection were published, but there are no legal measures to reenforce the implementation of any protocol, particularly as regards the passage of ships, introduction of species and scientific research.
CYPRUS	<ul style="list-style-type: none"> -5 coastal marine areas were proposed in late 2004 to the European Union as potential Natura sites on the basis of the 2003 law implementing the European Habitats --Directive and part of the Birds Directive -Fishing law amended in 2004, giving the Ministry of Agriculture and the Environment power to declare protected marine areas where fishing, passage of boats

	<p>etc. is banned</p> <ul style="list-style-type: none"> -Law legislating on fishing that regulates the introduction of species (implementation) -2003 law on ‘protecting and developing nature and wildlife’, stipulating that a permit is required for any research on protected habitats and species; this law implements the European Habitats and Birds Directives -Law on fishing (Article 11) that regulates the protection of species (against possession, collecting, trade in, etc.)
EGYPT	<ul style="list-style-type: none"> -No recent legal tools or measures regarding protection for marine and coastal species -No legal tools or administrative measures for creating marine SPAs; the Report mentions the 3 SPAs declared pursuant to the 1983 law -No recent legal and/or administrative measures to ensure protection (Article 6) -Entry into force in 2004 of the Protocol on Biodiversity under the Convention on Biodiversity; in this context, a national law is being drafted, including use of GMOs
GREECE	<ul style="list-style-type: none"> -Several boards of directors of park management bodies were established -Greece’s contribution to the European Natura 2000 ecological network was strengthened -Fishing and breeding migratory fishes was regulated (2001 and 2004); a Presidential Decree dated 2003 on fishing for shellfish was set up -Legislation on protection for SPAs was not modified during the inter-Meeting period; no reference was made to legal and/or administrative measures -No recent legal and/or administrative measure was mentioned as regards planning, managing and monitoring SPAs or species protection -Law no. 3044/02 setting up management bodies for 25 areas, 13 of which have marine and coastal parts, and creating new areas; in 2003 an area was designated and the boards of directors were established for 3 national parks, 6 RAMSAR sites and 3 new protected areas. That for one park was reformed in implementation of - European Directive 1185/03; in 2003 a Presidential Decree modified that on fishing for shellfish
FRANCE	<ul style="list-style-type: none"> -The part set aside for protection and management of marine coastal species is handled according to the protected area and specie categories; it is mentioned that there is no specific measure; the national parks are governed by the Environment Code; the same holds good for nature reserves, biotope protection, and site and regional park listings. Mention is made of the Conservatoire du Littoral, set up in 1975; this is also responsible for Mediterranean sites (a list of these is appended as an Annex) and European Union special conservation areas and special protection areas (also list appended). For species, reference is made to the Environment Code, which integrally protects species on List II of the SPA/BD Protocol. The European sturgeon is protected -Fishing for grouper by diving is forbidden. Other species of marine flora and invertebrates are protected, but no precise reference is given on the legal tools related to this. A revival plan for 2 bird species was launched. Fishing for bluefin tuna requires a special fishing permit, according to a Decree of 2003, with a one-month fishing halt -In accordance with Article 5 of the Protocol, several nature reserves are mentioned, the most recent dating from 2003 (relevant lists are appended to the Report) -In accordance with Article 6 of the Protocol, mention is made of legal instruments creating parks, reserves etc., with anti-pollution protection measures -The passage of ships is regulated in SPAs as is the introduction of species or fishing or leisure activities, but there is no reference to recent relevant legal instruments -Scientific research activities (Article 6) are regulated by the texts that create the reserves. For fishing, there is a reference to standards on minimum size of species fished and to bans on catching certain threatened species -Planning and managing parks and reserves are provided for by the legal instruments that create them: The marine mammal sanctuary was validated in 2004 The introduction of species and GMOs is regulated by the Environment Code, whose implementing decrees are not yet finalized. A national observatory on the expansion of Caulerpa was constituted but the Report does not mention the instrument relevant to its creation Dispensations from protection measures (Articles 12 and 18 of the Protocol) are regulated; 35 permits for catching marine turtles were granted in 2002 and 2003
ISRAEL	<ul style="list-style-type: none"> -The law of 2004 came into force in November 2004 to protect the coastal environment; it strengthens the integrated approach to coastal area management -Prevention of the introduction of any new species
ITALY	<ul style="list-style-type: none"> -In 2003, publication of a Presidential Decree with amendments for the implementation of the European Directive on Nature Conservation -In 2004, a Presidential Decree setting up the new protected marine area of Plemmirio in Sicily -No new measures introduced to strengthen the implementation of the other protocols; mention is made of strengthening the fight against earth-origin pollution in

	<p>the -Pelagos sanctuary. No new measures for the introduction of waste or discharge into the SPAs or for the passage of boats or to regulate the introduction of species or of GMOs</p> <p>-The Pelagos marine mammal sanctuary is described in accordance with the Agreement that set it up. No new steps taken for SPAs or for the protection and conservation of species</p> <p>-Italy signed the International Convention for the Monitoring and Management of Ballast Water and Sediment from Boats (London, 2004)</p> <p>-National guidelines are being prepared to formulate a ministerial decree containing specific procedures for granting dispensations regulated by the European Directive 92/49/EEC</p>
LEBANON	<p>-The Environment Code was promulgated in 2002; legal and administrative measures are being prepared to designate a turtle egg-laying area and a cross-border coastal protected area (between Syria and Lebanon)</p> <p>-No concrete steps taken officially to set up SPAs</p> <p>-The MEDPOL Coastal Litter pilot project funded by UNEP/MAP is being implemented; it concerns the Palm Islands nature reserve (a RAMSAR site for birds, created in 1992), a reserve where the dumping of toxic waste is forbidden, the passage of boats is not allowed within 3 kilometres of the area, the introduction of non-indigenous plant and animal species is prohibited and activities with harmful effects and scientific research are subject to prior authorization</p> <p>-In 2004, an evaluation study was done on biodiversity in the Palm Islands reserve</p> <p>-No recent measures regarding the protection and conservation of species (Article 11)</p> <p>-Regarding the introduction of non-indigenous species and GMOs, 22 invasive species were identified on the Lebanese coast in the Palm Islands nature reserve</p>
LIBYA	<p>-Establishing the Agricultural and Rural Development Authority under which come the planning and protection of natural sites; no reference to measures of this creation</p> <p>-A workshop on cetacean conservation was organised in 2004; a study on wintering birds was done in 2005; a workshop on turtle tagging in 2005; Law 15-2003 (2003) bans dumping or discharge of waste in protected areas; the introduction of non-indigenous species or of GMOs is subject to authorization; catching species for scientific purposes is authorized subject to certain criteria; the above-mentioned 2003 law bans fishing with dynamite or toxic substances. After joining CITES, Libya intends to pass a national law on the trade in and transport of threatened species</p> <p>-No concrete measures regarding planning, developing, supervising and monitoring SPAs (Article 7)</p>
MALTA	<p>-Legal note 257 of 2003 regulating the protection of the natural fauna, flora and habitats; legal note 203 of 2003 regulating the protection of marine mammals; regulating the water policy (legal note 194 of 2004); legal note 236 of 2004 regulating the trade in species of fauna and flora; 5 other legal notes dated 2003 and 2004 on the protection of species, particularly rabbits; a legal note of 2003 regulating GMOs and an order (GN 125/04) on the emergency conservation of a protected area</p> <p>-For setting up coastal and marine SPAs (Article 5) several measures are reported, including those concerning the European Union Natura 2000 network, but no precise recent reference is given in the Report</p> <p>-For protection (Article 6): the same remarks, including for the FILFLA protected area, where fishing, diving and underwater activities are subject to authorization.</p> <p>No recent measures regarding the passage of boats</p> <p>-Legal note of 2003 on the protection of flora, fauna and natural habitats, which regulates the introduction of species and scientific research activities</p> <p>-The above-mentioned legal notes include measures regulating activities (Articles 6e, 6h), scientific research (Article 6f), fishing and capture of animals, collecting of plants and the trade in animal and plant species coming from protected areas; the legal note of 2003 on the protection of fauna, flora and natural habitats provides for the protection and conservation of species (Article 11); the legal note 169/02 as amended on genetically modified organisms; the legal note 170/02 on the introduction of genetically modified organisms, and the legal note 290/02 on the Biological Security Coordinating Committee regulating the introduction of GMOs</p>
MONACO	<p>-Agreement on the Pelagos sanctuary came into force in 2002; in September 2004 the Second Meeting of Contracting Parties to the Agreement and implementing of the sanctuary's geographical area</p> <p>-No creation of new protected areas</p> <p>-A new version of the RAMOGEPOL aerial monitoring plan was signed on 29-4-2005</p> <p>-The Code of the Sea bans the discharge of pollutants and fishing in protected areas; scientific activities there are regulated by the sovereign's order</p>

	-An order of 2005 renders enforceable the amendments to Annexes I and II and the version revised by CITES
MOROCCO	<ul style="list-style-type: none"> -No precise references to concrete legal and administrative measures introduced in pursuance of the Protocol -For the creation of SPAs: 14 sites inventoried, the legal texts for creating SPAs will follow; Prime Minister's decree no. 5255 of 11.10.2004 creating the Al Hoceima -National Park; project to create a Biosphere reserve started in 2003 -Setting up a clearing house mechanism (CHM) on biodiversity; laws no. 11-03 of 2003 and no. 12-03 relate respectively to the 'protection of the environment' and 'to impact studies'; regulations on the introduction of species are described but without giving an exact reference; a bill on rewriting the Hunting Code is being prepared; a management plan for the marine part of the Al Hoceima Park has been prepared; as part of the MedMPA project, several actions are programmed for planning, managing and supervising protected areas, one of which is a regional 5-year project costing 6 million dollars -Project on new RAMSAR sites funded by the WWF -A bill on GMOs is being prepared -Administrative measures are being introduced to elaborate a project aimed at wiping out Erismature
SERBIA & MONTENEGRO	<ul style="list-style-type: none"> -In 2003, adoption of Montenegro's agenda for economic reform which defines the field of biodiversity; recent events in the region have not helped the pertinent activities being carried out -The law on nature protection has been developed; a decree has established 57 plant species and 314 animal species as protected species; the law on forests, the law on hunting and the legislation on fishing are described; there is no concrete reference to legal and administrative measures -Several animal and plant species have been identified and recorded; few recent results
SLOVENIA	<ul style="list-style-type: none"> -In 2004, the law on nature conservation was updated; in 2004, a decree on areas of ecological importance; in 2004 a decree on habitats; in 2004, a decree on Natura 2000 sites; in 2004 a decree on protected animal species; in 2004, a decree on protected plant species and a regulatory measure on the protection of valuable natural features (2004) -Decree on establishing the Strunjan SPA, but without references concerning this -No recent measures concerning protection (Article 6) -No recent measures concerning planning, managing and monitoring SPAs (Article 7) -The above-mentioned decrees include all the species in the Annexes to the Protocol that are protected against capture, possession, slaughter and trade -The 2004 law on nature conservation bans the introduction of non-indigenous species except in cases where this has no harmful effect on biodiversity
SPAIN	<ul style="list-style-type: none"> -Governmental support provided for the strandings database project (MEDACES); this database was adopted by ACCOBAMS -Governmental support provided for a project for identifying SPAs for cetaceans in Spanish waters -Several experiments on the efficacy of an instrument for keeping turtles off trawlers -A 3-year project (2002-2005) on the 'conservation of cetaceans and turtles' in 2 Spanish regions was suggested to the European Union's LIFE-Nature Fund -A project on identifying marine areas of ornithological interest in Spanish territorial waters, co-funded by the government, was also suggested to the European LIFE-Nature project -Several protected areas were declared on the basis of national and regional laws (without giving the references or copies) -(Legal and administrative) protection measures against waste, the passage of ships, the introduction of species, etc. were mentioned, but without giving any specific description or reference -The Agreement on the conservation of the albatross and petrels was ratified in 2003 -A regional act on wild fauna and flora passed in 2003 (Andalusia) -No recent legal measures as regards introduction of non-indigenous species or GMOs
SYRIA	<ul style="list-style-type: none"> -Decree no. 50, 2003 regulating trawl mesh openings and banning certain fishing practices -Decree no. 2004 banning trawling; other 2003 and 2004 decrees are mentioned as regulating fishing -No recent designation of a SPA -Several conventions, agreements and protocols, including the SPA/BD Protocol, were ratified -No recent steps taken against the dumping and discharge of waste into protected areas and to regulate the passage of boats or the introduction of species and/or GMOs or regulating of activities in SPAs. Scientific research is subject to authorization -No reference to steps taken for the protection and conservation of species or on the introduction of species and/or GMOs

TUNISIA	<ul style="list-style-type: none">-Project for a legal framework for the creation of marine and coastal areas not yet finalized-Project to create 3 marine and coastal protected areas-No recent measures for protection (Article 6)-3 management plans for 3 SPAs are mentioned with funding-Reminder of texts governing the protection and conservation of species but no recent measures introduced on the subject-A project for a legal framework on GMOs has been prepared and is being adopted
TURKEY	<ul style="list-style-type: none">-In 2004, publication of the legal instrument on checking waste and pollutants from boats (without any precise reference)-No other legal and/or administrative measures except for the circular that regulates fishing and hunting

SPA: Specially Protected Areas

GMOs: Genetically modified organisms

ANNEX III

III. Technical implementation of the Protocol

III.1. List of SPAs created in pursuance of Article 5, and/or proposed (Article 9a)

ALBANIA	No SPA has been legally established but 8 potential coastal areas are identified and 2 of them have been proposed for the RAMSAR List of Wetlands and 1 as a SPA by the Council of Ministers
ALGERIA	-3 national parks and one marine reserve created -2 marine reserves, 1 island and the Banc des Kabyles proposed on the SPAMI List
BOSNIA-HERZEGOVINA	Only 2 SPAs (2 nature parks) are described exhaustively, and date back to 1995
CYPRUS	-One SPA established and 7 proposed -The list of species protected by the law on the protection and management of wildlife
EGYPT	-No new protected area was established during the period of the Report
FRANCE	-A list of SPAs with 15 nature reserves, 3 parks and 1 marine mammal sanctuary common to three countries, and a list of sites acquired by the Conservatoire du Littoral, the list of sites of community importance, the list of (European Union) special protection areas and the list of listed sites -No sites proposed during the period of the Report; the Port-Cros Park and the marine mammal sanctuary date back to 2001
GREECE	-9 SPAs already established in pursuance of Article 5, 4 of them forests, 1 a park, 2 national parks and 1 a wetland
ISRAEL	-No new SPAs created
ITALY	-1 list of protected marine areas and parks is given, including their surface areas -1 list of 22 habitats proposed for inclusion in the European Habitats Directive -1 list of new species to be included in the same European Directive -In 2005, the Portofino Marine Protected Area was proposed for inclusion on the SPAMI List
LEBANON	-No SPAs established during the period of the Report
LIBYA	-1 list including 3 lagoons, 2 marine turtle egg-laying areas and 1 site for freshwater biodiversity (under consideration) was provided
MALT	-A list of SPAs established in pursuance of Article 5: reference to a website containing 23 sites described according to the Standard Data Form (SDF)
MONACO	-No creation of new marine protected areas during the inter-Meeting period -No proposal for a SPAMI declaration -Inventory of biodiversity elements: 22 species of sponge were added to the 1999 inventory; work is under way for other species (echinoderms, gorgonians and ichthyological fauna) -No inventory provided with the Report, but reference is made to the inventory of invertebrates attached to the hard substrata of Monaco and the 2004 monitoring of biological indicators
MOROCCO	-1 national park (Al Hoceima) was created -No concrete proposals for the SPAMI List
SERBIA & MONTENEGRO	No list of SPAs appended to the Report
SLOVENIA	- A list of 7 protected areas, including 1 marine, 2 coastal and 4 marine and coastal is described in pursuance of Article 5 of the Protocol -The landscape park of Strujan will be proposed in the next biennial period
SPAIN	-List of Protected Areas under Article of the Protocol -List of Protected Areas for 5 Spanish regions -List of sites of community importance for 7 Spanish regions, including lists for birds

	<ul style="list-style-type: none"> -List of wetlands (RAMSAR) for 5 Spanish regions -List of Biosphere reserves for 2 Spanish regions -List of marine and fishing reserves for 5 Spanish regions -Sites proposed for the SPAMI List: 3 proposed, 2 of which were declared in 2003 and 1 not approved -SPAMI List: 2 new areas declared around the Balearic Islands
SYRIA	<ul style="list-style-type: none"> -No SPAs created during the period of the Report; 3 SPAs were established, the last dating back to 2002 -No proposals for the SPAMI List (Article 9a of the Protocol)
TUNISIA	<ul style="list-style-type: none"> SPAMI List: 3 old sites are mentioned -List of non-indigenous species (molluscs, crustaceans, plants and fishes) -No new areas proposed as SPAMIs.
TURKEY	Incomplete Report, with no information on SPAs

N.B. SPA: Specially Protected Area

SPAMI: Specially Protected Area of Mediterranean Importance

ANNEX IV

III. Technical implementation of the Protocol

III.2. Modification of the legal system for protected species

- Non-indigenous species and GMOs (Article 13.2)
- Dispensations from protection measures (Article 12, 18, 23c)
- Inventories of biodiversity elements

ALBANIA	<ul style="list-style-type: none"> -No change in the legal system for protected species -No non-indigenous species or GMOs introduced -No dispensations granted from protection measures -An inventory of Albanian wetlands published in 3 languages -A list of 6 mammals, 17 birds, 6 amphibians and 17 reptiles is given in the Report -A red book of fauna and flora species is being updated and will be published in 2005
ALGERIA	<ul style="list-style-type: none"> -An implementing decree of the new law on environment protection is anticipated, including the list of protected species -The list of fauna and flora species and ecosystems was prepared as part of the national strategy on the conservation and sustainable use of biodiversity -No information on non-indigenous species and GMOs
BOSNIA-HERZEGOVINA	
CYPRUS	<ul style="list-style-type: none"> -No change in the legal system for protected species -No non-indigenous introduced species or GMOs, but Lessepsian species were mentioned (without being designated) -No dispensations from protection measures -No inventories of biodiversity elements (Article 15) or reference to the use of the Standard Data Form (SDF); the list of potential species and areas as identified between 1998 and 2000 as part of the 'Conservation Areas' project was refined, including a database on land and marine species and habitats
EGYPT	<ul style="list-style-type: none"> A register of cetacean strandings (26) and turtle strandings is used -No change in the indicated status of protected species -No non-indigenous species or GMO was mentioned -No inventory of biodiversity elements -No dispensation from protection measures insulaires avec 22 000 données).
FRANCE	<ul style="list-style-type: none"> -No change in the legal status of protected species -The expansion of 2 species of <i>Caulerpa</i> (<i>taxifolia</i> and <i>racemosa</i>) is being monitored and put under the GIS system, particularly in the Port-Cros Park -An inventory of areas of ecological and faunistic interest is being updated (in the context of the European Union) -1 cartographical guide of the Posidonia meadow, made in 2 demonstration areas -1 inventory of areas of importance for birds has been made -In pursuance of Articles 12 and 18 of the Protocol, 35 dispensations were granted for the capture of marine turtles for scientific purposes; permits collect stranded marine mammals were legally granted
GREECE	<ul style="list-style-type: none"> -No dispensation from protection measures -No change in protected species status -The list of non-indigenous species submitted in 2002 was unchanged. No impact studies done on such species; imported GMOs were given import permits

	-The inventory of sites of ecological interest was not updated. The Standard Data Form was included in the database and the Natura 2000 network sites of ecological importance; but no separate inventories
ISRAEL	-No dispensation from protection measures -No inventory relating to the protection and conservation of species (Article 11) -No new data on non-indigenous species and GMOs -The law on nature conservation anticipates that biodiversity donations cover both the marine and the land domains up to 300 metres inside the land -No information on GMOs and introduced species
ITALY	-A checklist of microphytoplankton in the Italian sea, including 1,740 species and threatened species or endangered species, is being prepared; it will enable the list of priority habitats and species to be included in the Annexes to the Convention -A document on marine caves on the Italian coasts was published -Participation in the European Centre for Biodiversity, coordinated by the Natural History Museum, which has a listing of habitats -A project on non-indigenous species in the Mediterranean, including GMOs, for the purposes of aquaculture and aquariophilia is being prepared -The presence of 541 foreign species has already been signalled in the Mediterranean
LEBANON	-No change in the legal status of protected species -22 invasive species were identified on the Lebanese coast, including 1 Indo-Pacific green alga, 3 species of Caulerpa, 1 red alga, 1 brown alga and 1 phanerogam -No inventory available on biodiversity elements
LIBYA	-No change in the legal status of protected species -20 invasive fish species were signalled; a study on their impacts will start in June 2005 (on coastal ecosystems) -The SDF was used. In 2005, an inventory of birds and the updating of fauna and lagoon species will start -No dispensation from protection measures was granted
MALTA	1 study on Posidonia meadows was finalized in 2003 -No inventories appended to the Report; but several studies were ordered to collect information on threatened species or those in danger of disappearance according to the SDF -Dispensations from protection measures: granted for 4 species
MONACO	-Inventory of constituent elements of biodiversity: 22 species of sponge were added to the 1999 inventory; work is under way for other species (echinoderms, gorgonians and ichthyological fauna) -No inventory provided with the Report, but reference is made to the inventorying of invertebrates attached to the hard substrata of Monaco and to 2004 monitoring of biological indicators
MOROCCO	-Inventory of endangered or threatened species; inventory made on the biodiversity of Jabel Moussa and Al Hoceima (7 sites in all) -No information on changes in the legal system for protected species -No information on GMOs -No dispensation granted concerning protection measures
SERBIA & MONTENEGRO	-No inventory appended to the Report; loss of interest in keeping up and updating inventories (lack of personnel) -No dispensation from protection measures -No non-indigenous species or GMOs signalled; the law forbids the introduction of such species -A list of species needing protection and conservation in the context of marine and coastal biodiversity
SLOVENIA	-No change in the legal status of protected species -No change concerning non-indigenous species or GMOs -The inventory of biodiversity elements will be finished by 2005 -No dispensation from protection measures granted

<p>SPAIN</p>	<p>-A list of 36 species was incorporated in the national catalogue of threatened species (9 of them were listed as species in danger of extinction); in 2004 a decree approved the plan to revive other species of Balearic shearwater -No change in protected species status -A list of non-indigenous flora and fauna species found in Spanish and Mediterranean waters was given with their origins; other species were mentioned in Andalusia and the Valencia region -Inventories linked to biodiversity: * In 2004 a guide of protected fishes and marine invertebrates was published * In 2004 the BIO ATLAS Project started up (database for storing information on island species with 22,000 items)</p>
<p>SYRIA</p>	<p>-No change in the legal status of protected species; a list of marine species is being made -No non-indigenous species or GMOs signalled-A study has been started on marine species in 2 protected areas, including the establishing of management plans -No dispensation from protection measures</p>
<p>TUNISIA</p>	<p>-No change in the legal system for protected species -No dispensation from protection measures -A number of Lessepsian species signalled and mentioned in the Annex to the Report -Constituent elements of biodiversity: inventories of species and habitats (2002) + inventory of sensitive natural areas (2001)</p>
<p>TURKEY</p>	<p>-Study to extend the borders of the Kerbova and Foca protected area under way -No information on possible changes in the legal status of protected species -Inventory of biodiversity: in 2004 for 2 SPAs using the Standard Data Form SDF</p>

GMO: Genetically modified organism

SDF: Standard Data Form

ANNEX V

III. Technical implementation of the Protocol

III.3. Implementing the Action Plans adopted as part of MAP

Cetaceans; marine turtles; marine vegetation; birds (list in Annex II to the Protocol); cartilaginous fishes; invasive species and introduction of species

ALBANIA	-Populations of marine turtles, wintering birds, molluscs in the coastal lagoons, the monk seal and cetaceans as well as phytoplankton, vegetation, various threatened habitats and protected species are monitored all along the Albanian coasts. No mention was made in the Report of concrete action plans
ALGERIA	-Monk seal: 1 data collection programme is under way -Posidonia meadow: a monitoring network has been set up -Use of a device to reduce fishing impacts
BOSNIA-HERZEGOVINA	-No specific action or result is mentioned in the Report; the Bosnia/Herzegovina representative at the Seville Meeting is said to be going to present a report on protected areas
CYPRUS	Cetaceans have been protected since 1971. Studies are being done to mitigate impacts on fishing nets and reduce the fishermen's negative attitude to some marine mammals -A programme to monitor caves is under way (the presence of monk seals was confirmed in Akamas) -The marine turtle conservation project continues, with a training element -The monitoring of trawlers at depths of over 50 metres is done by a 'VMS boat monitoring system' -Imports of aquatic species, including invasive species and those intended for aquaculture, are subject to authorization
EGYPT	-No observation of the monk seal -A programme of research on marine turtles' egg-laying areas was implemented -Collection of information to establish an action plan on marine plants -Migratory birds (species listed in Annex II to the Protocol) are protected -No action on cartilaginous fishes -A list of invasive species is being prepared; a workshop was organised in 2004 on the subject
FRANCE	-Monitoring of marine turtle strandings by a network created in 1996; France does not possess marine turtle egg-laying areas -Monitoring of cetacean strandings by a network created in 1972; in the context of the Pelagos marine sanctuary, many actions were developed (research and studies on whales and dolphins; limiting of by-catch; whale-watching practised). This enabled a tripartite management plan to be finalized in 2004
GREECE	-The wounded cetacean rescue centre is functional -The national programme to protect the monk seal was strengthened; specific actions were implemented in the south of the Aegean Sea -A LIFE-Nature project was implemented; it helped reduce accidental capture of marine turtles; it includes an ecological network in which sites of importance for marine turtles are included -In the European Union's Natura 2000 network the most important sites for marine plants are included -Several Action Plans for the conservation of bird species in Annex II to the Protocol were carried out thanks to the financial support of the European Union (LIFE-Natura), which provides for elaborating an action plan on the conservation of the Eleonora's falcon in 9 pertinent sites -Nothing was said about cartilaginous fishes and invasive species, except for the establishing in 2002 of a Committee to regulate the introduction of foreign species for aquaculture purposes
ISRAEL	-A Marine Turtle Rehabilitation Centre was set up -All elasmobranch fishes are protected
ITALY	-The Pelagos marine sanctuary was mentioned; in this context, many Italian universities are participating in the Pelagos programme, which includes

	<p>whale watching and a summary of knowledge on the subject, etc.</p> <ul style="list-style-type: none"> -Several isolated monk seals were observed around Sardinia -The Italian national plan on marine turtles is being revised -There is no action plan on marine plants in Italy, although the mapping of Posidonias progressed and several actions were carried out to protect this phanerogam -The Action Plan on cartilaginous fishes has not yet been approved; experts worked on identifying certain species, particularly rays -There was no action plan on invasive species and introduction of species, or on the bird species in Annex II to the Protocol, but much research was done on them
LEBANON	<ul style="list-style-type: none"> -No particular interest shown in the cetacean Action Plan -No particular interest shown in the monk seal -In 2004, marine turtle egg-laying areas were the object of coastal monitoring, including an action carried out in the south of the country, training trainers to monitor and maintain these species, public awareness campaigns, documentary, etc. -Two marine areas were prospected for marine plants; a marine flora and fauna mapping programme was started in March 2004; 2 micro-algae have been monitored in 2 sites in northern Lebanon since 1999 -The gull reappeared after a long absence thanks to monitoring work and efforts to reduce competition with other bird species -No action on cartilaginous fishes, but two research programmes were implemented from January 2005, particularly including monitoring of chondrichthyans
LIBYA	<ul style="list-style-type: none"> -1 seminar on cetaceans was organised in collaboration with RAC/SPA and ACCOBAMS -The study on the monk seal will continue, in its second phase, in July 2005 -A programme for public awareness on the conservation of marine turtles will be launched -Monitoring and mapping of marine vegetation in 2 sites will be done by the Tajura Marine Biology Centre -A national programme on cartilaginous fishes was started -20 Lessepsian species were identified in Libyan waters
MALTA	<ul style="list-style-type: none"> -Cetaceans are protected by regulations; there is a system for recording strandings; several biological monitoring and public awareness actions were carried out -No particular action for the monk seal (rare in Maltese waters) -Actions were carried out to elaborate an action plan for marine turtles -Actions were carried out to elaborate an action plan for marine plants; much data used to elaborate an action plan on marine vegetation is available -Several sites, especially the islet of Filfla and the wetlands of Ghadira and Smiar, are important for the birds in Annex II to the Protocol; public awareness actions were carried out -An Action Plan on cartilaginous fishes is being prepared, with the help of RAC/SPA -The Action Plan on the introduction of species and invasive species has not yet been adopted; several actions at scientific level were carried out to collect data
MONACO	<ul style="list-style-type: none"> -Monaco acts as the Executive Secretariat of the ACCOBAMS Agreement on Cetaceans; the Contracting Parties to this Agreement met in 2004 on the island of Elba -Marking out a protected area to better monitor the Posidonia meadow and <i>Caulerpa taxifolia</i>
MOROCCO	<ul style="list-style-type: none"> -No action plan for the time being; many actions were carried out for the conservation of the monk seal, turtles and marine vegetation as part of the Med Wet Coast project (Trois Fourches site)
SERBIA & MONTENEGRO	<ul style="list-style-type: none"> -There was an allusion to the national report prepared as part of the SAP BIO project, which will be the framework within which action plans will be elaborated
SLOVENIA	<ul style="list-style-type: none"> -The Action Plan on cetaceans is in gestation, especially after the 2004 visit of a representative from ACCOBAMS -Nothing was said on the monk seal, a species absent from Slovenian waters -Work to collect information on turtles in 2005. The information and data collected will be used to prepare an action plan

	<p>-No action plan on marine vegetation; however, several activities were carried out on Posidonia; in 2004 an inventory of habitats was started</p> <p>-No action plan available for cartilaginous fishes</p> <p>-No action plan for the introduction of species and invasive species</p> <p>-A list of introduced species was prepared (particularly via ballast water)</p>
SPAIN	<p>-All the Action Plans listed in Annex II to the Protocol were approved; conservation measures were developed; the regional governments gave financial support to reconstitution and revival centres. The Andalusia region supports a programme that is specific to birds (especially 6 species)</p> <p>-Invasive species in the Alboran Sea are monitored as part of a programme to control exotic species in Andalusia</p>
SYRIA	<p>-Within the SAP BIO context, it was anticipated that action plans would be prepared; two of these concerned the introduction of species and invasive species, and marine turtles. These plans were not described</p>
TUNISIA	<p>-Nothing was specifically described as to action plans; however, a list of non-indigenous marine species was given in an Annex. Reference was made to a strategic action plan for the conservation of biodiversity</p>
TURKEY	<p>-No action plans as such; mention was made of scientific studies on Posidonia, data collection on the monk seal, turtles and marine vegetation</p>

ANNEX VI**IV. Problems and constraints encountered in implementing the Protocol**

ALBANIA	-Main constraint: the lack of qualified staff and of funds
ALGERIA	-Absence of legal tools enabling new sites to be selected as SPAs -Absence of data banks for SPAs; 2 GIS projects on biological oceanography and biodiversity presented to the COPEMED Project; starting a GIS project on a national scale
BOSNIA-HERZEGOVINA	-Nothing said in the Report on this subject
CYPRUS	- Nothing said in the Report on this subject
EGYPT	-Insufficient funds, knowledge and data; lack of taxonomists; insufficient coordination; inadequate human capacity
FRANCE	- Nothing said in the Report on this subject
GREECE	-European Union regulations a first priority, those of the Protocol (marine and coastal elements) secondary
ISRAEL	-Conflict of interests between the Authority responsible for parks and reserves and the Ministry of Agriculture, under which marine areas come
ITALY	-No particular problem mentioned
LEBANON	-Need to strengthen cooperation on invasive and non-indigenous species, ballast water and hull-washing
LIBYA	-Need for more coordination on a national scale
MALTA	-Need for coordination and synergy between the European and the United Nations regulations to establish sustainability indicators and standards, especially for the marine environment
MONACO	-Nothing said about problems and constraints
MOROCCO	-Need for coordination and synergy; it was suggested that on a national scale the action of various MAP Focal Points and those concerned by SPA/BD should be coordinated
SERBIA & MONTENEGRO	-Nothing said in the Report on this subject
SLOVENIA	-The implementing of the Protocol was delayed by the <i>in situ</i> reorganisation of nature conservation (1999-2003); lack of staff to implement the Protocol and its Action Plans; need for coordination and cooperation
SPAIN	Nothing said on the subject
SYRIA	-Insufficient public awareness of nature conservation; lack of appropriate training and funds
TUNISIA	-Nothing said on this subject in the Report
TURKEY	- Nothing said on this subject in the Report

**NATIONAL REPORTS ON THE IMPLEMENTATION OF THE
PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS
AND BIOLOGICAL DIVERSITY IN THE MEDITERRANEAN**

General information

1. Country / **Albania**
2. Period covered by the report. **June 2003 to March 2005.**
3. National body responsible for drawing up the report.

Indicate the title and address of the national organisation that drew up the present report including the names and titles of the persons responsible for actually drafting the report.

Mr. Zamir Dedej, Director, E-mail zamir@cep.tirana.al
Ms. Ariana Koça, expert, E-mail arianakoca@yahoo.com
Mrs. Elvana Ramaj, expert, E-mail eramaj@hotmail.com

Directorate of Nature Protection
Ministry of Environment
Rruga e Durrësit, Nr. 27
Tirana - Albania
Phone 00355.4.270.624
Fax 00355.4.270.624/7

4. National body and other organisations and/or institutions that provided data for the establishment of the report.

N/A

II. Legal and/or administrative measures taken under the terms of the Protocol¹

6. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

During this period efforts are made to complete the legislative framework on nature protection as following :

- Decision of Council of Ministers no. 804, date 4.12.2003 "On approval of list of species of Albanian Flora which are set under protection" based on Bern Convention
- Decision of Council of Ministers no. 807 date 4.12.2003" On rules to give the caves for use"
- Decision of Council of Ministers no. 680, date 22.10.2004 "On designation of coastal wetland system Vjose-Narta protected landscape "
- Law No 9244, date 17.06.2004 "On Protection of Agricultural Land"
- Law no. 9279, dated 23.9.2004 "On accession of Republic of Albania to the Cartagena Protocol on Biosafety of Convention on Biological Diversity"
- Decision of Council of Ministers No 86, date 11.02.2005, "On the management **Committees of protected areas**"
- *And other decisions of Council of Ministers on approval of agreement with WB for the grants related to projects on conservation of coastal lagoons of Karavasta and Butrinti*

7. To establish marine and coastal specially protected areas (article 5);

During the period under review Albania has not designated any Special Protected Areas.

8. To provide protection (article 6) :
Indicate what legal and/or administrative measures have been taken during the period under review to apply the provisions of article 6 of the protocol within the specially protected areas, and in particular the measures concerning :

- a) Strengthening the application of the other Protocols to the Convention and of other relevant treaties to which they are Parties (article 6 a);

¹ In the case of legal measures, it is requested that a copy of the enacted law be attached to this report or handed in during the meeting of National Focal Points.

- b) Prohibiting the dumping or discharge of wastes liable to harm the protected areas (article 6 b) ;
- c) Regulating the passage of ships (article 6 c) ;
- d) Regulating the introduction of species (article 6 d) ;
- e) Regulating activities (article 6 e), 6 h) ;
- f) Regulating scientific research activities (article 6 f) ;
- g) Regulating fishing, hunting, the taking of animals, and the harvesting of plants as well as the trade in animals or parts of animals, of plants or parts of plants coming from the protected areas.

An action plan on protection of marine environment from land-based pollution is under preparation by Albanian government while Ministry of Environment is working on different issues related to this action plan with regard to implementation of Barcelona Convention and its Protocols such as addressing institutional capacities building and strengthening, environment monitoring, emergency response etc.

A Conference on Marine Environment is foreseen for soon this year which will deal amongst others with marine and coastal protected areas.

A new regulation of fishing is under discussion but the text is more related to conservation and for the first time will establish area of protection from fishing as a first step for the designation of marine protected areas.

9. Concerning planning, management supervision and monitoring of the specially protected areas (article 7);

Priority of Ministry of Environment during this period has been the monitoring of flora and fauna of coastal lagoons in general most of which are part of protected areas system and of which two are specially protected areas as habitat for water fowl (Ramsar sites): Karavasta and Butrinti. Approval and underway implementation of two WB projects in these lagoons have strengthened the collaboration of Ministry of Environment, Ministry of Agriculture and Food and Ministry of Culture, Youth and Sports to plan, manage and control these protected areas.

10. For the protection and conservation of species (article 11);

- (a) *CITES implementation and designation of Management and Scientific Authorities that grant permits regarding the international trade of endangered species of wild flora and fauna and their parts, has played a significant role;*
- (b) *and (c) Better enforcement of the law "On wild fauna and hunting" as well as the Regulation No. 2, dated 23.07.1995 "On the administration and development of wild fauna and natural environment" regarding the strictly protected species of fauna, with an active role of the Ministry of the Environment as a member of the Technical Council of the Wild Fauna and Hunting, taking strict measures in the implementation of the hunting calendar regarding species and **periods, has improved the situation.***

11. To regulate the introduction of non-indigenous or genetically modified species (article 13);

Albania has acceded to Protocol of Biosafety on February which enters into force this May after has been approved by the Albanian Parliament the Law no. 9279, dated 23.9.2004 "On accession of Republic of Albania to the Cartagena Protocol on Biosafety of Convention on Biological Diversity" is approved. A GEF UNEP project on development of Biosafety Framework for Albania is under implementation.

12. To grant exemptions from protection measures (articles 12,18)

N/A

III. Technical application of the protocol

13. List the specially protected areas established under the terms of article 5.

As already mentioned above, Albania has not established by law any SPA-s, but we consider the existing categories (national and international) as potential SPA areas. In the same time in 1996 a study was carried out for the assessment of potential SPA-s in the central part of the coast of Albania.

Today after the inventory carried out by ECAT Tirana and Greek Wetlands Biotope Centre, 8 potential SPA-s along the coastal area of Albania are identified.

1. Karavasta Lagoon and Divjaka National Park - already been established by Decision of the Council of Ministers No.413, dated 22.08.1994 "On the proclamation of the Karavasta Wetland and Divjaka National Park as a Specially Protected Natural Ecosystem to be included in the Ramsar sites list"

2. Butrinti Wetland and its surroundings - established in by the Decision of the Council of Ministers No. 531, dated 31.10.2002 "On the proclamation of the Butrinti Wetland Ecosystem and its surroundings a specially protected area"

14. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9)
- Date of the proposal/s
 - Areas proposed (list attached)

Provide a list of areas subject to national jurisdiction proposed for inclusion on the SPAMI list during the period under review, with the date on which each of the proposals was submitted.

There are no Albanian designated SPAMI-s so far

15. SPAMI list :
- Status and state of the areas under national jurisdiction included on the SPAMI list (article 23a)
 - Any modification in the delimitation or the legal status of the SPAMI (article 23 b).

There are no Albanian designated SPAMI-s so far

16. Any modification to the legal status of protected species.
Decision of Council of Ministers no. 804, date 4.12.2003 "On approval of list of species of Albanian Flora which are set under protection" based on Bern Convention

17. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

No such records.

18. Inventories of the components of biological diversity (article 15).
- Date of establishment or updating of the inventory of areas containing rare or fragile ecosystems;
 - Date of establishment or updating of the inventory of endangered or threatened species of flora and/or fauna ;
 - Attach the inventory/s unless they have already been submitted in a special report.
 - Inventory using the standard data format (SDF)

1. The most recent inventory of Albanian wetlands was carried out jointly by Environmental Centre for Administration and Technology (ECAT) Tirana and the Greek Biotope/Wetland Centre (Greek NGO) which is finalized with a three-language publication in one book and CD, dated December 2003.

2. The list of strictly protected fauna species (protected by the Albanian legislation) recorded in the coastal Lagoons (including Karavasta and Butrinti) during biodiversity monitoring projects of Ministry of Environment with Museum of Natural Sciences, consists on the following species:

Mammals: *Lutra lutra, Canis aureus, Meles meles, Mustela putorius, Delphinus delphi, Tursiops truncatum;*

Birds: *Gavia stellata, Gavis artica, Podiceps nigricollis, Phalacrocorax pigmeus, Egretta garzetta, Egretta alba, Charadrius alexandrinus, Charadrius hiaticula, Chlidris alpina, Chlidris minuta, Tadorna tadorna, Recurvirostra avosetta, Lurus munutus, Larus melanocephalus, Larus genei, Sterna sadvicensis.*

Amphibia: *Salamandra salamandra, Triturus cristatus, Bufo viridis, Hyla arborea, Rana epirotica, Rana dalmatina.*

Reptiles: *Caretta caretta*, *Emys orbicularis*, *Mauremys caspica*, *Tastudo hermani*, *Testudo marginata*, *hemidoctylis turcicus*, *Lacerta viridis*, *Lacerta trilineata*, *Podarcis muralis*, *Popdarcis tauratica*, *Coluber najadum*, *Coluber gemonensis*, *Elaphe situla*, *Elaphe quatorlineata*, *Natrix tesellata*, *Telescopus fallax*, *Vipera amodytes*.

3. The Albanian experts are working a study for the updating of the Albanian red book of flora and fauna species. The updated Red Book is expected to be ready on the first half of 2005, as a part of a regular revision every 5 years, based on the conditions of the species in the country.

19. Exemptions granted to protection measures articles 12, 18, and 23 c).

N/A

20. Implementation of the action plans adopted within the framework of MAP:

- Action plan for the conservation of cetaceans in the Mediterranean sea
- Action plan for the management of the monk seal in the Mediterranean
- Action plan for the conservation of sea turtles in the Mediterranean
- Action plan for the conservation of marine vegetation
- Action plan for the conservation of bird species listed in Annex 2 of the Protocol
- Action plan for the conservation of cartilaginous fish (chondrichthyans) in the Mediterranean sea
- Action plan concerning the introduction of species and invasive species in the Mediterranean sea

In the framework of implementation of the above-mentioned action plans Ministry of Environment has monitored and is monitoring coastal biodiversity through Museum of Natural Sciences for fauna and Institute of Biological Research for flora. Year after year new elements are added and the scope and frequency of monitoring is increased. Interesting is the monitoring of marine turtles' populations of Patok and Karavasta-Divjaka (2003-2005), wintering birds and molluscs in the coastal lagoons, monk seal and cetaceans in Jonian coast and waters (2005), phytoplankton (through chlorophylla a), high vegetation, different habitats and threatened and protected species in protected areas of Albanian coast (2003-2005).

21. Implementation of other recommendations pertinent to the Contracting Parties
Briefly describe the implementation of other recommendations of the Contracting Parties relative to the Protocol.

IV. Brief description of all problems or constraints encountered in the application of the Protocol
The main constrain remain the financial one and the human capacities in order to monitor a wide range of protected areas, potential SPA and their threatened species and to designate SPA sand SPAMIs under Protocol.

Information Générale

1. Pays : **Algérie**
2. Période couverte par le rapport.
De 2003 à mars 2005.
3. Organisme national chargé de l'établissement du rapport.
Ministère de l'Aménagement du Territoire e de l'Environnement
Nadia Chenouf. Sous- directrice chargée de la biodiversité.
4. Organisme national et autres organisations et/ou institutions ayant communiqué des données en vue de l'établissement du rapport

Directions de l'Environnement de wilaya, Ministère de l'Aménagement du Territoire et de l'Environnement, la Direction Générale des forêts et le Ministère de la Pêche et des Ressources Halieutiques.

V. Mesures juridiques et/ou administratives prises aux termes du Protocole : ²

6. Pour protéger, préserver et gérer les espaces marins et côtiers ayant une valeur naturelle ou culturelle particulière, et pour protéger, préserver et gérer les espèces de la faune et de la flore marines et côtières qui sont en danger ou menacées (article 3);
- Ordonnance n° 96-13 du 15 juin 1996 modifiant et complétant la loi n° 83-17 du 16 juillet 1983 portant code des eaux ;
- ♦ Loi n° 03-02 du 17 février 2003 fixant les règles générales d'utilisation et d'exploitation des plages ;
- ♦ Loi 04-07 du 14 Août 2004 relative à la chasse ;
- ♦ Loi n° 84-12 du 23 Juin 1984 portant régime général des forêts
- ♦ Loi n° 98-05 du 25 juin 1998 modifiant et complétant l'ordonnance n° 76-80 du 23 octobre 1976 portant code maritime
- ♦ loi n° 01-10 du 03 juillet 2001 portant loi minière
- ♦ Loi n°01-20 du 12 décembre 2001 relative à l'aménagement et au développement durable du territoire (article 22 et 24) ;
- ♦ Loi n° 01-11 du 11 Rabie Ethani 1422 correspondant au 3 Juillet 2001 relative à la pêche et à l'aquaculture ;
- ♦ Loi n°02-02 relative à la protection et à la valorisation du littoral ;
- ♦ loi n° 03-02 du 17 février 2003 fixant les règles générales d'utilisation et d'exploitation des plages
- ♦ La loi n° 03-10 du 19 Juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable.
- Décret n°82-439 du 11 décembre 1982 portant adhésion de l'Algérie à la convention relative aux zones humides d'importance internationale particulièrement comme habitats de la sauvagine, signée à Ramsar (Iran) le 02 février 1971 ;
- Décret n° 82-498 du 25 décembre 1982 portant adhésion à la convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction, signée à Washington le 3 mars 1973 ;
- Décret n°83-74 du 8 janvier 1983 portant création du conseil supérieur de la chasse ;
- Décret n°83-509 du 20 août 1983 relatif aux espèces animales non domestiques complété par l'arrêté du 17 janvier 1995 ;
- décret 83-458 du 23 juillet 1983 fixant le statut type des parcs nationaux.
- Décret présidentiel n°85-13 du 26 janvier 1985 fixant les conditions d'utilisation des plages ;
- Décret n°85-112 du 7 mai 1985 portant adhésion de l'Algérie à la Convention Internationale pour la protection des végétaux, faite à Rome le 6 décembre 1951 ; révisée par la résolution 11/79 de la Conférence de la FAO du 10 au 29 novembre 1979 ;
- Décret n°87-91 du 21 avril 1987 relatif à l'étude d'impact d'aménagement du territoire ;
- Décret exécutif n°93-285 du 23 novembre 1993 fixant la liste des espèces végétales non cultivées protégées ;
- Décret exécutif N° 95-201 du 25 octobre 1995 portant création de la Direction Générale des Forêts.
- Décret présidentiel n°95-163 du 6 juin 1995 portant ratification de la convention sur la diversité biologique, signé à Rio de Janeiro le 5 juin 1992 ;
- Décret exécutif n°95-252 du 26 août 1995, complétant la liste des espèces végétales non cultivées protégées fixée par le décret exécutif n° 93-285 ;

- Décret exécutif n°95-323 du 21 octobre 1995 réglementant l'exploitation des ressources corallifères ;
- Décret exécutif n°95-429 du 16 décembre 1995 fixant les conditions et les modalités de délivrance d'autorisation pour la production, la détention, la cession, l'utilisation, le transport, l'importation et l'exportation des espèces végétales non cultivées ;
- Décret exécutif n°97-493 du 21 décembre 1997 définissant les différents types d'établissements de pêche et fixant les conditions de leur création et les règles de leur exploitation ;
- Décret exécutif n° 98-216 du 24 juin 1998 modifiant le décret 83-458 du 23 juillet 1983 fixant le statut type des parcs nationaux .
- Décret présidentiel n°98-232 du 18 juillet 1998 portant création du Haut Conseil de la Mer et fixant ses missions, son organisation et son fonctionnement. Ce HCM est chargé notamment d'évaluer régulièrement la mise en œuvre des dispositifs législatifs et réglementaire relatifs à la mer et de décider des mesures appropriées, et de fixer les mesures nécessaires à prendre et les moyens à mettre en œuvre pour une gestion intégrée et durable des espaces maritimes sous juridiction nationale et du littoral ;
- Décret exécutif n° 01-87 du 05 avril 2001 fixant les conditions et les modalités d'autorisation d'usage dans le cadre des dispositions de l'article 35 de la loi n° 84-12 du 23 juin 1984, modifiée et complétée, portant régime général des forêts .
- Décret exécutif n°02-115 du 3 avril 2002 portant création de l'Observatoire National de l'Environnement et du développement durable ;
- Décret exécutif n° 02-371 du 11 Novembre 2002 portant création, organisation et fonctionnement du centre du développement des ressources biologiques CDRB
- Circulaire ministérielle portant sur la mise en œuvre de la loi n° 02-02 du 05 février 2002 relative à la protection et la valorisation du littoral dans le cadre du plan d'aménagement côtier
- Arrêté du 17 janvier 1995 complétant la liste des espèces animales non domestiques protégées ;
- Arrêté du 9 mars 1995 fixant les tailles marchandes des grands migrateurs halieutiques ;
- Arrêté du 18 juin 1997 fixant les conditions et les modalités de pêche aux coquillages vivants.

7. Pour créer des aires spécialement protégées marines et côtières (article 5);

Des mesures juridiques ont été adoptées pour créer des aires protégées marines et côtières, à travers :

- Décret n°85-01 du 5 janvier 1985 portant ratification du protocole relatif aux aires spécialement protégées de la Méditerranée, signé à Genève le 3 avril 1982 ;
- Loi n°02-02 relative à la protection et à la valorisation du littoral ;
- La loi n° 03-10 du 19 Juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable.
- Décret n°83-462 du 23 juillet 1983 portant création du parc national d'El Kala (wilaya d'El Tarf) ;
- Décret n°84-327 du 3 novembre 1984 portant création du parc national de Gouraya (wilaya de Béjaia) ;
- Décret n°84-328 du 3 novembre 1984 portant création du parc national de Taza (wilaya de Jijel) ;
- Décret n°87-143 du 16 juin 1987 fixant les règles et modalités de classement des parcs nationaux et réserves naturelles ;
- Décret n° 87-144 du 16 juin 1987 fixant les modalités de création et de fonctionnement des réserves naturelles ;
- Décret n°03-147 du 26 Moharrem 1424 correspondant 29 Mars 2003 portant classement de la réserve naturelle marine des îles Habibas (wilaya d'Oran).
- Circulaire ministérielle portant sur la mise en œuvre de la loi n° 02-02 du 05 février 2002 relative à la protection et la valorisation du littoral dans le cadre du plan d'aménagement côtier

En parallèle, d'autres mesures ont été mises en place se traduisant par :

- ◇ La création d'un sanctuaire marin Algéro -Tunisien (en instance) ;
- ◇ L'étude d'extension du parc national d'El Kala (Est algérien) à la zone marine en vue de préserver l'écosystème et la biodiversité. Cette étude a été achevée ;
- ◇ Le lancement en cours de l'étude de classement de l'île Rechgoun (Ain-Temouchent) en réserve naturelle marine dont l'objectif est la mise en place d'une MPA en vue de préserver l'écosystème et la biodiversité de cette île ;
- ◇ Le projet d'étude d'extension du parc national de Gouraya (Béjaia, Est algérien) à la zone marine ;
- ◇ Le projet d'étude d'extension du parc national de Taza (Jijel, Est algérien) à la zone marine ;
- ◇ Le projet du classement de la partie marine du mont Chenoua dans le cadre du PAC- région algéroise (tipaza);

En outre, l'Algérie adhéra, dès 1982 à la convention de Ramsar relative aux zones humides d'importances internationales. Au niveau du littoral, des sites algériens ont été classés entre 1983 et 2005, il s'agit notamment de (à titre d'exemple) :

- complexe de zones humides de Guerbes – Sanhadja (wilaya de Skikda) en 2001
- les marais de la Macta (wilaya de Mostaganem) en 2001
- la sebkha d'Oran (wilaya d'Oran) en 2001
- lac de Fetzera (wilaya de Annaba) en 2002
- marais de la Mekhada (wilaya d'El Tarf) en 2002
- lac de Réghaia (wilaya d'Alger) en 2002
- tourbière du lac noir (wilaya d'El Tarf) en 2002
- aulnaies de Ain Khiair (wilaya d'El Tarf) en 2002
- réserve naturelle du lac de Béni Belaid (wilaya de Jijel) en 2002
- lac Tonga (wilaya d'El Tarf) en 1983
- lac Oubeira (wilaya d'El Tarf) en 1983
- lac des oiseaux (wilaya d'El Tarf) en 1999

Aussi, trois sites du littoral algérien, bénéficient du label UNESCO, en tant que réserves de la biosphère du réseau MAB (du programme Man and Biosphère). Il s'agit de :

- Parc national d'El Kala (wilaya d'El Tarf)
- Parc national de Taza (wilaya de Jijel)
- Parc national de Gouraya (wilaya de Béjaïa)

8. Pour assurer la protection (l'article 6) :

a) Le renforcement de l'application des autres Protocoles de la Convention et d'autres traités pertinents auxquelles elles sont parties (article 6 a);

- Mise en œuvre de la convention sur la diversité biologique ;
- Lancement du cadastre national du littoral qui permettra d'identifier les zones pertinentes prioritaires et les sites encore à l'état naturel.

b) L'interdiction de rejeter ou de déverser des déchets portant atteinte à des aires protégées (article 6 b) ;

Plusieurs mesures juridiques ont été prises dans ce sens, à travers les décrets suivants :

- Loi n° 01-19 du 12 décembre 2001 relative à la gestion, au contrôle et à l'élimination des déchets
- Loi n°02-02 relative à la protection et à la valorisation du littoral ;
- Loi n° 03-10 du 19 Juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable.
- Décret présidentiel n°81-02 du 17 janvier 1981 portant ratification du protocole relatif à la prévention de la pollution de la mer Méditerranée par les opérations d'immersion effectuées par les navires et aéronefs, fait à Barcelone le 16 février 1976 ;
- Décret n° 82-441 du 11 décembre 1982 portant adhésion de la République Algérienne Démocratique et Populaire au protocole relatif à la protection de la mer Méditerranée contre la pollution d'origine tellurique, fait à Athènes le 17 mai 1980 ;
- Décret présidentiel n°83-580 du 22 octobre 1983 portant obligation de signalement aux capitaines de navires transportant des marchandises dangereuses, toxiques ou polluantes en cas d'événement en mer ;
- Décret exécutif n°90-79 du 27 février 1990 portant réglementant le transport de matières dangereuses (articles 1 et 32) ;
- Décret présidentiel n°88-228 du 5 novembre 1988 définissant les conditions, procédures et modalités d'immersion de déchets susceptibles de polluer la mer, effectuées par les navires ou aéronefs (article 3);
- Décret exécutif n°93-160 du 10 juillet 1993 réglementant les rejets d'effluents liquides industriels ;
- Décret exécutif n° 93-191 du 10 juillet 1993 réglementant le déversement des huiles et lubrifiants dans le milieu naturel ;
- Décret exécutif n°93-164 du 10 juillet 1993 définissant la qualité requise des eaux de baignade ;
- Décret exécutif n°94-279 du 17 septembre 1994 portant organisation de la lutte contre les pollutions marines et institutions de plans d'urgence ;
- Décret présidentiel n°94-290 du 30 septembre 1995 portant création d'un centre national et des centres régionaux des opérations de surveillance et de sauvetage en mer ;

- Décret présidentiel n°98-123 du 18 avril 1998 portant ratification du protocole de 1992, modifiant la convention internationale de 1969 sur la responsabilité civile pour les dommages dus à la pollution par les hydrocarbures ;
 - Circulaire ministérielle portant sur la mise en œuvre de la loi n° 02-02 du 05 février 2002 relative à la protection et la valorisation du littoral dans le cadre du plan d'aménagement côtier
 - Arrêté interministériel du 10 octobre 1998 portant définition des principes généraux devant régir l'élaboration du plan « *TELBAHR* » ;
- c) La réglementation du passage des navires (article 6 c) ;
- Loi n° 98-05 du 25 juin 1998 modifiant et complétant l'ordonnance n° 76-80 du 23 octobre 1976 portant code maritime.
 - Décret présidentiel n°96-53 du 22 janvier 1996 portant ratification de la convention des Nations- Unies sur le droit de la mer.
 - Décret exécutif n° 66-40 du 11 février 1966 relatif à la réglementation de la circulation des navires de commerce, de pêche et de plaisance.
- d) La réglementation de l'introduction d'espèces (article 6 d) ;
- La loi n° 03-10 du 19 Juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable.
 - Décret exécutif n°95-429 du 16 décembre 1995 fixant les conditions et les modalités de délivrance d'autorisation pour la production, la détention, la cession, l'utilisation, le transport, l'importation et l'exportation des espèces végétales non cultivées ;
 - Décret exécutif n° 97-493 du 21 décembre 1997 définissant les différents types d'établissements de la pêche et fixant les conditions de leur création et les règles de leur exploitation.
 - Arrêté interministériel du 24 février 1992 portant suspension de la cueillette et de l'exportation du corail.
- e) La réglementation d'activités (article 6 e), 6 h) ;
- ◆ Loi n°01-11 du 3 juillet 2001 relative à la pêche et à l'aquaculture ;
 - Décret n°66-192 du 21 juin 1966 réglementant la pêche sous-marine sur le littoral ;
 - Décret n°94-13 du 28 mai 1994 fixant les règles générales relatives à la pêche ;
 - Décret n°95-38 du 28 janvier 1995 fixant les conditions et les modalités de pêche commerciale des grands migrateurs halieutiques par les navires étrangers dans les eaux sous juridiction nationale ;
 - Décret n°96-121 du 6 avril 1996 fixant les conditions et les modalités d'exercice de la pêche ;
- f) La réglementation des activités de recherche scientifique (article 6 f) ;
- Décret n°82-440 du 11 décembre 1982 portant ratification de la convention africaine sur la conservation de la nature et des ressources naturelles, signée à Alger le 15 septembre 1968 ;
 - Décret exécutif n°95-322 du 18 octobre 1995 fixant les conditions et les modalités de capture d'animaux non domestiques et de leurs utilisation à des fins de recherche scientifique ;
- g) La réglementation de la pêche, de la chasse, de la capture d'animaux et de la récolte de végétaux ainsi que du commerce d'animaux ou de parties d'animaux, de végétaux ou de parties de végétaux provenant d'aires protégées.
- Décret n°82-440 du 11 décembre 1982 portant ratification de la convention africaine sur la conservation de la nature et des ressources naturelles, signée à Alger le 15 septembre 1968 ;
 - Loi n° 03-10 du 19 Juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable.
9. Concernant la planification, la gestion, la surveillance et le contrôle des aires spécialement protégées (article 7) ;
- Loi n° 03-10 du 19 Juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable.
 - Décret n°83-458 du 23 juillet 1983 fixant le statut-type des parcs nationaux ;

- Décret n° 82-498 du 25 décembre 1982 portant adhésion à la convention sur le commerce international des espèces de faunes et de flores sauvages menacées d'extinction.
10. Pour la protection et la conservation des espèces (article 11);
- La loi n° 03-10 du 19 Juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable qui abroge les dispositions de la loi 83-03.
 - Décret n°83-509 du 20 août 1983 relatif aux espèces animales non domestiques complété par l'arrêté du 17 janvier 1995 ;
 - Décret exécutif n°93-285 du 23 novembre 1993 fixant la liste des espèces végétales non cultivées protégées ;
 - Décret exécutif n°95-252 du 26 août 1995, complétant la liste des espèces végétales non cultivées protégées fixée par le décret exécutif n° 93-285 ;
 - Décret exécutif n°95-429 du 16 décembre 1995 fixant les conditions et les modalités de délivrance d'autorisation pour la production, la détention, la cession, l'utilisation, le transport, l'importation et l'exportation des espèces végétales non cultivées ;
 - Décret exécutif n° 97-493 du 21 décembre 1997 définissant les différents types d'établissements de la pêche et fixant les conditions de leur création et les règles de leur exploitation.
 - Décret exécutif n° 02-371 du 11 Novembre 2002 portant création, organisation et fonctionnement du centre du développement des ressources biologiques CDRB
11. Pour réglementer l'introduction d'espèces non indigènes ou génétiquement modifiées (article 13);
- Arrêté ministériel n° 910 du 24 Décembre 2000 interdisant l'importation des produits à base d'Organismes Génétiquement Modifiés.
 - Projet de loi sur les organismes génétiquement modifiés (OGM).
12. Pour accorder des dérogations aux mesures de protection (articles 12,18).

Néant

VI. Application technique du protocole

13. Liste des aires spécialement protégées créées aux termes de l'article 5
- Réserve naturelle marine des îles Habibas située à Oran
 - Le parc national d'El Kala (Taref)
 - Le parc national de Taza (Jijel)
 - Le parc national de Gouraya (Bejaia).
14. Propositions faites pour l'inscription d'aires relevant de la juridiction nationale sur la liste des ASPIM (Article 9 a).
- Les sites proposés pour la liste des ASPIM sont :
- Réserve marine de Cap de Garde située à Annaba
 - Réserve naturelle marine des îles Habibas située à Oran
 - L'île Rachgoun située à Ain Temouchent.
 - Le banc des Kabyles (Jijel).
15. Liste des ASPIM:
- Réserve marine de Cap de Garde située à Annaba
 - Réserve naturelle marine des îles Habibas située à Oran
 - L'île Rachgoun située à Ain Temouchent.
 - Le banc des Kabyles (Jijel).
16. Toute modification dans le régime juridique des espèces protégées.
- Sur le plan juridique, il y a la nouvelle loi sur l'environnement dans le cadre du développement durable (n° 03-10 du 19 Juillet 2003), qui stipule que la liste des espèces animales non domestiques et des espèces végétales non cultivées protégées est fixées, en tenant compte des conditions de reconstitution des populations naturelles en cause ou de leurs habitats et des exigences de protection de certaines espèces animales pendant les périodes et les circonstances où elles sont généralement vulnérables (Article 41).

Un décret d'application fixera la liste des espèces protégées (animale et végétale). En attendant cela, certains textes restent en vigueur. Il s'agit :

- Décret exécutif n°95-429 du 16 décembre 1995 fixant les conditions et les modalités de délivrance d'autorisation pour la production, la détention, la cession, l'utilisation, le transport, l'importation et l'exportation des espèces végétales non cultivées
- Décret n° 83-509 du 20 Août 83 relatif aux espèces animales non domestiques protégées, complété par l'arrêté du 17 Janvier 95.
- Décret n°93-285 du 23 novembre 1993 fixant la liste des espèces végétales non cultivées protégées.
- Décret n° 95-252 du 26 Août 95, complétant la liste des espèces végétales non cultivées protégées fixées par le décret exécutif n° 93-285.
- Décret n°95-323 du 21 octobre 1995 réglementant l'exploitation des ressources corallifères.

17. Nouvelles données concernant des espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages (article 13.2).

Fournir des informations sur la présence de nouvelles espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages.

18. Inventaires des éléments de la diversité biologique (article 15)

Un inventaire sur les espèces faunistiques et floristiques et les écosystèmes a été élaboré dans le cadre de la stratégie nationale de conservation et d'utilisation durable de la diversité biologique.

Un état a été également fait dans le cadre du plan d'action stratégique pour la biodiversité marine (PAS BIO).

19. Dérogations accordées aux mesures de protection (articles 12,18,23 c).

20. Mise en oeuvre des plans d'action adoptés dans le cadre du PAM :

- Plan d'action sur la mise en place d'un programme de collecte de données sur le phoque moine en Algérie
- Mise en place d'un réseau de surveillance de l'herbier à posidonie
- Mise en place d'un dispositif de concentration de poissons pour réduire l'impact de la pêche.
- Inventaire et mise en place d'aires marines d'intérêt pour la biodiversité.

Aussi, dans le cadre du plan d'action pour les oiseaux, un inventaire des organismes et experts travaillant dans le domaine est en cours de réalisation

21. Mise en oeuvre des autres recommandations pertinentes des Parties contractantes

VII. **Brève description de tous problèmes ou contraintes rencontrés dans l'application du Protocole**

La gestion des réserves exclusivement marines et des réserves mixtes (marin terrestre) ne s'appuie sur aucun texte spécifique, ce qui a pour conséquence de freiner les procédures d'éligibilité des sites remarquables en tant qu'aires marines protégées.

Actuellement, ce vide pourrait être contourné en faisant appel à l'ensemble des textes réglementaires concernant le domaine maritime, en particulier la réglementation liée à la navigation maritime et celle à la pêche, mais il faudrait s'acheminer à terme vers des textes spécifiques.

L'absence de banques de données (la seule qui existe est un fichier statistique des débarquements de pêche, dont les informations sont peu approximatives) qui handicape lourdement le décideur dans la mise en place de toute politique et stratégie d'utilisation durable et de conservation des ressources biologiques marines d'Algérie.

A ce titre, un projet de mise en place d'une banque de données nationale d'informations liées à l'océanographie biologique, ainsi d'ailleurs qu'un projet SIG pour la biodiversité marine d'Algérie, ont été proposés par le point focal du COPEMED Algérie dans le cadre du COPEMED phase II. Ces deux actions sont inscrites dans le cadre des bases de données communes sur l'information biologique (SPECIESDAB) et de la CIESM (banque de données bibliographique sur les sciences marines en Méditerranée).

La réalisation du système d'information géographique sur la biodiversité marine a été lancée dans le cadre des activités du Ministère de l'Aménagement du Territoire et de l'Environnement le 12 février 2005 pour un délai de une année.

I. General information

1. Country : **Bosnia and Herzegovina (B&H)**
2. Period covered by the Report.
01 January 2000 to 31 December 2003.
3. National Organization responsible for compiling report
MAP Office for Bosnia and Herzegovina
Sarajevo, Bosnia and Herzegovina
Stjepana Tomica 1
4. National Organizations providing data towards the compilation of report
Ministry of Agriculture, Water Management and Forestry in Federation of B&H
Sarajevo, Bosnia and Herzegovina
Titova 15
Ministry of Physical Planning and Environment in Federation of B&H
Sarajevo, Bosnia and Herzegovina
Titova 9A
Ministry of Civil Engineering, Physical Planning and Environmental Protection – Herzegovina Neretva
Canton
Mostar, Federation of Bosnia and Herzegovina,
Stjepana Radića 3
5. Assistance received from UNEP/MAP towards the compilation of the present report.
The present report has been elaborated starting from the available data and information provided by the federal Ministry of Physical Planning and Environment and federal Ministry of Agriculture, Water Management and Forestry.

General remarks on overall national environmental situation during period under review.

The period 2000-2003 has been very important for the environmental legislation in B&H. During this period strategic documents and environmental legislation have been prepared and passed. The main advances occurred during the period under review are prescribed below.

Structure and Legal framework in B&H

Based on the Constitution of Bosnia and Herzegovina, environmental management is not institutionalized on the state level, but rather carried out within the organizational structure of the entity governments. Lower level environmental management is under the responsibility of cantonal ministries in the FB&H and municipalities in RS. The process of strengthening of environmental institutions in B&H is under way; where the METAP project has enabled the preparation of a proposal for institutional restructuring in the area of environmental protection and development of a monitoring and environmental impact assessment system.

National Environmental Action Plan (NEAP)

Given the complexity of environmental issues in B&H, and lack of environmental strategy, in the year 2000, with the help of the World Bank, B&H engaged in preparation of the National Action Plan which has been adopted by both Entity Governments. Based on the principles of environmental protection this program for the first time comprehensively develops and structures environmental protection for the whole country.

NEAP presents operative program, which gives current state and future directives in solving environmental problems as well as it, serves as a guiding document identifying priority areas and priority actions in the sector of environment. The preparation of the NEAP was organized according to democratic principles, multi-disciplinary approach, with full transparency and direct involvement of all relevant stakeholders including representatives of the government, NGOs, local institutions and experts.

The criteria for development of the NEAP were:

- Impact of environmental pollution on human health;
- Impact of environmental pollution on eco-systems;
- Socio-economic and economic significance;
- Commitments and obligations from accepted international agreements.

In order of priority, the key environmental issues defined by the NEAP are:

- Water resources and wastewater management;
- Rural Development;
- Environmental management;
- Protection of biological and landscape diversity;
- Waste management;
- Sustainable economic development;

- Public health;
- Demining.

Based on the analysis of the current situation in all fields of environmental protection it has been determined that the area of water resources and wastewaters represents the first priority of the NEAP. According to the NEAP the most important improvement measures in this field to address the key problems are: establishment of the river catchments areas management; realization of long-term water supply projects; construction and reconstruction of the waste water treatment plants and sewage systems; raising to the required level protection from waters; and use of water for irrigation and production of electricity.

Under Protection of Biological and Landscape Diversity priority area NEAP determines preparation of programs for management of the coastal and sub-coastal area of B&H Adriatic Sea – establishment of an eco penitentiary for entering the MAP network as long-term priority measure.

Solid Waste Management Strategy

B&H Solid Waste Management Strategy has been prepared within the framework of EU PHARE Program. Strategy has not been officially adopted by the Entity Governments. It defines new approach to waste management in B&H through proposing the establishment of inter-municipal organizations for solid waste management as well as construction of regional sanitary landfills. The main goal of this study was to assess the current state and proposes a strategy for improvements of all aspects of solid waste management in B&H. In that sense, strategy through its 13 Technical Reports analyzes institutional, legal, technical and financial aspects of solid waste management and propose radical institutional changes to be implemented in three stages, short, medium and long term.

At present, of all recommendations given by this project, only recommendations for improvement of legal aspects of waste management and formation of some of the proposed Waste Allocation Districts are in the process of implementation. The set of five new environmental laws, which are adopted in Republic of Srpska and F B&H, includes a new Law on Waste Management, which is harmonized for both entities and incorporates the recommendations given by this Strategy.

New environmental legislation

The European Commission has funded an intensive environmental program, with the objective to prepare for both Entities draft environmental framework laws, in alignment with each other and with the requirements of the European Union. The new set of environmental laws represents achieving of an important progress towards sustainable environmental management in Bosnia and Herzegovina. A comprehensive set of the framework Laws contains:

- i) Law on Environmental Protection, including provisions on integrated framework for environmental licensing, including reference to supporting procedures such as environmental impact assessment, based upon the concept of integrated pollution prevention and control (IPPC).
- ii) Law on Nature Protection;
- iii) Law on Air Protection;
- iv) Law on Waste Management;
- v) Law on Water Protection.

After adoption of these laws, process of preparation and adoption of by-laws should be completed within two years. By-laws have to clearly identify environmental standards, emission limiting values as well as financial implications.

Law on Environmental Protection with its provisions on environmental licensing and major accident prevention gives rules on a special control regime for activities and installations which have or might have impacts on the environment – along the lines of the EU Directive 96/61/EC concerning integrated pollution prevention and control (IPPC), and on the prevention and limitation of the consequences of major accidents which might result from activities involving hazardous substances – along the line of EU Directive 96/82/EC on the control of major accident hazards involving dangerous substances (Seveso II). The range of application for the provisions on environmental permit and on major accidents prevention is set by annexes to the law with lists of installations (IPPC) and substances (Seveso II) – with thresholds and criteria. The thresholds also apply to existing installations. The by-laws have to set timetables for adoption and retrofitting of existing installations within 2 years after entering into force this Law.

New Framework Law on Water Protection based on Water Framework Directives (WFD) calls for a river basin approach in water administration. According to this Law monitoring should be in line with the plan for water protection, which describes the monitoring network for surface and groundwater. As the monitoring and planning are essential part of the implementation of the WFD, it will contribute significantly to improvement of coastal marine environment pollution control in Bosnia and Herzegovina.

Water Sector Institutional Strengthening

Within the project "Institutional strengthening of water sector in B&H" that covered five aspects: institutional, legal, financial, water quality and human resources aspect, was assessed that existing institutional organization causing low efficiency of management of water and environmental sector. New institutional set up proposed is based on EU Framework Directive. Proposed arrangement includes one of fundamental water management principles "Water resources are managed integrally and on the level of river basin".

New institutional set-up based on river basin model is supported by international community and Office of the High Representative (OHR-a), and adopted by the entity governments. The governments have signed memorandum of Understanding with European Commission for implementation of recommendations given in Institutional Strengthening of the Water sector in B&H. The implementation started in April 2001 with financial support of European Union. The proposed overall organizational set-up fully complies with the international water management and environment principles, and the water and environmental legislation of EU. The key element of the set-up is integration of water management into the environmental management. The implementation of this project Phase II started on December 2003.

4. Signature, ratification of International legal instruments:**7.1 Ratification of amended or new versions of the Convention and Protocols.**

No Protocols were signed or ratified by B&H during the period under revision. B&H has not yet ratified the amendments to the Barcelona convention.

7.2 Bilateral or multilateral Agreements relevant to the terms of the Convention and Protocols entered into (Article 3.2. of the Convention)

None relevant to the terms of the Convention and Protocols, but in the meantime B&H concluded the Agreement which concerns co-operation for the Management of the Sava River Basin Between: B&H, Croatia, Slovenia and Yugoslavia (Serbia& Montenegro), signed 29 November 2001 in Sarajevo

7.3 Signature, ratification or accession to any international or regional environmental legal instrument relevant to the objectives of the Mediterranean Action Plan, in particular, those listed in the attached appendixAir

Convention on Long-range Transboundary Air pollution, Geneva (Official Gazette R B&H 13/94)

Protocol to the Convention on Long-range Transboundary Air pollution on Long term financing of the Co-operative programme for Monitoring and Evaluation of the Long-Range transmission of Air Pollutants in Europe (EMEP) Geneva (Official Gazette R B&H 13/94)

Vienna Convention for the Protection of the Ozone Layer, Vienna (Official Gazette R B&H 25/93)

Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, (Official Gazette R B&H 25/93)

United Nations framework Convention on Climate Change is the first MEA that B&H as independent state ratified. B&H ratified Convention on July 20, 2000 (Official Gazette B&H 19/2000). Under official data from Secretariat, Convention get into the force regarding B&H on December 06, 2000, 90 days upon submitting official document of ratification to Secretariat.

Natural Heritage

International Plant Protection Convention, Rome (Official Gazette SFRJ 13/94)

UN Convention on Biological Diversity, Rio de Janeiro, June 05, 1992

Presidency of B&H passed Decision on Ratification of the Convention on Biological Diversity on its session held on October 04, 2002, after the Decision of the Parliamentary Assembly B&H, adopted on its session held on September 30, 2002. Decision on ratification was published in Official Gazette B&H – International Agreements No 13, dated December 31, 2002.

Convention on Wetlands of International Importance Especially as waterfowl Habitat (Notification on succession 2001)

Nuclear Safety

Convention on the Physical Protection of Nuclear Material (Official Gazette SFRJ 9/85, R B&H 13/94)

Vienna Convention on Civil Liability for Nuclear Damage (Official Gazette SFRJ 5/77, R B&H 13/94)

Convention on assistance in the case of a nuclear accident or radiological emergency (Official Gazette SFRJ 4/91, R B&H 13/94)

Water

Convention for the protection of the Mediterranean Sea against pollution (Official Gazette SFRJ 12/77, R B&H 13/94)

Protocol for the prevention of pollution of the Mediterranean Sea by dumping from ships and aircrafts (Official Gazette SFRJ 12/77, R B&H 13/94)

Protocol for the protection of the Mediterranean Sea by dumping against pollution from land-based sources (LBS) (Official Gazette SFRJ 12/77, R B&H 13/94)

Protocol concerning specially protected areas and biological diversity in the Mediterranean Sea (Official Gazette SFRJ 9/85, R B&H 13/94)

Protocol for the protection of the Mediterranean Sea against pollution resulting from exploration and exploitation of the continental shelf and the sea/bed and its sub-soil (Official Gazette SFRJ 12/77, R B&H 13/94)

International Convention for the prevention of pollution of the sea by oil (Official Gazette SFRJ 60/73, 53/73, R B&H 13/94)

Convention on fishing and conservation of the living resources of the high seas (Official Gazette SFRJ 4/65, R B&H 15/95)

Convention on the prevention of marine pollution by dumping of waste and other matter (Official Gazette SFRJ 13/77, R B&H 13/94)

UN Convention on the Law of the Sea, Montego Bay (Official Gazette SFRJ 60/73, 4/65, R B&H 15/95)

Waste

Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and Their Disposal was adopted on March 22, 1989, entered in force on May 05, 1992.

B&H ratified the Convention in December of 2000.

Other

B&H has ratified United Nations Convention to Combat Desertification in Those Countries Experiencing Drought and/or Desertification, Particularly in Africa, Paris 1994.

Decision on Ratification of the Convention was published in Official gazette B&H – International Agreements on August 26, 2002. By this B&H became observer to the Convention. Full membership to the Convention was achieved in 90 days time after ratification of the Convention – November 26, 2002. (OG International Agreements 1/03)

Process of ratification

B&H started official procedure for ratification of:

Convention on Protection and Sustainable use of Danube River (Sofia, 1994)

UNECE Convention on Access to Information, Public Participation and Access to Justice in Environmental Matters (Aarhus 1998).

8. Legal and/or administrative measures taken under the terms of the Convention:

8.1. For the application of the Precautionary Principle and the Polluter Pays Principle (Articles 4.3 (a) and 4.3 (b)).

Article 6 of Law on Environmental Protection of Federation of B&H, (Official Gazette No 33/03), defines the “The Principle of Precaution and Prevention” principle:

Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing the imposition of precaution and prevention measures to prevent environmental degradation.

The use of the environment shall be organized and performed in such a manner that

- it shall result in the lowest level of environmental loading and utilization of the environment;
- it shall prevent environmental pollution;
- it shall prevent the damaging of the environment.

The use of the environment shall be performed by observing the principle of precaution, by carefully managing and using economically the environmental components, furthermore, by decreasing the release of wastes and by striving for the recycling and the re-use of natural and manufactured materials.

In the interest of prevention, the best available techniques shall be applied during the use of the environment.

The user of the environment posing a hazard to or damaging the environment shall stop the hazardous or damaging activity immediately.

The user of the environment shall provide for the elimination of the environmental damage caused by his/her activity and the restoration of the damaged environment.

Article 11 of Law on Environment of Federation of B&H, (Official Gazette No 33/03), defines the “Polluter pays” principle:

This principle implies that in general it is for the polluter to meet the costs of pollution control and prevention measures, irrespective of whether those costs are incurred as a result of the imposition of some charge or

pollution emission, or are debited through some other suitable economic mechanisms, or are in response to some direct regulation leading to some enforced reduction in pollution.

The user of the environment shall be liable for the environmental impacts of its activity as defined in this Act, and as regulated in this Act and other legal rules.

8.2. To ensure the undertaking of Environmental Impact Assessment studies for relevant activities (Article 4.3 (c)).

Chapter IX of Law on Environmental Protection of Federation of B&H, (Official Gazette No 33/03), regulates the Environmental Impact Assessment (EIA) studies:

The Objective of an EIA

An EIA should serve at the identification, description and assessment of the direct and indirect effects of a project on the following elements and factors:

- human beings, fauna and flora;
- soil, water, air, climate and the landscape;
- material assets and the cultural heritage;
- the interaction between the factors mentioned in the first, second and third alines of this paragraph.

Projects subject to EIA

The plants and installations or significant changes of the existing installations listed in implementing regulation shall be subject to EIA in all cases.

The plants and installations or significant changes of the existing installations listed in implementing regulation shall be subject to EIA, if the competent ministry authority decides so.

Significant changes of installation and plants shall be considered as:

- Any modification of plants and installations;
- If the total of modifications exceeds 25 % growth in production, energy use, water consumption, territory use, emission or waste production,
- the (last) modification that leads to the excess of 25 % growth (within ten years) shall be considered as significant.

Decommissioning the operation of the projects and demolishing the sites in connection with such decommissioning is subject to EIA.

8.3. For the promotion of the integrated management of the coastal zones (Article 4.3 (e)).

There is not a law dealing specifically with coastal zones in Bosnia and Herzegovina.

The next laws apply to coastal zones:

- o Law on Environmental Protection, (FB&H and RS, passed 2002 and 2003)
- o Law on Nature Protection; (FB&H and RS, passed 2002 and 2003)
- o Law on Air Protection; (FB&H and RS, passed 2002 and 2003)
- o Law on Waste Management; (FB&H and RS, passed 2002 and 2003)
- o Law on Water Protection, (FB&H and RS, passed 2002 and 2003)
- o Water Law, (FB&H and RS, passed 2002 and 2003)
- o Law on Physical Planning and Construction, (FB&H and RS, passed 2002 and 2003)
- o Law on Eco-Fund (FB&H and RS, passed 2002 and 2003)
- o Law on Freedom Access to Information in B&H (Published in "B&H Official Gazette", No. 28/2000)

National Environmental Action Plan (NEAP) and a Poverty Reduction Strategy Paper (PRSP) have been passed but these are not policy documents *strictu sensu*.

Implementation of the "Solid Waste Management Strategy in B&H" is underway.

Inter-entity bodies

Two steering committees, the Water Steering Committee (WSC) and Environmental Steering Committee (ESC) were established in 1998 with responsibility for coordination and co-operation between competent Ministries of the two Entities.

Environmental Steering Committee (ESC)

It is inter-entity body that coordinates the work related to the environment between the two entities.

The Environmental Steering Committee has eight members, four from each entity. These meet regularly to discuss common issues. They are supported by a "secretariat" created through a LIFE Third Countries support, with the intention of institutionalizing coordination. The ESC does not include representatives from Brcko or the State, and has only a consultative function. As such, it can only serve in a role of coordination and information sharing (the same applies for the Water Steering Committee). There is a certain degree of potential conflict between the ESC and UKOOR (State level coordination body, which gathers various stakeholders a few times in the year to discuss some issues).

Commission for coordination of water management issues (Water Steering Committee)

The WSC was established in 1998 by signing Memorandum on Understanding by competent Ministers of both entities' Governments. This commission has eight members, four for each entity. The weaknesses of the WSC are the same as for the ESC.

Implementation of the Project "Preparation of Draft Framework Environmental Law for B&H and Feasibility Study for the Establishment of the Environmental Protection Agency of B&H" is underway. Establishment of Environmental Agency on the State level should contribute for stronger progress in the field of B&H environment.

8.4. To establish or improve marine pollution monitoring programmes (Article 12.1).

Article 47 of Law on Water Protection of Federation of B&H, (Official Gazette No 33/03), defines the "River basin district water protection database and monitoring"

"The river basin district bodies are responsible for developing and maintaining the water protection information system on their territory.

The river basin district water protection information system is particularly based on:

- Continuous monitoring of the quality and quantity of waters;
- Information gathered from permitting and consent processes;
- Data obtained from monitoring by water users and
- Public monitoring.

The monitoring system run by the river basin district body shall at least contain:

- with regard to surface waters, the volume and level or rate of flow to an extent that is relevant for the ecological and chemical status and the ecological potential of the waters, and the ecological and chemical status and ecological potential of the waters;
- with regard to ground waters, the chemical and quantitative status of the waters,;
- with regard to protected areas, in addition to the elements of points 1 and 2 of this paragraph, those specifications laid down in the legislation under which the individual protected areas were established.

The water protection database shall be handled in computerized Geographic Information System (GIS) arrangements and be available for everybody on the Internet. The Federal Minister shall regulate the uniform content and methodology of the river basin district water protection databases, especially the density of monitoring sites, the frequency and methodology of sampling, the list of mandatory parameters, analyzing methods and evaluation algorithms, and the range of installations obliged to run self-monitoring or otherwise producing water protection-related data".

8.5. Regarding access to information by the public, and participation of the Public in decision-making processes (Article 15).

Article 10 of Law on Environmental Protection of Federation of B&H, (Official Gazette No 33/03), defines the "The Principle of Precaution and Prevention " principle:

Public Participation and Access to Information

Environmental issues are best handled with the participation of all citizens' concerned citizens at the relevant level. Each individual and organization shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes.

Regulatory bodies and public authorities shall facilitate and encourage public awareness and participation by making information widely available.

Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Launching in the Internet of the web page of the Ministry of Physical planning and Environment (www.fmpuio.gov.ba) and Ministry of Agriculture, Water Management and Forestry (www.fmpvs.gov.ba). It provides the access to environmental information, including federal legislation (laws and bylaws), main actions carried out by the Ministry's, environmental policies, collaboration agreements with international organizations, links of interests, news, e-mail etc.

9. Brief description of any problems or constraints in implementation of the Convention.

Adoption of set of environmental laws has compiled legal aspect of environmental protection in Bosnia and Herzegovina. In previous period, regulations related to environment have been spread out in different acts, laws, rules, decrees and decisions.

In order to provide conditions for effective implementation of set of laws, entities should work on following:

- Adoption of Strategies and other policy acts, on state, entity and local level in accordance with laws;
- Adoption of a number of by-laws in order to clarify obligations of different stakeholders;

- Preparation of environmental education programs on different levels;
- Providing conditions for permanent capacity building;
- Define dynamic for realization of tasks, particularly for adoption of secondary legislation;
- Define responsibility for implementation of laws;
- Establish operational services for monitoring of implementation;
- Establish operational communication with other sectors, related to environment;
- Develop scheme for financing of activities in accordance with Law on Environmental Funds.

Laws prescribed obligation for adoption a number of sub laws and defined responsibilities of different bodies in this respect.

Preparation of Policy documents, Strategies, Plans and Programs

In accordance with laws, Federation of B&H should prepare and adopt strategies for environmental protection, and strategies for each area covered by sector laws (air, water, waste, nature). Division of responsibilities is as follows:

- Ministry to prepare Draft Document and discuss it with other related ministries;
- Government to approve proposal and to proceed it to parliament for final adoption;
- Parliament to adopt decision on adoption of the Strategy.

Special need is in institutions and (qualified) professionals that would cover coastal and marine part of B&H.

10. Any relevant remarks or comments regarding the implementation of the Convention.

(See point 9)

Appendix to biennial general report and report on the implementation of the Convention for the Protection of the Mediterranean Environment and the Coastal Region of the Mediterranean.

TABLE 1

List of international legal instruments on which information regarding signature, ratification or accession is required as per paragraph 7.3 in terms of Resolutions and Recommendations of the Contracting Parties between 1985 and 2002.

Note: The international legal instruments below are listed in chronological order of adoption, and NOT in order of their relative importance to Contracting Parties to the Barcelona Convention and Protocols.

International Legal Instrument	Dates of signature, ratification and/or accession
1966 International Convention on Load Lines (LL 1966)	
1969 International Convention on Tonnage Measurement of Ships (TONNAGE 1969)	
International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION 1969) and its 1973 Protocol relating to Intervention on the High Seas in Cases of Pollution by Substances other than Oil (INTERVENTION PROTOCOL 1973)	
1971 UNESCO Convention on Wetlands of international importance especially as Waterfowl Habitat, as amended by the 1982 Paris Protocol and the 1987 Amendments (The Ramsar Convention)	01.03.92 Notification on succession 2001
1972 IMO Convention on the prevention of Marine Pollution by Dumping of Wastes and other Matter, and the 1996 Protocol thereto (The London Dumping Convention)	
1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (The World heritage Convention)	
1972 Convention on the International Regulations for Preventing Collisions at Sea (COLREG 1972)	
1973 IMO International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 (The MARPOL 73/78 Convention)	
1973 UNEP Convention on International Trade in Endangered Species of Wild Fauna and Flora, as amended in 1979	
1974 International Convention for the Safety of Life at Sea (SOLAS 1974)	
1976 ILO Merchant Shipping (Minimum Standards) Convention (No. 147), and the 1996 Protocol thereto.	
1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 1978)	
1979 Council of Europe Convention on the Conservation of European wildlife and natural habitats (The Bern Convention)	
1979 UNEP Convention on the Conservation of Migratory Species of Wild Animals (The Bonn Convention)	

TABLE 1 (continued)

International Legal Instrument	Dates of signature, ratification and/or accession
1982 United Nations Convention on the Law of the Sea.	Succession 12.01.94
1989 UNEP Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (The Basle Convention)	Ratification March 22, 1989 entered into force May 5, 1992, ratified
1989 International Convention on Salvage (SALVAGE 1989)	
1990 International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC), and the 2000 Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS Protocol)	
1992 International Convention on Civil Liability for Oil Pollution Damage (CLC 1992)	Succession 12.01.94
1992 International Convention on the establishment of an International Fund for Compensation for Oil Pollution Damage (FUND 1992).	
1992 UNEP Convention on Biological Diversity Rio	Ratification December 31, 2002 ratified
1992 United Nations Framework Convention on Climate Change	Ratification July 20, 2000 Get into force December 6, 2000
1994 United Nations Convention to Combat Desertification	Ratification August 26, 2002 ratified November 26, 2002 accession
1996 International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances at Sea (1996 HNS Convention).	
2001 International Convention on the Control of Harmful Antifouling Systems on Ships.	
2001 International Convention on Civil Liability for Bunker Oil Pollution Damage.	

TABLE 2

Signature, ratification or accession of other international legal instruments relevant to the Mediterranean Action Plan other than those listed in Table 1.

International Legal Instrument	Dates of signature, ratification and/or accession
Convention on Protection and Sustainable use of Danube River, Sofia 1994	Procedure for ratification started
UNECE Convention on Access to Information, Public Participation and Access to Justice Environmental Matters (Aarhus 1998)	Procedure for ratification started

Biennial report on the implementation of the Protocol for the Prevention and Elimination of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft and Incineration at Sea:

II

1. Legal and/or administrative measures taken under the terms of the Protocol:

1.1. To protect, preserve and manage marine and coastal areas of particular natural or cultural value, and to protect, preserve and manage threatened and endangered species of marine and coastal flora and fauna (Article 3).

Legislation relevant for the Specially Protected Areas and Biological Diversity in B&H

According to the Dayton Agreement (treaty) the environmental protection, preservation and promotion comes within the competence of separate entities, the Federation of B&H and Republic of Srpska and Brcko District, as unique unit of local autonomy, under B&H authorities and competence defined by District Statute. FB&H is administratively divided into ten cantons.

In July, 1998, the entity ministries for environment put their signatures on the Hungariion Szentender Agreement which founded the common body for the environment whose aim is coordination and environmental law and policy at the state level.

There is still no environmental policy at the state level. European Commission funded an intensive program, with main goal to prepare drafts of set of laws, for both entities, which would cover environmental issues in accordance with modern EU legislation. The project is finalised and new set of laws on environmental related issues is adopted (Environmental Framework Law, Law on Water Protection, Law on Waste, *Law on Nature Protection*, Law on Air Protection (Official gazette of F B&H, No. 33/03).

Some Cantons in Federation of B&H like Tuzla and Western Herzegovina have their own laws for environment protection, whereas Herzegovina-Neretva Canton has Order for nature Protection decree which was made in B&H in 1994 as the first regulation related to this problem.

On the ground of the Decree, the laws that define Hutovo blato and Blidinje as natural parks were made in 1995. They are defined as regions with pronounced /obvious esthetical, ecological, tourist and recreational values. Public enterprises «Hutovo blato» and «Blidinje» were established founded in 1996.

Their main purpose is preservation, maintenance, and development of the protected areas of the nature. And regulation of the control of the activities that can jeopardize the environment and for which it is necessary to elaborate the Study of the influence upon it was made in 1995.

Republic Srpska (RS) passed some laws that regulate the protection of nature and environment.

Laws on Nature Protection in both entities and Brcko District defines the basic principles of nature protection, the competences of responsible bodies in this field, planning of nature protection, general and special measures for nature protection and sanctions.

1.2. To establish Specially Protected marine and coastal areas (Article 5).

Articles 25 and 26 of above mentioned Law on Nature Protection defines specially protected areas.

According to Article 25 of the Law on Nature Protection: "A protected area is an area of land and/or sea, which has been specifically dedicated in order to protect and maintain biological diversity and natural and associated cultural resources.

Protected areas shall be established in form of:

- a) Nature protection areas protected areas managed mainly for reasons of science or wilderness protection;
- b) National parks protected areas managed mainly for ecosystem protection and recreation;
- c) Natural monuments protected areas managed mainly for conservation of specific natural features,
- d) Landscape protection areas protected areas managed mainly for landscape/seascape conservation and recreation".

According to Article 26 of the Law on Nature Protection "A nature protection area is:

- a) An area of land and/or sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily and set aside for scientific research and/or environmental monitoring; or
- b) A large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition; or
- c) An area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.

The objectives of management are:

- preservation of the habitats, ecosystems and species in as undisturbed a state as possible, maintaining the genetic resources in a dynamic and evolutionary state, maintaining the established ecological processes, safeguard of the structural landscape features or rock exposures, securing the examples of the natural environment for scientific studies, environmental monitoring and education, including baseline areas

from which all avoidable access is excluded, reduction of the disturbance by careful planning and execution of research and other approved activities, and limitation of the public access.

- ensuring that future generations been left the essential natural attributes and qualities of the environment and providing for public access and maintaining the wilderness qualities of the area
- securing and maintaining the habitat conditions necessary to protect significant species, groups of species, biotic communities or physical features of the environment where these require specific human intervention for optimum management, facilitating the scientific research and environmental monitoring as primary activities associated with sustainable resource management, developing the limited areas for public education and appreciation of the characteristics of the habitats concerned and of the work of wildlife management, eliminating and thereafter preventing the exploitation or occupation inimical to the purposes of designation, and delivering such benefits to people living within the designated area as are consistent with the other objectives of management”.

1.3. To ensure protection in conformity with Article 6, in particular:

(a) Strengthening of application of the other Protocols and other treaties (Article 6(a));

No legal measures approved during the period under review in order to strengthen the application of any other Protocols.

(b) Prohibition of dumping or discharge affecting protected areas (Article 6(b));

As a general provision, within the respective legislation of every existing protected area, all those activities potentially harming them are restricted.

Law on Nature Protection defines within chapter “Management of protected areas” that the necessary nature protection management measures and related techniques to be applied in protected areas shall be regulated by the special regulation. This regulation shall be harmonized with the Federal Nature Protection Strategy.

After adoption of the mentioned regulation, the FB&H Government shall adopt a special management plan for each national park and nature protection area.

The regulation awarding protected area status shall also contain prohibitions and limitations, which are deemed necessary in order to fulfil the objectives of management. But the above-mentioned regulations and strategy have not been adopted during the period under review.

(c) Regulation of the passage of ships (Article 6(c));

No specific regulations related this issue. However in general Law on water Protection defines that “the protection of maritime waters against pollution caused by vessels shall be regulated pursuant to the regulations governing the sphere of maritime transportation. Wastewater generated by vessels shall be prohibited from draining into waters directly from the vessels, except for unpolluted cooling water “.

But the above-mentioned regulation has not been adopted during the period under review.

(d) Regulation of introduction of species (Article 6(d));

Law on Nature Protection defines within chapter “Introduction of new or extinct species” that deliberate introduction of plant and animal species, which are not native to the territory of Bosnia and Herzegovina, shall be forbidden.

Exemptions can be established by regulation/by-law in the event that such introduction does not prejudice natural habitats within their natural range or the wild native fauna and flora.

Reintroduction of extinct plant and animal species into nature in the FB&H Federation shall be performed only with prior permission of the Federal Ministry and prior opinion of the Federal Ministry responsible for agriculture, water-management and forestry”.

(e) Regulation of activities (Article 6(e), 6(h));

Law on Nature Protection defines within chapter “European Protection Areas” defines that any plan or project which is not directly connected with or necessary for the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives (species and/or habitats of community interest).

The approval of the plan or project shall be carried out only after having ascertained that it will not adversely affect the integrity of the site concerned.

(f) Regulation of scientific research activities (Article 6(f));

No regulation of scientific research activities during the period under review.

(g) Regulation of fishing, hunting, taking of animals, harvesting of plants, and trade in plants and animals and parts thereof originating from protected areas (Article 6 (g));

Law on Nature Protection defines within chapter "Protection of wild animals and plants" that wild plants, which do not have protected status, shall not be deliberately damaged or destroyed, misused or excessively used.

Failing special reason for so doing, wild animals, which do not have protected status shall not be disturbed, tracked or killed. Failing special reason, it is further prohibited to relocate, damage or destroy their breeding sites (nests or spawning grounds) and to disturb, destroy or change their habitats (resting places etc.). Wild species, which do not have status mentioned above shall be protected in accordance with the "Red List".

The Law defines some exemptions and in that case the special regulation shall define those wild animal species for hunting and fishing (angling), as well as the time, number of exemplars and methods therefore.

1.4. Regarding planning and management of specially protected areas (Article 7);

The Nature Protection Strategy shall define tasks and policies connected with the protection of nature and biodiversity, to ensure the surveying, protection and other parts of the natural heritage according to the Law on Nature Protection.

This Federal Strategy is part of Federal Strategy for Environmental Protection. Law on Nature Protection defines within chapter "Management of protected areas" that the necessary nature protection management measures and related techniques to be applied in protected areas shall be regulated by the special regulation. This regulation shall be harmonised with the Federal Nature Protection Strategy.

After adoption of the mentioned regulation, the FB&H Government shall adopt a special management plan for each national park and nature protection area.

The regulation awarding protected area status shall also contain prohibitions and limitations, which are deemed necessary in order to fulfil the objectives of management. But the above-mentioned regulations and strategy have not been adopted during the period under review.

1.5 For the protection and conservation of species (Article 11);

Law on Nature Protection defines within chapter "Protection of wild animals and plants" that wild plants, which do not have protected status, shall not be deliberately damaged or destroyed, misused or excessively used.

Failing special reason for so doing, wild animals, which do not have protected status shall not be disturbed, tracked or killed. Failing special reason, it is further prohibited to relocate, damage or destroy their breeding sites (nests or spawning grounds) and to disturb, destroy or change their habitats (resting places etc.). Wild species, which do not have status mentioned above shall be protected in accordance with the "Red List".

1.6. To regulate introduction of non-indigenous or genetically modified species (Article 13);

The Law on Nature Protection forbid the introduction of foreign species.

We may consider two areas of B&H waters separately. First area is marine waters and second estuarine-wetland area of Hutovo Blato, which are situated only 15 km northwest of the B&H.

We suppose that B&H marine waters are still free of any introduced species. But, final confirmation of this statement, is possible only after research of marine ecosystems.

Abundance of introduced species estuarine-wetlands area of Hutovo Blato is on critical level, especially in the two greatest lake. The main reason for introduction of new species was to enhance economic properties of the wetlands.

This area presently object of research under EU-LIFE Third Countries funded project.

Results of project LIFE (see Anex).

1.7. To grant exemptions from protection measures (Article 12,18).

Lack of information

2. Brief description of any problems or constraints in implementation of the Protocol.

(See Annex 1)

Biennial report on the implementation of the Protocol on Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil:

III. Technical application of the protocol

6. List of Specially Protected Areas established in terms of Article 5 (unless already covered by national biennial report on implementation of Convention and protocols).

At present only two declared protected area exist in Bosnia and Herzegovina: Natural park Hutovo blato and Natural park Blidinje.

Hutovo Blato is a natural park and it was declared as a protected area on 30th March 1995.

Mediterranean wetlands Hutovo Blato is located in the southern part of Herzegovina (17°43'-17°51' and 43°00'-43°15') and constitutes the Herzegovinian part of the Neretva Delta. The total area of the Natural park in Hutovo Blato is 7,411 ha, of which 4,877 ha belong to the Gornje (Deran) Blato region.

Over 600 species and lower tax of vascular plants (Pteridophyta and Spermatophyta) have been identified in the park region up to now. A total of 28 plants can be designed as rare, endangered and vulnerable species of Bosnia and Herzegovina. Some species have small populations, so they need to be protected together with their habitats. The most important localities (and habitats) in the Natural park should be evaluated as special botanical preserves.

163 bird species from 39 families (according to VAURIE 1959, 1965) was registered in the Natural park.

Out of all birds registered in 2000, 51 species (31%) belong to various categories of endangerment (King 1979; Obratil, Matvejev 1989).

22 fish species from 12 families was registered in the Natural park.

Ichthyofauna of the Hutovo blato Natural park could be roughly divided into three groups:

native species, which separate part are endemic species,
migratory species, which enter wetlands during part of their life cycle,
non-native species, introduced in Hutovo blato in the last 100 years.

Blidinje is a natural park and it was declared as a protected area on 30th March 1995.

The nature Park Blidinje is situated in southwest of Bbosnia and Herzegovina, in the mountain area of Vran, Čvrstica and Čabulja.

The Park covers 580 km sq. Of aged forests located there. The central point of this area is Blidinje Lake, 1180 meters above the sea level and a number of other lakes.

Bearing in mind the natural values of the site :

especially the ecosystem rare for Europe
the abundance of habitats
the extremely interesting flora and fauna endemic species
the important migratory fly way.

The main and most characteristic ecosystems in the Natural park «Blidinje» are:

- ecosystems of endemic species *Pinus heldreichii* Christ.(greatest forest complex in the Europe)
- ecosystems mountain species
- ecosystems open water
- ecosystems underground water

7. Proposals made for inclusion of areas under national jurisdiction in SPAMI list (Article 9 (a))

- (a) Date of proposal/s
- (b) Areas proposed (attach list)

Natural park Blidinje is planed to become a part of the National park Cvrstica-Prenj-Cabulja, which would be a national park of higher rank then Blidinje is at present. Furthermore, a procedure for proposal of including cave Vjetrenica and waterfall Kravica on the UNESCO list is under preparation.

Cave Vjetrenica is situated in the immediate proximity of the coastal area outback of B&H. It is necessary to previously make an expert basis for fulfilling a criteria for UNESCO list.

8. SPAMI list:

- (a) The status and state of the areas under national jurisdiction included in the SPAMI list (Article 23(a))
- (b) Any changes in the delimitation or legal status of such SPAMIs (Article 23 (b)).

Not applicable.

9. Any changes in the delimitation or legal status of protected species.

During the year 2003, a set of new Environment Laws has been enacted regarding the environment and its protection in FB&H and RS. One of those is the Law on Nature protection within which is defined a status of protected species, as follows:

Article 34

Protected plant and fungi species listed in the “Red List”

The following shall be prohibited:

- (a) the deliberate picking, collecting, cutting, uprooting or destruction of such plants in their natural range in the wild,
- (b) the keeping, transport and sale or exchange and offering for sale or exchange of specimens of such species obtained in the wild, except for those obtained legally before this law entered into force.

The prohibitions referred to in paragraph 1 of this article shall apply to all stages of *the biological cycle of the plants*.

Article 35

Protected animals listed in the “Red List”

The following shall be prohibited:

- (a) All forms of deliberate capture or killing of specimens of these species in the wild;
- (b) The deliberate disturbance of these species, particularly during the period of breeding, rearing, hibernation and migration;
- (c) Deliberate destruction or taking of eggs from the wild;
- (d) Deterioration or destruction of breeding sites or resting places;
- (e) The keeping, transport and sale or exchange, and offering for sale or exchange, of specimens taken from the wild, except for those taken legally before this law entered into force,
- (f) The use of all indiscriminate means capable of causing local disappearance of, or serious disturbance to, populations of such species.

The implementing regulation/by-law shall regulate a system to monitor the incidental capture and killing of protected animal species shall be regulated.

The implementing regulation/by-law shall regulate further research or conservation measures as required to ensure that incidental capture and killing does not have a significant negative impact on the species concerned.

The prohibition referred to in paragraph 1 (a), (b) and (e) of this article shall apply to all stages of life of the animals.

Article 36

Exemptions

As an exemption, the application of the provisions of articles 22 paragraph 1 and 2, and 34 paragraph 1, and article 35 paragraph 1 may be limited by the special regulation, as follows:

- 1.) in the interest of protecting wild fauna and flora and conserving natural habitats;
- 2.) to prevent serious damage to crops, livestock, forests, fisheries and water;
- 3.) to prevent other serious damage;
- 4.) in the interests of public health and public safety,
- 5.) or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- 6.) for the purpose of research and education, of repopulating and re-introducing these species and for the breeding operations necessary for these purposes, including the artificial propagation of plants;
- 7.) to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the species in limited numbers.

The regulation established in article 23 paragraph 1 of this law shall regulate those wild animal species for hunting and fishing (angling), as well as the time, number of exemplars and methods therefore. In the case established in paragraph 3 of this article, the prior opinion of the Ministry responsible for hunting and fishing is required.

Article 37

Introduction of new or extinct species

Deliberate introduction of plant and animal species which are not native to the territory of Bosnia and Herzegovina shall be forbidden.

Exemptions concerning paragraph 1 of this article can be established by regulation/by-law in the event that such introduction does not prejudice natural habitats within their natural range or the wild native fauna and flora.

Reintroduction of extinct plant and animal species into nature in the FB&H Federation shall be performed

only with prior permission of the Federal Ministry and prior opinion of the Federal Ministry responsible for agriculture, water-management and forestry.

At present there is a procedure of adjusting Cantonal laws with above mentioned Federal Laws.

10. New records of non-indigenous or genetically modified species likely to cause damage (Article 13.2).

No data available.

11. Inventories of the components of biological diversity (Article 15).

- (a) Date of compilation or updating of inventory of areas containing rare or fragile ecosystems;
- (b) Date of compilation or updating of inventory of threatened or endangered flora and fauna.
- (c) Attach inventory/inventories, unless already previously submitted in *ad hoc* report.

Two action plans have been proposed within the framework of the SAP BIO Project, and by their implementation inventories of the components of biological diversity would be made and data for threatened or endangered flora and fauna would be collected for existing and future specially protected areas in B&H.

12. Exemptions granted from protection measures (Articles 12, 18, 23(c)).

No data available.

13. Implementation of the action plans for threatened species adopted within the framework of MAP. Mr. Ivan Buntić, as a B&H representative, will attend the 7th meeting on the National Focal Point for SPA in Seville, Spain, from 31st May to 3rd June 2005. For that meeting a National Report on the Application of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean will be prepared for MAP presentation until 1st March, and therefore this report is not available at this moment, and it will be submitted additionally.

14. Implementation of other relevant recommendations of Contracting Parties not already included in national biennial report on implementation of Convention and Protocols.

No data available.

ANNEX

Flora and fauna of Hutovo blato Wetlands

QUALITATIVE ANALYSIS OF CATCH DURING SURVEY IN 2000

LIST OF CAUGHT FISH SPECIES IN HUTOVO BLATO WETLANDS

Family : Salmonidae

Salmo dentex – dentex trout

Family: Cyprinidae

Rutilus basak – Adriatic roach

Leuciscus svallize – Adriatic dace

Scardinius scardafa – rudd

Tinca tinca – tench

Chondrostoma kneri – neretvanian nase

Alburnus albidus – bleak

Carassius auratus auratus – goldfish

Cyprinus carpio – common carp

Family: Cobitidae

Cobitis narentana – neretvan spined loach

Family: Ameiuridae

Ameiurus nebulosus – brown bullhead

Family: Anguillidae

Anguilla anguilla – European eel

Family: Gasterosteidae

Gasterosteus aculeatus – three-spined stickleback

Family: Mugilidae

Mugil cephalus – grey mullet

Liza ramada – thinlip mullet

Liza saliens – leaping mullet

Family: Poeciliidae

Gambusia holbrooki – mosquito fish

Family: Centrarchidae

Lepomis gibbosus – pumpkinseed, sunfish

Family: Gobiidae

Knipowitschia punctatissima croatica

Knipowitschia sp. undetermined, possibly new species

Family: Percidae

Gymnocephalus cernuus - ruffe

Family: Pleuronectidae

Pleuronectes flesus - flounder

3. SPECIAL PART

This part of the elaborate study presents the list of birds of Hutovo blato marsh and nearby land, which has been made on the basis of the own ornithological field researches conducted in the period between January and December 2000.

Taxonomic order of species is given according to VAURIE (1959, 1965) and MATVEJEV – VASIĆ (1973).

The basic criteria for elaboration of certain species are as follows:

- a) Scientific (Latin) name of a species and its author
- b) Type of distribution according to VOOUS (1962)
- c) The main seasonal status of a species is determined on the basis of the ornithological researches in Hutovo blato (Reiser 1939, Obratil 1971, 1985, 1996), and researches conducted in the year 2000, and is given in the following abbreviations:

R – Resident

S – Summer resident

M – Migrant

W – Winter visitor

A – Annual Vagrant

V – Irregular Vagrant

- d) Category of endangerment is presented according to the International Union for Conservation of Nature and Natural Resources (IUNC), applied to the Red Book for Europe (King 1979). This method was also applied to the proposed Red List of endangered birds in Bosnia and Herzegovina (Obratil-Matvejev 1989). Category of endangerment, for B&H/Europe, is shown in abbreviations:

Ex – Extinct

Ex? – Extinct?

E – Endangered

V – Vulnerable

R – Potentially endangered, Rare

O – Out of danger

I – Indeterminate

K – Insufficiently known

- e) Basic autecological and synecological characteristics of species are given in the text, and Croatian names of species are given according to SUŠIĆ & RADOVIĆ (1988), used in Collins pocket guide Birds of Croatia and Europe (Heinzel, Fitter, Parslow 1999).

PODICIPEDIDAE – GREBES

1. *Podiceps ruficollis* (Pallas)

Type of distribution: Old World

-R

R/-

LITTLE GREBE stays in the whole marsh area. It nests in thinned communities of reed grass, rush and reed-mace. In the periods of migration and wintering smaller and bigger flocks of 45-50 individuals stay on open water of the lake. They often make mixed flocks with Coot (*Fulica atra*).

2. *Podiceps nigricollis* C. L. Brehm

Type of distribution: Old World

-W

R/-

BLACK-NECKED GREBE was registered on open water of the lake, in the period November – April. It is not a frequent bird, flocks of 5-10 specimens (Svitava reservoir) and 22-25 specimens (Škrka Lake) were seen.

3. *Podiceps cristatus* (Linnaeus)

Type of distribution: Old World

-R

-

GREAT CRESTED GREBE is a regular and not numerous summer resident at the reed grass margins of the lake. In the period of migration and wintering flocks of up to 14 specimens are frequent on open water (Deran and Svitava lakes)

PHALACROCORACIDAE – CORMORANTS

4. *Phalacrocorax carbo* (Linnaeus)

Type of distribution: Old World

-W

R/-

Presence of CORMORANT was noticed throughout the year (except May and June) on open water, tree stumps and dry trunks' debris. Flocks with 60 individuals are frequent. Nesting of the species was for the first and only time registered on 6 June, 1983, on a dry willow trunk in Svitava reservoir (Obratil, 1984).

5. *Phalacrocorax pygmaeus* (Pallas)

Type of distribution: Sarmatian

-R

E/V

PYGMY CORMORANT is a regular nester. 50-60 pairs nest in a mixed colony with herons (*Ardeidae*) in a shrub-like stand of grey willow (*Salix cinerea*), in an unapproachable reed grass complex of Gornje blato.

In the period of migration and wintering, smaller and bigger flocks with up to 62 individuals stay regularly on open water. This species is potentially endangered. Population census of the species decreases through history.

ARDEIDAE – HERONS

6. *Ixobrychus minutus* (Linnaeus)

Type of distribution: Old World -S V/-
LITTLE BITTERN stays in the marsh in the period April-August. It nests individually, separate pairs make nests in thick reed grasses and willow shrubs at the margins of the lake, canals and gullies.

7. *Nycticorax nycticorax* (Linnaeus)

Type of distribution: Cosmopolitan -S V/-
NIGHT HERON was registered in the period April-August. Nesting of 4-5 pairs was established in the mixed colony of herons (*Ardeidae*) and pygmy cormorant (*Phalacrocorax pygmaeus*), within the grey willow (*Salix cinerea*) stand in Gornje blato locality (June-July).

8. *Ardeola ralloides* (Scopoli)

Type of distribution: Ethiopian -S V/-
Presence of SQUACCO HERON was registered in the marsh for the period April-August. Nesting of 10-12 pairs was established within the mentioned mixed colony of Pygmy Cormorant (*Phalacrocorax pygmaeus*) and Herons (*Ardeidae*).
Feeding of this heron was regularly noticed in ecosystem of aquatic vegetation, on the leaves of frog-lily (*Nuphar luteum*) and water-lily (*Nymphaea alba*), of Deran Lake, at Bjelina and by the margins of Svitava reservoir and conveying canal Svitava – Dračevo.

9. *Egretta alba* (Linnaeus)

Type of distribution: Old World -W -

GREAT WHITE EGRET comes in September for wintering, and stays in the marsh until April. It is not numerous, individual specimens and groups of up to three individuals regularly stay and feed at the margins of the marsh, in shallow waters.

10. *Egretta garzetta* (Linnaeus)

Type of distribution: Old World -S V/V

LITTLE EGRET has a status of a summer resident. In a mixed colony ca 15-20 pairs of Little Egret nest in the ecosystem of humid forests of grey willow (*Salix cinerea*), within the unapproachable reed grasses called Brezine.

It feeds in the biotope of aquatic vegetation at the margins of the lake, in gullies, and in humid meadows of Sjekoška kaseta in the periods of migration and wintering. In this ecosystem staying (resting and feeding) of flocks with 120-130 individuals was registered (7 April, 2000).

11. *Ardea cinerea* Linnaeus

Type of distribution: Palearctic -R -

GREY HERON is a nesting resident (January-December). In a mixed colony of Herons and Pygmy Cormorant, nest 7-10 pairs. It is much more numerous in the period of migration and wintering when individual specimens, smaller groups and flocks with up to 40 individuals stay on shallow waters and at the margins of thinned reed grasses of the lake.

12. *Ardea purpurea* Linnaeus

Type of distribution: Indo-African -S E/-

The earliest arrival of PURPLE HERON was registered on 6 April, when 13 specimens took off from the margin of reed grasses of Lake Deran. The last find was registered on 18 September at the margin of reed grass of Svitava reservoir. This heron comes into the category of very endangered species (E).

THRESKIORNITHIDAE – IBISES AND SPOONBILLS

13. *Platalea leucorodia* Linnaeus

Type of distribution: Old World -M E/V

SPOONBILL is a scarce passage migrant in the period of spring migration. Its stay was registered on 7 April, when a flock of 18 individuals rested on aquatic oases of humid meadows in Sjekoška kaseta. This marsh bird also comes into the category of very endangered species.

14. *Plegadis falcinellus* Linnaeus

Type of distribution: Old World -M E/-

GLOSSY IBIS is a spring passage migrant. Stay of this attractive bird was registered on 7 April, when 40-50 specimens were staying in the mixed flock with Black-tailed Godwit (*Limosa limosa*) at the margin of aquatic oasis in humid meadow of Sjekoška kaseta.

CICONIIDAE – STORKS

15. *Ciconia ciconia* (Linnaeus)

Type of distribution: Palearctic -M E/E

WHITE STORK is a scarce passage migrant in the period of autumn migration. In evening hours on 18 September one specimen flew from the flooded meadow of Sjekoška kaseta to the building of Svitava reservoir dam.

ANATIDAE – DUCKS

16. *Anser anser* (Linnaeus)

Type of distribution: Palearctic -W Ex/V

GREYLAG GOOSE is a scarce and not numerous winter visitor of Hutovo blato. Two specimens landed on Deran Lake on 19 January.

As a resident has been extinct in Bosnia and Herzegovina.

17. *Anser albifrons* (Scopoli)

Type of distribution: Arctic

-W

-

WHITE-FRONTED GOOSE is more common winter visitor of this area. On 18 January three specimens were feeding in humid meadows of Sjekoška kaseta.

18. *Anas platyrhynchos* Linnaeus

Type of distribution: Holarctic

-R

-

MALLARD is the most numerous summer resident. It breeds in the ecosystems of reed grass, rush and reedmace. In the periods of migration and wintering population census increases. They usually stay on shallow water with aquatic vegetation of open water (lakes Deran and Jelim, Drijen, Bjeline) and in water oases within the reed grasses (called PLESA). Size of flocks in September is up to 500 specimens, and during wintering up to 600 specimens.

19. *Anas crecca* Linnaeus

Type of distribution: Holarctic

-W

-

TEAL is a regular and most numerous winter visitor duck (September-March). In December flocks were registered with 800-1000 individuals. It is less numerous during migration.

20. *Anas strepera* Linnaeus

Type of distribution: Holarctic

-W

R/-

GADWALL is a scarce winter visitor of this marsh. It was noticed in October and November, when flocks of up to 12 individuals were registered (Svitava reservoir and Lake Škrka).

21. *Anas penelope* Linnaeus

Type of distribution: Palearctic

-W

-

WIGEON is a common and relatively numerous winter visitor. Smaller flocks (up to 30 specimens) stay in migration, and during winter months (January) flocks with 80-100 individuals were noticed in water oases of Sjekoška kaseta and Svitava reservoir.

22. *Anas acuta* Linnaeus

Type of distribution: Palearctic

-W

-

PINTAIL is not a common winter visitor. Stays on open water, in pairs and smaller groups. On Lake Deran, at the margin of reed grasses Radanovac and Barač Do, two flocks (11 and 38 individuals) were noticed beside other ducks.

23. *Anas querquedula* Linnaeus

Type of distribution: Palearctic

-R

-

GARGANEY is not a frequent winter visitor. In the period of migration and wintering stays in the ecosystems of open water and in oases of flooded meadows in Sjekoška kaseta (April). Registered population census was as follows: January 460-500 specimens, March 300-400, April 280-300, September 280-300, October 150-160 and November 140-150 specimens.

24. *Anas clypeata* Linnaeus

Type of distribution: Holarctic

-W

-

SHOVELER is a regular winter visitor. Stays on open water and water oases of humid meadows, in smaller groups (3-7 individuals) and flocks with 15-26 individuals.

25. *Aythya ferina* (Linnaeus)

Type of distribution: Palearctic

-W

-

POCHARD is a relatively frequent winter visitor (August-April). Common in mixed flocks with other ducks and Coot (*Fulica atra*) on open water of the lake, and in spring in water oases of flooded meadows. Population census: January 25-30 specimens, February 70, March-April up to 6, October-November flocks up to 60 individuals, and December flocks up to 6 specimens.

26. *Aythya nyroca* (Gmelin)

Type of distribution: Turkestan-Mediterranean

-R

-

FERRUGINOUS DUCK once was a numerous resident. In the period of nesting individual specimens and pairs were registered in the localities of Jelimska rječina, Drijen and Lake Deran. It is most common during wintering in January, when flocks with 60-70 and 150-200 individuals were registered on Lake Deran, and a flock with 125-150 specimens in oases of flooded meadows in Sjekoška kaseta.

PANDIONIDAE – OSPREYS

27. *Pandion haliaetus* (Linnaeus)

Type of distribution: Cosmopolitan

-M

Ex/-

OSPREY, or also known among people as Fisher Eagle, was noticed in the marsh during spring migration (March and April) and autumn migration (September and October). Stays on dry tree trunks by the banks of the Krupa river and Jelim gully. Feeds on open water of the lake. On 17 and 18 October its circling and diving into Svitava reservoir was observed.

ACCIPITRIDAE – KITES, BUZZARDS ETC.

28. *Milvus korschun* (Gmelin)

Type of distribution: Old World

-V

V/V

During bird watching in Drijen on 15 August, BLACK KITE was noticed flying from the nearby area towards the reed. This was the second find of this bird in Hutovo blato, the first was in January 1896 (Reiser, 1939).

This find can be considered as an element of vagrancy, probably from the nest area in humid forests of Posavina.

29. *Accipiter gentilis* (Linnaeus)

Type of distribution: Holarctic

-W

-

GOSHAWK is a winter visitor of rocky ecosystems with degraded forest vegetation, humid meadows and meliorated cultivated areas of Sjekoška and Višička kasete.

This bird's of prey hunt for Little Grebe (*Podiceps ruficollis*) was noticed in Drijen on 19 September.

30. *Accipiter nisus* (Linnaeus)

Type of distribution: Palearctic

-R

-

Presence of SPARROWHAWK was registered throughout the year. In the periods of migration and wintering is more frequent and most numerous in ecosystems at the margins of the lake and canals, with humid forests of willow and poplar, in meliorated cultivated areas with hedges and shrubs with reed grass by the regulatory canals. Remnants of prey were found: Hoopoe (*Upupa epops*), Kingfisher (*Alcedo atthis*), Blackbird (*Turdus merula*) and other.

31. *Buteo lagopus* (Pontoppidan)

Type of distribution: Arctic

-W

-

ROUGH-LEGGED BUZZARD is a regular winter visitor. As by a rule, individual specimens can be noticed on isolated trees, as well as their low flight over humid meadows and cultivated areas of Sjekoška and Višička kasete.

32. *Buteo buteo* (Linnaeus)

Type of distribution: Holarctic

-W

-

BUZZARD is a regular and commoner winter visitor than Rough-legged Buzzard is. It was registered in the period October-April, in the same ecosystems as Rough-legged Buzzard. It can also be seen above ecosystems of pubescent oak and oriental hornbeam forests from the marsh surrounding.

33. *Aquila clanga* Pallas

Type of distribution: Palearctic

-W

Ex?/V

SPOTTED EAGLE is a scarce visitor of Hutovo blato marsh in recent times. Its presence was registered on 14 November, when one specimen of this eagle took off from Bjeline.

34. *Aquila pomarina* C. L. Brehm

Type of distribution: Palearctic

-W

Ex?/V

LESSER SPOTTED EAGLE is a scarce bird in this marsh. Its stay was noticed in January and November, when flying over Deran Lake.

35. *Aquila chrysaetos* (Linnaeus)

Type of distribution: Holarctic

-R

R/V

GOLDEN EAGLE once nested in the surroundings of Hutovo blato. Presence of this eagle was registered on three occasions (4 and 20 April and 18 July), when flight from the rock cliffs above Bajovci to the margin of the marsh was noticed, and a flight above rocky grounds between Svitava and Dračevo.

36. *Circus gallicus* (Gmelin)

Type of distribution: Indo-African

-R

V/V

After a longer period of absence, presence of SHORT-TOED EAGLE was noticed again. One specimen of this eagle was noticed on 17 June, in its usual flight over the ecosystem of thinned pubescent oak and oriental hornbeam forest on Ostrovo cliff rocks.

37. *Circus cyaneus* (Linnaeus)

Type of distribution: Holarctic

-W

-

HEN HARRIER is a regular winter visitor of the marsh in the period October-April. It is most frequent above the ecosystems of meliorated cultivated areas, humid meadows and dykes, when individual specimens can be seen in low flight.

38. *Circus macrourus* (Gmelin)

Type of distribution: Turkestanian

-M

-

PALLID HARRIER is a scarce passage migrant in the period of spring migration. In March and April low flights of individual specimens were noticed above humid meadows of Sjekoška kasete, freshly ploughed cultivated areas of Višička kasete, and shrubs of burnt reed grass by the Krupa bank.

39. *Circus pygargus* (Linnaeus)

Type of distribution: Euro-Turkestanian

-M

Ex/V

MONTAGU'S HARRIER is a new migrant. Its presence was noticed in autumn migration on 13 November, above a meadow with weed in Sjekoška kasete.

40. *Circus aeruginosus* (Linnaeus)

Type of distribution: Palearctic

-R

V/-

MARSH HARRIER is a regular and common nesting resident in the ecosystem of reed grass, rush and reedmace in Gornje blato. During daytime constant flight over reed grasses and margins is evident, and also periodical diving in (on 12 December it made 6 specimens of Snipe *Gallinago gallinago* to take off from Deran Lake).

FALCONIDAE – FALCONS

41. *Falco biarmicus* Temminck

Type of distribution: Ethiopian

-R?

E/V

LANNER FALCON is a scarce resident of the marsh (Obratil, 1971). During researches, its stay was registered by the Krupa river (February), and in August it took off from a dyke by the conveying canal Svitava-Dračevo. On the dyke fresh feathers of Coot (*Fulica atra*) were found.

42. *Falco peregrinus* Tunstall

Type of distribution: Cosmopolitan

-W

V/Ex

PEREGRINE is a winter visitor in this area. It is commonest in January and February, when comes from surrounding rocks and cliffs for hunt. An attempt of hunt for Coot (*Fulica atra*) was observed when a flock took off from the surface of Svitava reservoir. One find was in March, when hunt for Rock Partridge (*Alectoris graeca*) was observed at the foot of Black Hill (Škrke cove).

43. *Falco subbuteo* Linnaeus

Type of distribution: Palearctic -M -
 HOBBY stays in the marsh area in the period of spring (April) and autumn (September) migration. Hunt for insects in the air was watched at the margin of Deran Lake (Londža-Drijen), as well as a hunt for Swallow (*Hirundo rustica*) above the meliorated cultivated area of Višička kaseta.

44. *Falco columbarius* Linnaeus

Type of distribution: Holarctic -W -
 MERLIN is a winter visitor. It was registered in the marsh on 11 March, on a willow tree, on the Krupa river bank.

45. *Falco tinnunculus* Linnaeus

Type of distribution: Old World -W -
 There has not been any confirmation on nesting of KESTREL in the area of marsh and surroundings yet. Existing finds from the period September-March show that this species has a status of winter visitor.
 PHASIANIDAE – PHEASANTS

46. *Alectoris graeca* (Meisner)

Type of distribution: Turkestan-Mediterranean -R V/Ex
 ROCK PARTRIDGE once was a regular and common resident of grassy rocks in Škrke cove (Black Hill and Kučevo crest). It was noticed on 13 March, when two specimens were chased by Peregrine (*Falco peregrinus*), and landed on the path between rocks and marsh at the foot of Black Hill. This bird's voice was recorded on 21 March.

47. *Coturnix coturnix* (Linnaeus)

Type of distribution: Old World -S I/-
 QUAIL is a summer resident. It is an inhabitant of grasslands – meadows and anthropogenous ecosystems of meliorated cultivated areas of Sjekoška and Višička kaseta. The bird was registered in the period April-August.

48. *Phasianus colchicus* Linnaeus

Type of distribution: unknown - -
 PHEASANT is a colonized species. Its stays in the marsh ecosystems were established for the period April-October. When water level is low, it stays in reed grasses and shrub-like willow groves. When water level in the marsh is high, bird stays in the meadow habitat with weed dominance (Sjekoška kaseta).
 GRUIDAE – CRANES

49. *Grus grus* (Linnaeus)

Type of distribution: Palearctic -M Ex/V
 CRANE is a passage migrant, stays in spring migration, in the period February-April. Migration is most intensive in March. Flocks of up to 350 individuals rest and feed on cultivated areas of Višička kaseta and burnt reed grasses on the Krupa river banks.
 RALLIDAE – RAILS, COOTS ETC.

50. *Rallus aquaticus* Linnaeus

Type of distribution: Palearctic -R V/-
 WATER RAIL is a resident nester in the whole marsh area. Breeds in thick reeds with willow shrubs, where can hardly be noticed. It is common at the margins of Škrke Lake coves.
 Characteristic voice of the bird is most easily heard in the period October-December, when the population size increases during migration and wintering.

51. *Porzana porzana* Linnaeus

Type of distribution: European -M V/V
 SPOTTED CRAKE was registered in autumn migration, on 17 October. Feeds on leaves of floating aquatic vegetation at the margins of reeds.

52. *Porzana parva* (Scopoli)

Type of distribution: Palearctic -M V/V
 LITTLE CRAKE is a passage migrant. Stays were registered in the periods of spring and autumn migration (6 April and 15 November), on floating aquatic vegetation of the reed margins (Jelim gully).

53. *Porzana pusilla* (Pallas)

Type of distribution: Old World -R V/V
 BAILLON'S CRAKE is not a common resident. Nesting and staying was noticed at the margin of the reed on 15 August (Jalim and Drijen Rječina).

54. *Gallinula chloropus* (Linnaeus)

Type of distribution: Cosmopolitan -R -
 MOORHEN is a regular and common nesting resident of the ecosystems of reed grass, rush and reedmace with shrub-like willows, at the margins of the lake, gullies, canals and banks of the Krupa river.

55. *Fulica atra* Linnaeus

Type of distribution: Palearctic -R -
 COOT is a regular nesting resident of reeds. It is not numerous in the period of nesting. Stays at the reed margins and on water of the lake and canals. Those are usually individual specimens, pairs and

groups of 2-5 specimens, withdrawing to the thick reeds, where their nests are, when predators or men appear.

In the periods of migration and wintering population census considerably increases. Greatest abundance was registered in October and December in Svitava reservoir (ca 7-8000 specimens).

CHARADRIIDAE – PLOVERS, LAPWINGS

56. *Vanellus vanellus* (Linnaeus)

Type of distribution: Palearctic -W -
 LAPWING is a winter visitor, once very abundant in humid meadows of Hutovo blato. During research (in 2000) stays were registered in the period October-March, in meliorated cultivated areas of Višička kaseta, and in fragments of once extent humid meadows of Donje blato.
 Greatest abundance was registered in November (ca 250-320 specimens) and December (ca 700-800 specimens).

57. *Calidris alpina* (Linnaeus)

Type of distribution: Arctic -M -
 DUNLIN is a spring passage migrant. In the mixed flock with Shanks (*Tringa* sp.) 30-31 specimens were feeding in shallow water oases of humid meadows in Sjekoška kaseta.

58. *Tringa erythropus* (Pallas)

Type of distribution: Siberian -M -
 SPOTTED REDSHANK was noticed in spring migration in passage flight. 10 specimens were feeding at aquatic vegetation of Svitava reservoir, on 14 March, and a flock of 25-30 specimens was noticed in a low flight above water.

59. *Tringa totanus* (Linnaeus)

Type of distribution: Palearctic -M R/E
 Presence of REDSHANK was registered in the ecosystem of open water of Deran and Svitava lakes, in the period May-September. It is not numerous and feeds at floating aquatic vegetation, on the leaves of water-lily and frog-lily (*Nymphaea alba* and *Nuphar luteum*).

60. *Tringa nebularia* (Gunnerus)

Type of distribution: Siberian -M-W -
 GREEN SHANK stays in the marsh in the period February-October. Feeds at drifting vegetation and humid meadows of shallow water oases. During migration in May passage flights of numerous flocks with 20-70 specimens were noticed, from Svitava reservoir to Gornje blato.

61. *Tringa ochropus* Linnaeus

Type of distribution: Palearctic -M -
 GREEN SANDPIPER was noticed during migration in a mixed flock with Wood Sandpiper (*Tringa glareola*) on a humid meadow. Individual specimens were noticed in July and August on Deran Lake, and in passage flight over cultivated areas, which is probably a vagrant element, or early migration.

62. *Tringa glareola* Linnaeus

Type of distribution: Palearctic -M -
 WOOD SANDPIPER is a passage migrant of this marsh. It is most numerous in the period of spring migration. Smaller flocks (up to 25-27 specimens) with other pond and marsh birds are frequent in April, on water oases of the humid meadow ecosystems in Sjekoška kaseta, and in meliorated cultivated areas of Višička kaseta. Presence is lesser during autumn migration.

63. *Tringa hypoleucos* Linnaeus

Type of distribution: Holarctic -M -
 COMMON SANDPIPER is a passage migrant, stays were registered in the period April-September. Its presence in July and August is an element of vagrancy.

64. *Limosa limosa* (Linnaeus)

Type of distribution: Palearctic -M -
 BLACK-TAILED GODWIT is a passage migrant in spring migration. Presence of this species was registered on 4 and 7 April, in water oases of flooded meadows in Sjekoška kaseta. 35-40 Black-tailed Godwits were in a mixed flock with Glossy Ibis (*Plegadis falcinellus*) and Wood Sandpiper (*Tringa glareola*).

65. *Gallinago gallinago* (Linnaeus)

Type of distribution: Holarctic -W -
 SNIPE is a regular winter visitor of this marsh. First arrivals were registered in September, with stay in the marsh until April. Greatest population size was in November (120 specimens) and December (150-200). They feed and rest at deposits of aquatic vegetation in shallower zones of the lake and canals. Especially frequent and numerous on Deran Lake.

66. *Gallinago media* (Latham)

Type of distribution: Palearctic -M -
 GREAT SNIPE is a scarce guest during winter migration. Stay was registered on 22 November, on meadows of Višička kaseta (2 and 1 specimens).
 LARIDAE-GULLS, TERNS

67. *Larus minutus* Pallas

Type of distribution: Palearctic -M -
 At the margin of Svitava reservoir by the settlement of Svitave two specimens of LITTLE GULL were registered in passage flight.

68. *Larus ridibundus* Linnaeus

Type of distribution: Palearctic -W V/-

BLACK-HEADED GULL is a winter visitor of this area. Stay was registered in the period September-March. Greatest abundance was registered in October, on humid meadows of Sjekoška kaseta 300-350 specimens, and 200-250 above the surface of Svitava reservoir.

Presence of this gull in summer months is an element of vagrancy.

69. *Larus argentatus* Pontoppidan

Type of distribution: Palearctic -A -

HERRING GULL is more or less present throughout a year, in almost all ecosystems of the marsh and surroundings. It doesn't breed in Hutovo blato, but feeds here, as the Adriatic Sea is near. Vagrancy is characteristic for the species.

In humid meadows of Sjekoška kaseta and in water oases formed there, flocks of 500-600 specimens are frequent (April, September, October).

This gull species is common and frequent in meliorated and cultivated areas of Višička kaseta, especially after ploughing : 220-250 specimens (May), 300-400 (October), 700-800 (November).

Disturbed flocks and parts of flocks periodically go to Svitava reservoir.

70. *Larus canus* Linnaeus

Type of distribution: Palearctic -W -

COMMON GULL is a scarce visitor of this marsh. Commonly breeds in north Europe. Two specimens were noticed on 11 March on Deran Lake.

71. *Chlidonias niger* (Linnaeus)

Type of distribution: Holarctic -M Ex/V

BLACK TERN was registered in passage flight and resting on Deran Lake (14 May) and Svitava reservoir (19 July).

72. *Chlidonias leucopterus* (Temminck)

Type of distribution: Palearctic -M -

WHITE-WINGED BLACK TERN is a passage migrant. On 14 May 10 specimens were noticed on Deran Lake, and 2 on Svitava reservoir on 15 May.

73. *Chlidonias hybrida* (Pallas)

Type of distribution: Old World -A V/V

Stay of WHISKERED TERN was registered in the period May-July, above and within ecosystems of aquatic vegetation of Svitavska kaseta. The time of presence and behaviour of 7-8 specimens showed a possibility of nesting. Locality was thoroughly observed and visited by boat, and it was established that nesting was not in case. Stays of the bird are an element of vagrancy.

74. *Sterna hirundo* Linnaeus

Type of distribution: Holarctic -M V/V

Above water of Svitava reservoir, where other terns were also noticed, presence of two specimens of COMMON TERN was noticed in May.

COLUMBIDAE-PIGEONS, DOVES

75. *Columba palumbus* Linnaeus

Type of distribution: Euro-Turkestanian -W -

WOODPIGEON is a regular and once numerous winter visitor of Hutovo blato marsh. During 2000 research stays of this pigeon were registered in the period September-December, in ecosystems of meliorated cultivated areas of Višička kaseta, and on trees of humid willow and poplar forests on the river Krupa banks (flocks: 9, 40-60, 50 and 30 specimens).

76. *Columba livia* Gmelin

Type of distribution: Turkestan-Mediterranean -R -

ROCK DOVE feeds in flocks (20-25, 17-20, 7-8, 60-80, 80-100 specimens) on meliorated cultivated ecosystems of Višička kaseta and cultivated plots of Ostrovo crest. Presence of this pigeon was registered in the period September-November. Mentioned populations probably belong to nesting residents of cliffs and caves of the marsh surroundings.

77. *Streptopelia decaocto* (Frisvaldszky)

Type of distribution: Indo-African -R -

Populations of COLLARED DOVE which nest near inhabited places in the marsh surroundings, are staying in autumn months, October and November, by the farm-buildings of the Cow Farm at the margin of cultivated area of Višička kaseta. Presence of flocks with 10-29 specimens was registered.

78. *Streptopelia turtur* (Linnaeus)

Type of distribution: Euro-Turkestanian -S I/-

TURTLE DOVE is a nester in the ecosystem of humid willow and poplar forests on the river Krupa banks. Stay of the bird was registered in the period May-September. Feeds at cultivated and grass areas of Višička kaseta and a dyke near the river Krupa, and by conveying canal Svitava-Dračevo (individual specimens, pairs and flocks up to nine individuals).

CUCULIDAE-CUCKOOS

79. *Cuculus canorus* Linnaeus

Type of distribution: Palearctic -S -

CUCKOO inhabits forest, cultivated and meadow habitats. Lays eggs into songbirds' nests. In the marsh those are usually Warblers' nests (*Acrocephalus* spec.). Stays in Hutovo blato in the period April-August.

STRIGIDAE-OWLS

80. *Bubo bubo* (Linnaeus)

Type of distribution: Palearctic -W R/V

EAGLE OWL is a nester of Hutovo blato surrounding, and stays in the marsh during wintering. Stay was noticed on dry willows on the Krupa river bank in November and December.

APODIDAE-SWIFTS

81. *Apus apus* (Linnaeus)

Type of distribution: Palearctic -S -

SWIFT stays above the marsh (April-June) for feeding on insects. This bird is a nesting migrant in Hutovo blato surroundings.

82. *Apus melba* (Linnaeus)

Type of distribution: Indo-African -S R/-

ALPINE SWIFT is a nesting migrant on cliffs of the wider surroundings of Hutovo blato. Smaller and bigger flocks (35-40 specimens) hunt for insects in the air, or dive in roaring flight towards the lake water. Their presence in the marsh was registered in the period May-September.

ALCEDINIDAE-KINGFISHERS

83. *Alcedo atthis* (Linnaeus)

Type of distribution: Old World -R V/-

KINGFISHER is a regular, but not numerous nester on the banks of the Krupa and canals. In the period of migration and wintering individual specimens are common, rarely 2-3, flying by the lake margin, gullies, canals and river banks.

MEROPIDAE-BEE-EATERS

84. *Merops apiaster* Linnaeus

Type of distribution: Turkestan-Mediterranean -S E/V

BEE-EATER is a new nesting migrant in Hutovo blato, registered for the first time in July 2000. On earthen walls of newly dug canals for hydro-regulation, within the anthropogenous ecosystems of the Zgoni Nursery in Višička kaseta, 70 active nests were registered. Members of the colony were extremely active in gathering food (insects) for juveniles and immatures above all ecosystems of the marsh and surroundings. Stays of Bee-eaters were registered in the period May-July, and assembled colony with 250-300 specimens was noticed for the last time before migration on 28 and 29 August, on dry willow trees on the river Krupa bank.

UPUPIDAE-HOOPOES

85. *Upupa epops* Linnaeus

Type of distribution: Old World -S E/-

HOOPOE is a regular but not numerous summer resident of the willow and poplar forest ecosystem. Feeds in open areas of humid meadows, cultivated areas and rocky grounds of immediate marsh surroundings. Presence of this attractive bird was registered in the period March-August.

PICIDAE-WOODPECKERS

86. *Jynx torquilla* Linnaeus

Type of distribution: Palearctic -S -

WRYNECK is not numerous, but a regular summer resident of old willow and poplar trees in open areas within the marsh and its margins. Characteristic voice of the bird was registered in the period April-July.

87. *Picus viridis* Linnaeus

Type of distribution: European -R -

GREEN WOODPECKER is a resident of wider surroundings of the marsh. Its stay in the marsh was registered in the period January-December. It was noticed on poplar trees at the margin of humid meadow in Londža (January and March), degraded forest with dominance of *Paliurus* spec. and *Juniperus oxycedrus* in Londža (March), on willow trees on the Krupa bank (July), and poplar trees from the margin of cultivated areas in Sjekoška kaseta (December).

88. *Dendrocopos major* (Linnaeus)

Type of distribution: Palearctic -W -

The most numerous finds of GREAT SPOTTED WOODPECKER in the marsh were in the period of wintering (October-January). Stays on willow and poplar trees on the Krupa banks, dry trunk at the margin of Sjekoška kaseta, willow trees by the Svitava-Dračevo canal, margin of humid meadow in Londža, and on the cypress tree top in Karaotok.

89. *Dendrocopos medius* (Linnaeus)

Type of distribution: European -W V/-

MIDDLE SPOTTED WOODPECKER is a very rare visitor of this marsh. It was noticed on 14 November, on the top of dry willow tree on the Krupa bank, what makes the second find so far.

HIRUNDINIDAE-SWALLOWS

90. *Riparia riparia* (Linnaeus)

Type of distribution: Holarctic -M R/I

Presence of SAND MARTIN was registered in the period April-September above ecosystems of open water, humid meadows and cultivated areas. Greatest abundance was noticed in the period of migration (April, August and September), and then was regularly in mixed flocks with other swallows (*Hirundo rustica* and *Delichon urbica*).

In Svitavska kaseta near the dam, on 19 July, presence of two specimens of Sand Martin was noticed. Those were probably members of the colony which nests near Hutovo blato. Before regulation of the Neretva banks, Sand Martin nested in colonies in the area Čapljina-Gabela-Metković.

91. *Hirundo rustica* Linnaeus

Type of distribution: Holarctic -S -

SWALLOW is a summer resident of inhabited settlements in the marsh surroundings, and its presence was registered in the period April-September. Population census is especially prominent in the period of migration (April, September and October), when European populations fly over this area. Then is regularly in mixed flocks of swallows, above all marsh ecosystems, for feeding on insects. Spending the night in ecosystems of reed grass, rush and reedmace was registered.

92. *Hirundo daurica* Linnaeus

Type of distribution: Indo-African -M(S?) R
RED-RUMPED SWALLOW once nested in immediate surroundings of Hutovo blato (Obratil, 1976 and 1982).

During 2000 research only one specimen was noticed in the mixed flock of swallows, on 18 April. Later examination of former nesting places didn't confirm nesting.

Absence of nesting is most probably the consequence of nest destruction made by cattlemen.

93. *Delichon urbica* (Linnaeus)

Type of distribution: Palearctic -S -
HOUSE MARTIN is a summer resident in the surrounding area. Its stay for feeding above the marsh ecosystem was noticed in the period April-September.

Population census is most prominent in the period of migration of European populations (April and September).

ALAUDIDAE-LARKS

94. *Eremophila alpestris* (Linnaeus)

Type of distribution: Holarctic -W E/-
The first find of SHORE LARK'S stay in Hutovo blato was on 18 January. In dusk with cold wind, flock with 10-12 specimens stayed on sandy-grassy part of dyke near Svitava reservoir dam. It is necessary to stress that this species is the glacial relict and that it nests in limited number of localities in Bosnia and Herzegovina, in alpine pastures above 2000 m altitude.

95. *Galerida cristata* (Linnaeus)

Type of distribution: Palearctic -R -
CRESTED LARK is a resident. It is not frequent, stays in meliorated cultivated areas of Višička kaseta. Two specimens were registered at the margin of humid meadows and by the dyke of Sjekoška kaseta. Registered in July and October.

96. *Lullula arborea* (Linnaeus)

Type of distribution: European -W -
WOODLARK is a winter visitor. Flock with 13-15 specimens was determined on 19 February on a tree in the orchard within the ecosystem of meliorated cultivated area in Sjekoška kaseta.

97. *Alauda arvensis* Linnaeus

Type of distribution: Palearctic -R -
Presence of SKYLARK for nesting was not established with certainty. Stay of this regular summer resident was registered in ecosystems of humid meadows and meliorated cultivated areas in the period February-December. Highest presence was registered in February (flocks with up to 30 specimens), October (flocks up to 13 specimens) and November (up to 17 specimens).
MOTACILLIDAE-WAGTAILS AND PIPITS

98. *Anthus pratensis* (Linnaeus)

Type of distribution: European -W -
MEADOW PIPIT is a regular and numerous winter visitor from October to March. In the period of migration flocks with up to 100 specimens stay in the ecosystem of humid meadows in Sjekoška kaseta. During winter months population census of this pipit is somewhat lower.
Presence of Meadow Pipit is lower in anthropogenous ecosystems of meliorated cultivated habitats.

99. *Anthus spinoletta* (Linnaeus)

Type of distribution: Palearctic -W -
WATER PIPIT is a regular winter visitor of this marsh. It is frequent and numerous in habitats of humid meadows, water margins of Svitava reservoir, Škrka lake, Deran lake and canals. It was also noticed in cultivated areas of Višička kaseta. More numerous in migration (March, flocks 70-100 specimens), less numerous in winter months (January, 4-10 specimens)

100. *Motacilla flava* (Linnaeus)

Type of distribution: Palearctic -S -
YELLOW WAGTAIL is a regular and numerous summer resident of humid meadows, present today in Sjekoška kaseta and Londža. Presence of this wagtail in the period of migration was also noticed in anthropogenous meliorated cultivated areas in Višička kaseta (ploughed fields and grasslands).
Yellow Wagtail is present in the marsh from April to October.

101. *Motacilla cinerea* Tunstall

Type of distribution: Palearctic -W -
GREY WAGTAIL is a winter visitor. Individual specimens and rarely pairs stay at the margins of the lake, canals (Svitava-Dračevo), gullies (Londža), and the river Krupa banks. This wagtail stays in the marsh from September to February.

102. *Motacilla alba* Linnaeus

Type of distribution: Palearctic -W -
Presence of PIED WAGTAIL was registered in the period August-March. This wagtail has a status of winter visitor. Stays and feeds at canals' dykes, humid meadows, pebble-earthen margins of Svitavska kaseta. It is very frequent and numerous in meliorated cultivated areas of Višička kaseta. In the period of migration in November, numerous flocks with up to 50-70 specimens were registered. During wintering in

February, on muddy and sandy road stayed flocks with up to 40 specimens, and on freshly dug earth flock with 70-100 specimens.

LANIIDAE-SHRIKES

103. *Lanius collurio* Linnaeus

Type of distribution: Palearctic -S -

RED-BACKED SHRIKE stays in Blato in the period from May to September. Nests in shrub-like stands at the margin and within ecosystems of humid meadows, cultivated areas and rocky grounds, where feeds on insects.

104. *Lanius senator* Linnaeus

Type of distribution: Mediterranean -S R/-

WOODCHAT SHRIKE is a rare Mediterranean species. Nests in degraded forest ecosystems of pubescent oak and oriental hornbeam (*Quercus pubescens* and *Carpinus orientalis*), on Kučevo crest and at the margin of Black Hill in Škrke cove.

105. *Lanius minor* Gmelin

Type of distribution: Euro-Turkestanian -S -

LESSER GREY SHRIKE is a summer resident of humid forests on the banks of the river Krupa and Svitava-Dračevo canal.

Feeds on insects in humid meadows, grassy dykes and meliorated anthropogenous systems of Sjekoška and Višička Kasete. In the period May-July individual specimens were registered.

106. *Lanius excubitor* Linnaeus

Type of distribution: Holarctic -W -

GREAT GREY SHRIKE is a winter visitor and stays in the marsh from October to January. Most frequent is in December, when individual specimens stay on willow and poplar trees on the Krupa banks and solitary willow trees within the reeds (Škrke cove), and in meliorated cultivated areas in Sjekoška and Višička kasete.

ORIOLIDAE-ORIOLES

107. *Oriolus oriolus* (Linnaeus)

Type of distribution: Old World -S -

GOLDEN ORIOLE is a summer resident in the willow forests of the marsh, and preserved oak forests on Ostrovo crest and marsh surroundings (Svitava-Sjekose-Dračevo). During 2000 research its presence was registered in the period May-August.

STURNIDAE-STARLINGS

108. *Sturnus vulgaris* Linnaeus

Type of distribution: Euro-Turkestanian -W -

STARLING is a winter visitor and its presence was registered in the period August-April. Feeds in flocks in meliorated areas and humid meadows. Highest census was registered on 14 October in humid meadows of Sjekoška kasete (800-900 specimens). Night spends in larger complexes of reed ecosystem in Škrke cove and Svitava reservoir.

CORVIDAE-CROWS

109. *Garrulus glandarius* (Linnaeus)

Type of distribution: Palearctic -R -

JAY is a resident of the marsh surroundings. In marsh ecosystems stay in humid forests of willow, poplar and ash, on the Krupa banks. Also stays in degraded forests of pubescent oak and oriental hornbeam (*Quercus pubescens* and *Carpinus orientalis*), and *Phillyrea media* stands of Londža-Čore-Drijen area.

110. *Pica pica* Linnaeus

Type of distribution: Palearctic -R -

MAGPIE is a resident. Nests in forest stands of the marsh margin, and on solitary or grouped trees within the ecosystem of humid meadows, meliorated areas, reeds (Škrke cove) and inhabited settlements.

111. *Coloeus monedula* (Linnaeus)

Type of distribution: Palearctic -R -

JACKDAW is present throughout a year in the marsh ecosystems. Especially numerous in the periods of migration and wintering, when flocks with 600-650 individuals stay in ecosystems of meliorated agricultural and humid meadows of Višička and Sjekoška kasete. Together with this bird, feed also flocks of Black-headed Gull (*Larus ridibundus*), Herring Gull (*Larus argentatus*), Starling (*Sturnus vulgaris*) and Hooded Crow (*Corvus cornix*).

Stays of Jackdaw flocks were also noticed around farm-buildings of the Cow Farm in Višička kasete.

Population census in the nesting period is evidently lower. In July four big sheep flocks were grazing on dried flooded meadows of Sjekoška kasete, and beside them a flock with 170-200 Jackdaws fed also. 18 sheep had Jackdaws on their backs, searching through wool, probably gathering ticks.

112. *Corvus cornix* Linnaeus

Type of distribution: Palearctic -R -

HOODED CROW is a resident of humid willow, poplar and ash forests at the marsh margin and the river Krupa banks, and in the ecosystem of pubescent oak and oriental hornbeam forest in Hutovo blato surroundings.

Greatest abundance was registered during autumn migration and wintering, when pure and mixed flocks of Hooded Crow, with 150-300 and 600-650 specimens, fed in humid meadows and meliorated cultivated areas (January and February, September and October).

113. *Corvus corax* Linnaeus

Type of distribution: Holarctic -W -

RAVEN nests on the cliffs of the marsh surroundings. During 2000 research its presence was registered in the period January-April. Those were individual specimens or pairs who searched through the area for feeding, with characteristic calls.

CINCLIDAE-DIPPERS

114. *Cinclus cinclus* (Linnaeus)

Type of distribution: Paleomontane -A -

DIPPER is a resident of quick and clear mountain running waters. Its presence in the marsh was registered for the first time on 10 May 2000. One specimen was noticed at the beginning of Gornje blato, with pebbled bed and clear water, which represents a micro-habitat of this bird in ecological sense.

This find shows an occurrence of vagrancy!

TROGLODYTIDAE-WRENS

115. *Troglodytes troglodytes* (Linnaeus)

Type of distribution: Holarctic -W -

WREN is a regular and numerous winter visitor of the marsh (September-March). Almost as a rule, individual specimens are frequent at the margins of reeds with shrub-like willows in gullies, on the river Krupa and canals' banks, in humid meadows with presence of weed, and in cultivated areas of meliorated parts of Blato. Groups of Wrens with 3-5 specimens were registered for the first time in weeds on the dyke of conveying canal Svitava-Dračevo (18 January) and on 20 January in the gully Londže.

PRUNELLIDAE-ACCENTORS

116. *Prunella modularis* (Linnaeus)

Type of distribution: European -W -

DUNNOCK is a nester of sub-alpine and alpine belt of our mountains. In the marsh is a rare winter visitor. Its presence was registered in November and February in degraded forest of pubescent oak and oriental hornbeam (Kučevo crest), and in shrub-like stands in cultivated areas of meliorated parts of Sjekoška kasetta. Those were individual specimens and pairs.

MUSCICAPIDEA-FLYCATCHERS

117. *Cettia cetti* (Temminck)

Type of distribution: Turkestan-Mediterranean -R -

CETTI'S WARBLER is a regular and frequent resident. Stays at margins of reed ecosystem and scrubs of the lake, gullies, canals and river banks. Also stays in thickets of canals for hydro-regulation in meliorated ecosystems. Individual birds are always present, more rarely pairs, setting a tone to the marsh with their song and voices.

118. *Locustella naevia* (Boddaert)

Type of distribution: Euro-Turkestanian -M -

GRASSHOPPER WARBLER is a scarce passage migrant. Stay in autumn migration **was registered**, in October and November, on a grassy dyke with lots of weed (Svitava-Sjekosa).

119. *Luscinola melanopogon* (Temminck)

Type of distribution: Turkestan-Mediterranean -W -

MOUSTACHED WARBLER is a regular, but not numerous winter visitor of the marsh. Its stay at the margins of reeds was registered in the period November-February.

120. *Acrocephalus schoenobaenus* (Linnaeus)

Type of distribution: Euro-Turkestanian -M -

SEDGE WARBLER was registered at the margins of reeds and willow shrubs by lakes, canals and dykes. Its presence during migration was registered in October and November. Also, a find of one specimen was registered in December.

121. *Acrocephalus scirpaceus* (Hermann)

Type of distribution: Euro-Turkestanian -S -

REED WARBLER is a summer resident. Breeds in high reed within reeds, in the period May-July.

Note: relatively low abundance of this warbler is conditioned by burning of reeds in almost 85% of the area in January and February 2000.

122. *Acrocephalus arundinaceus* (Linnaeus)

Type of distribution: Euro-Turkestanian -S -

GREAT REED WARBLER is a numerous summer resident in all ecosystems of reed grass, rush and reedmace. It is prominent with its song at the margins of reed (April-August).

123. *Hippolais pallida* (Hemprich & Ehrenberg)

Type of distribution: Mediterranean -S -

OLIVACEOUS WARBLER is a scarce summer resident of scrub (June-September) at the marsh margin, Škrke cove (Black Hill foot and Kučevo crest) and banks of the conveying canal (Svitava-Sjekoška kasetta).

124. *Sylvia hortensis* (Gmelin)

Type of distribution: Mediterranean -S V/-

ORPHEAN WARBLER is not a numerous summer resident of scrubs at the marsh margin, Black Hill foot and Kučevo crest in Škrke cove. Comes in April for breeding, and in August leaves the marsh.

125. *Sylvia atricapilla* (Linnaeus)

Type of distribution: European -S -

BLACKCAP has recently been noticed in nesting (May and July). Inhabits shrubs of hedges in cultivated marsh habitats, which were meliorated, scrubs on the Krupa and conveying canal Svitava-Dračevo banks. It is present from April to October in the marsh. More numerous in the period of migration, smaller flocks (4-7 individuals) can be noticed on willows of the canal (Svitava-Dračevo).

- 126. *Sylvia communis* (Latham)**
 Type of distribution: Euro-Turkestanian -S -
 WHITETHROAT stays for breeding from April to September. This warbler can be found on willow trees on the Krupa and conveying canal Svitava-Dračevo banks, hydro-regulation canals of Sjekoška and Višička kaseteta, and in degraded forest ecosystems of pubescent oak and oriental hornbeam in the marsh surroundings.
- 127. *Sylvia curruca* (Linnaeus)**
 Type of distribution: Euro-Turkestanian -M -
 LESSER WHITETHROAT is a scarce passage migrant. One specimen was registered on 12 May in a thorn stand (*Paliurus aculeatus*), on rocky grounds of Kučevo crest.
- 128. *Sylvia melanocephala* (Gmelin)**
 Type of distribution: Turkestan-Mediterranean -S -
 SARDINIAN WARBLER is a summer resident of more recent date (April and May). Its presence was registered in *Phillyrea media* ecosystems at the margin of Black Hill, and in degraded forests of pubescent oak and oriental hornbeam, on the track of former railway above Donje blato (Dračevo-Sjekose).
- 129. *Sylvia cantillans* (Pallas)**
 Type of distribution: Mediterranean -S -
 SUBALPINE WARBLER is a common summer resident in the marsh neighbouring area. Inhabits degraded forests of pubescent oak and oriental hornbeam with presence of thorn (*Paliurus aculeatus*), and *Phillyrea media* stands. Present from April to August.
- 130. *Phylloscopus trochilus* (Linnaeus)**
 Type of distribution: Palearctic -M -
 WILLOW WARBLER is a passage migrant. Its stay was registered in autumn migration (September and October) in *Phillyrea media* stands on Black Hill, and in willow groves and shrubs of conveying canal Svitava- Dračevo.
- 131. *Phylloscopus collybita* (Vieillot)**
 Type of distribution: Palearctic -W -
 CHIFFCHAFF is a regular and common winter visitor (October-April). Stays in various habitats: humid forests by the banks of the Krupa river, canals and dykes, as well as in degraded forests on rocky grounds, on grassy areas of dykes and at the reed margins.
- 132. *Phylloscopus sibilatrix* (Bechstein)**
 Type of distribution: European -M -
 WOOD WARBLER is a passage migrant. Stay noticed during autumn migration (15 October) at the margin of *Phillyrea media* stand in Škrke cove (Black Hill).
- 133. *Saxicola rubetra* (Linnaeus)**
 Type of distribution: European -M -
 WHINCHAT was noticed during autumn passage flight in November and December. Stay registered in high weeds by canals of cultivated areas in Višička kaseteta.
- 134. *Saxicola torquata* (Linnaeus)**
 Type of distribution: Palearctic -M -
 STONECHAT was registered in a flight over brambles (*Rubus spec.*) (December) and hedges of agricultural areas of Višička kaseteta, and in thorn bushes (*Paliurus spec.*) of rocky grounds on Kučevo crest.
- 135. *Oenanthe hispanica* (Linnaeus)**
 Type of distribution: Mediterranean -S -
 BLACK-EARED WHEATEAR is a summer resident of rocky grounds with very degraded forest and shrub vegetation, with the dominance of thorn (*Paliurus aculeatus*) and red juniper (*Juniperus oxycedrus*). Registered on Kučevo crest and Black Hill in the period April-August.
- 136. *Phoenicurus ochruros* (Gmelin)**
 Type of distribution: Palearctic -W -
 BLACK REDSTART is a rare winter visitor. Its presence was registered in the nearby rocky grounds in January and December.
- 137. *Erithacus rubecula* (Linnaeus)**
 Type of distribution: European -W -
 ROBIN is a regular and numerous winter visitor. First specimens were registered in October, and stays until April. It is usually present in shrub-like thickets of hedges by cultivated areas, at the margins of the lake, canals and the Krupa banks, sticks to shrub-like willow trees and reed margins. Present also in shrubs of nearby rocky grounds and *Phillyrea media* stands on the left bank of Škrka cove and at the line Londža-Drijen-Jelim.
- 138. *Luscinia megarhynchos* C. L. Brehm**
 Type of distribution: European -S -
 NIGHTINGALE is a summer resident, present in Hutovo blato from April to August. Inhabits shrub and scrub stands at the marsh margins, the Krupa banks, conveying canals and hedges of the cultivated areas in meliorated parts of Blato.
- 139. *Turdus pilaris* Linnaeus**
 Type of distribution: Siberian -W -

FIELDFARE is a winter visitor in the period February-March. Stays in smaller or bigger flocks (120-150 specimens) in humid meadows of Londža and Sjekoška kasete, on dry willow trees on the Krupa banks, and in meliorated cultivated areas of Višička and Sjekoška kasete.

140. *Turdus merula* Linnaeus

Type of distribution: Palearctic -R -
 BLACKBIRD has recently gained the status of a summer resident. It had the status of a common and numerous winter visitor before. Not frequent and numerous in the nesting period (April-July). Individual specimens and their voices noticed in ecosystems of degraded and preserved forests of pubescent oak and oriental hornbeam (*Querceto pubescentis-Carpinetum orientalis*) above the marsh margin on the line Svitava-Dračevo and Ostrovo crest, which divides the marsh in Donje and Gornje blato. Several specimens were registered in *Phillyrea media* stand on the line Londža-Drijen.
 In the periods of migration and wintering is very frequent and numerous (groups of 5-6 specimens) in scrubs and at reed margins of the whole marsh (Škrke cove, Svitava-Dračevo canal, hedges in meliorated cultivated areas of Višička and Sjekoška kasete).

141. *Turdus viscivorus* Linnaeus

Type of distribution: Euro-Turkestanian -W -
 MISTLE THRUSH is a winter visitor, not frequent in this marsh. Its presence was registered in the period October-March, on a dyke of the canal (Sjekoška kasete) and a flock with 7-8 specimens by the bank on Drijen.
 AEGITHALIDAE-LONG-TAILED TITS

142. *Aegithalos caudatus* (Linnaeus)

Type of distribution: Palearctic -W -
 LONG-TAILED TIT was registered in the period of wintering, on 20 January, in ash forest (*Fraxinus* spec.) at the margin of humid meadow (Londža).
 PARIDAE-TITS

143. *Parus lugubris* Temminck

Type of distribution: Mediterranean -R -
 SOMBRE TIT is also popularly called Dalmatian Tit. Its certain nesting was registered on 20 April, 1967 (Londža).
 During 2000 research its presence was registered on 20 February, in *Phillyrea media* stand at the margin of Black Hill (Škrke cove).

144. *Parus coeruleus* Linnaeus

Type of distribution: European -W -
 BLUE TIT is a regular winter visitor of humid willow forests on the banks of the Krupa and conveying canal Svitava-Dračevo, and in the reeds of the lake, stream and gullies of Gornje blato margins. Stay of this tit was registered in the period August-April.

145. *Parus major* Linnaeus

Type of distribution: Palearctic -R -
 GREAT TIT is a resident, and in the marsh area can be found throughout a year. As a hollow bird, it is ecologically connected with preserved humid forests of willow and poplar, which only can be found on the banks of the river Krupa and dykes of hydro-regulation canals. Great Tit's abundance increases in the periods of migration and wintering, so that in these periods can also be found in other habitats: margin of reeds and willow shrubs on the banks of the lake, stream and gullies, canals, in *Phillyrea media* stands, degraded forests of pubescent oak and oriental hornbeam in the marsh surroundings, and in shrubs in the cultivated areas created by melioration of the marsh.
 REMIZIDAE-PENDULINE TITS

146. *Remiz pendulinus* (Linnaeus)

Type of distribution: Palearctic -R VI/-
 PENDULINE TIT is a resident of willow groves on the banks of the Krupa, canals and streams within the reed complex.
 Finishing of nest on a willow tree was observed on the canal's bank of Sjekoška kasete on 13 May.
 It is frequent in reed ecosystems in the periods of migration and wintering.
 PLOCEIDAE-SPARROWS

147. *Passer domesticus* (Linnaeus)

Type of distribution: Palearctic -R -
 HOUSE SPARROW is a resident of human settlements near the marsh. During daylight feeds in pure or mixed flocks with other sparrows (*Passer hispaniolensis* and *Passer montanus*) in shrubs and cultivated areas of meliorated parts of Blato (Višička and Sjekoška kasete). Less frequent and numerous in other habitats.
 In the periods of migration and wintering bigger mixed flocks of sparrows were noticed in reeds in evening hours.

148. *Passer hispaniolensis* (Temminck)

Type of distribution: Turkestan-Mediterranean -S -
 SPANISH SPARROW is a summer resident of Hutovo blato in more recent time (Obratil, 1996). During the research, its presence was registered from April to August. The biggest nesting colony is from the village of Gnjišće. Forming of smaller colonies with several pairs was noticed in the marsh surroundings.
 Presence of this sparrow was noticed in mixed flocks with *Passer domesticus* and *Passer montanus* near farm buildings of the Cow Farm, shrubs and cultivated areas of Višička kasete.

149. *Passer montanus* (Linnaeus)

Type of distribution: Palearctic -R -

TREE SPARROW is present in Hutovo blato throughout a year. In the period of nesting it sticks to old willow and poplar trees by the Krupa river, dykes and canal in Sjekoška kaseta.

In the periods of migration and wintering is regular in mixed flocks of sparrows, in shrubs of humid meadows and cultivated areas in Sjekoška and Višička kaseta, and on grassy dykes. Also is regular near farm buildings of the Cow Farm in Višička kaseta. In evening hours was noticed in reeds, in mixed flocks.

FRINGILLIDAE-FINCHES

150. *Fringilla coelebs* Linnaeus

Type of distribution: European -R -

CHAFFINCH mainly nests in preserved high forests of pubescent oak (*Quercus pubescens*) in wider surroundings of the marsh, and on Ostrovo crest, which divides the marsh in Donje and Gornje blato; also in cypress stand (*Cupressus sempervirens*) in Karaotok. Abundance considerably increases during migration and wintering. Often stays in pure flocks with up to 50 specimens, in ecosystems of meadows, grassy dykes, cultivated areas and humid forests of willow, poplar and ash. In these habitats is frequent in mixed flocks with *Carduelis chloris*, *Carduelis carduelis*, *Acanthis cannabina*, *Emberiza calandra* and others.

151. *Fringilla montigringilla* Linnaeus

Type of distribution: Siberian -W -

BRAMBLING is a typical winter visitor (January and February). During these months feeds in flocks with 35-40 specimens in ecosystems of humid meadows with weeds, and cultivated areas in Sjekoška and Višička kaseta. Presence of Brambling was registered in degraded forests of pubescent oak and oriental hornbeam (Kučevo crest).

152. *Serinus serinus* (Linnaeus)

Type of distribution: Mediterranean -S -

During 2000 research SERIN was registered in the period February-July. In the period of wintering (February) a flock with 30-40 specimens fed in weeds of meadows and cultivated areas in Sjekoška kaseta.

In the nesting period is regular in cypress stand (*Cupressus sempervirens*) in Karaotok.

Previous data tell that this species had seasonal status of a winter visitor in Hutovo blato (Obratil, 1971).

153. *Carduelis chloris* Linnaeus

Type of distribution: Euro-Turkestanian -R -

GREENFINCH is a resident staying in Blato throughout a year. In the period of nesting is commonest in cypress stand (*Cupressus sempervirens*) in Karaotok, less common in *Phillyrea media* stands on the line Black Hill-Noktac-Drijen-Londža and in poplar stands (Londža).

In the periods of migration and wintering (September-March), Greenfinch is frequent in pure and mixed flocks (*Fringillidae* and *Emberizidae*) on grassy dykes, meadows and meliorated cultivated areas, where feeds.

154. *Carduelis spinus* (Linnaeus)

Type of distribution: Palearctic -W -

SISKIN is a scarce winter visitor. A flock was noticed on willows of the Krupa bank, in March.

155. *Carduelis carduelis* (Linnaeus)

Type of distribution: Euro-Turkestanian -R -

GOLDFINCH is a resident, less numerous in the period of nesting. Regularly nests in *Phillyrea media* stands near the marsh, in cypress stand (*Cupressus sempervirens*) in Karaotok and on willow trees (*Salix spec.*)

In the periods of migration and wintering, smaller and bigger flocks, pure or mixed, regularly feed in ecosystems of meadows and dykes with presence of weeds, in cultivated areas and shrub-like rocky grounds with degraded forest of pubescent oak and oriental hornbeam (*Quercus pubescens* and *Carpinus orientalis*) in the marsh surroundings.

156. *Acanthis cannabina* (Linnaeus)

Type of distribution: Euro-Turkestanian -R -

LINNET nests in shrubs on rocky grounds of the marsh surrounding, a biotope with the dominance of thorn (*Paliurus aculeatus*), red juniper (*Juniperus oxycedrus*), and pomegranate (*Punica granatum*).

During migration and wintering smaller and bigger flocks stay in other ecosystems: meadows and dykes with the presence of weed (especially *Bidens spec.*) and agricultural areas with shrub-like stands.

157. *Coccothraustes coccothraustes* (Linnaeus)

Type of distribution: Palearctic -W -

HAWFINCH is a scarce winter visitor of Hutovo blato. Its stay was registered on 19 February, 8 specimens on a willow tree within cultivated area of Sjekoška kaseta, and from 13 to 15 December on willow trees at the margin of Svitava reservoir and conveying canal Svitava-Dračevo. On rocky grounds of Black Hill one specimen was noticed, cracking thorn's nut (*Paliurus aculeatus*) in the bill.

EMBERIZIDAE-BUNTINGS

158. *Emberiza calandra* Linnaeus

Type of distribution: Euro-Turkestanian -S -

CORN BUNTING is a summer resident of meadow and cultivated area ecosystems in Sjekoška and Višička kaseta. Registered in the period March-November. Few finds of this bird's presence during wintering period.

159. *Emberiza citrinella* Linnaeus

Type of distribution: Palearctic -W -

YELLOWHAMMER is a scarce winter visitor in this marsh. During 2000 research a flock with 10-15 specimens was registered on 18 January on a grassy dyke of Sjekoška kaset, and on 14 December a flock with 5 specimens on a willow tree at the margin of Svitava reservoir.

160. *Emberiza cia* Linnaeus

Type of distribution: Mediterranean

-W

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ROCK BUNTING stays in Hutovo blato for wintering, in the period October-January. This bird is commonly a summer resident of mountain belt, so the name MOUNTAIN BUNTING is being used in literature. Flocks (3-5 and 8-10 specimens) are the most usual winter visitors in Hutovo blato, on rocky grounds with degraded shrub-like forest community of pubescent oak and oriental hornbeam, with the dominance of thorn (*Paliurus spec.*), red juniper (*Juniperus oxycedrus*) and others. Presence of Rock Bunting was also noticed in shrub-like stands within cultivated areas in Sjekoška and Višička kaset, in somewhat lesser number.

161. *Emberiza cirlus* Linnaeus

Type of distribution: Mediterranean

-R

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CIRL BUNTING is a nesting resident in the wider surroundings of the marsh. Its stay in the marsh ecosystem was registered on dykes and willow grounds near conveying canal Svitava-Dračevo, in the degraded stage of pubescent oak and oriental hornbeam forests on the rocky grounds (Kučevo crest), and in *Phillyrea media* stands at the marsh margin (Black Hill-Drijen-Londža).

162. *Emberiza melanocephala* Scopoli

Type of distribution: Turkestan-Mediterranean

-S

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BLACK-HEADED BUNTING is a summer resident of degraded forests of pubescent oak and oriental hornbeam (*Quercus pubescens* and *Carpinus orientalis*) on the rocky grounds of Kučevo crest and Black Hill in Gornje blato and above the road Svitava-Dračevo in Donje blato. Individual specimens of this bunting are present in May and June.

163. *Emberiza schoeniculus* (Linnaeus)

Type of distribution: Palearctic

-W(?)

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During 2000 research REED BUNTING was registered in the period October-May. Former finds of this bird show its status of a winter visitor in this marsh. Its find at Šrka spring on 12 May 2000 differs from that. Most commonly present at reed margins with willow shrubs, on lakes, canals, gullies and hydro-regulation canals of meliorated parts of Blato.

DISCUSSION

Birds are a very dynamic component of an ecosystem, since most of bird species meet their vital needs in two or more different ecosystems, frequently distant from each other, in the periods of nesting, migration and wintering (conditions for nesting, feeding, sheltering, resting etc.). This fact corroborates an ecological idea that Hutovo blato, in ornithological sense, makes an integral part of the entire marsh area in the lower course of the Neretva river. All the changes which were happening in ecosystems of this marshland under the influence of various factors, have had direct or indirect reflections on Hutovo blato bird fauna.

Man, with his presence in this area, disturbed and destroyed the ecosystems to a different degree.

At the end of 19th and the beginning of 20th century this was done by cattle-breeding in the peripheral parts of Blato, by mowing the new and burning the old reed grasses, forest cutting, fishing, hunting, and in other ways. In the period after World War II, from 1946, the Neretva marsh area and neighbouring region were exposed to the strong influence of a series of mutually related anthropogenic ecological factors, which caused great changes in the natural ecosystems.

The following activities can be pointed out, according to their significance:

- Extensive melioration works in the area of the Neretva Delta,
- Construction of dykes and canals in Hutovo blato,
- Intensive industrialisation and urbanisation in inner and outer area,
- Chemicalisation of agricultural production,
- Development of hunting tourism,
- Regulation of the Trebišnjica River bed in Popovo polje,
- Construction of the dam and forming of Svitava reservoir in 1979, for the needs of the Čapljina hydro-electric power plant, in the area of Svitavska kaset in Donje blato.

When speaking about the Hutovo blato bird fauna and the importance of this Mediterranean marsh for the European bird populations in the periods of migration and wintering, and considering the range of changes man has done in the natural ecosystems and wider, periods before and after the formation of the reservoir can be singled out.

The results of the research on bird populations in the most characteristic ecosystems of Hutovo blato and immediate surroundings, carried out in the period January-December 2000, show significant qualitative and quantitative changes in this biotic component in relation to the condition found in the period before 1979 (Obratil 1985).

Analysis of the established bird species presence and their temporal distribution (Table 1, Ann. 1) shows that the number of totally registered species decreased by 31%, and the number of families by 19%. The decrease in number of species during spring and autumn migration is within the range of 31%-33%, wintering 40% and nesting 13%.

The qualitative composition of the registered avifauna leads to the conclusion that absence is most prominent among the species ecologically bound with water and marsh habitats. This refers in the first place to the species of the duck family (*Anatidae*), and plovers (*Charadriidae*), whose presence decreased by 56% and 47%,

respectively. It is necessary to point out that these birds were represented with a great number of individuals during periods of migration and wintering. Census of present populations was considerably lower in 2000.

Degradational changes among the most important members of the autochthonous bird fauna of Hutovo blato were noticed in the mixed colony of Pygmy Cormorant (*Phalacrocorax pygmaeus*) and Herons (*Ardeidae*), in the almost unapproachable ecosystem of grey willow (*Salix cinerea*) in Gornje blato.

Members of this colony are summer residents of western border of the species' continual areal, and all of them, with the exception of Grey Heron (*Ardea cinerea*), are today endangered European species. The colony in Hutovo blato is one of the scarce recent ones in the Balkans area, at western areal border.

Analysis of spatial bird distribution (Ann. 2) undoubtedly shows that the most prominent consequences of degradational and destructive processes can be seen in natural ecosystems of humid meadows. These ecosystems were the most important habitats of birds from northern parts of Europe in the periods of migration and wintering. Until 1979 stays of the greatest number of birds' species (100) were registered in them. However, most recent researches (2000) show decrease in bird species number by 48%, and during some very important periods for birds even more (spring migration 51%, autumn migration 70%, wintering 61%).

Construction of the artificial reservoir for the Čapljina pump hydro-electric power plant in Donje Svitavsko blato, with its direct degradational and destructive influence, can be singled out from the complex of ecological factors which caused such great changes in the avifauna in a relatively short period. In an area of about 1000 ha, under the water of the newly formed Svitava lake, unique natural ecosystems of flooded meadows, sedge and humid forests, disappeared in 1979.

Today fragments of flooded meadows ecosystem can be found in Donje blato in Sjekoška kaseta, and at the localities Drijen and Londža in Gornje blato.

From the group of anthropogenous eco-factors, which have indirect influence on the bird realm, and whose degradational effects will show up after a longer period of time, the changes of hydrological conditions and the chemicalisation of agricultural production in the immediate and wider marsh surroundings can be singled out.

Two seasonal oscillations of the water level in Hutovo blato (spring and autumn), caused by the rising of the Neretva River water level, once were clearly distinguished and had ecological impact on plant and animal composition of the ecosystems in this Mediterranean marshland. But, this century's lasting rhythm was disturbed with the construction of the dam in Donje blato. Release of water from the reservoir, serving for the maintenance of a certain water regime, results in frequent daily oscillations of the water level in the marsh throughout a year. The mentioned hydrologic changes have an impact on the abiotic component of the ecosystem, and through it also on the biotic component: vegetation, micro- and macro-fauna, to which the birds are connected through complex food chains.

The changes in water level in the period April-June cause the destruction of nests with eggs and chicks in a large number of species, what is a form of direct degradational impact of an anthropogenous factor.

Certain progradational changes in bird populations (increased presence of species and individuals) were found in the ecosystems of meliorated parts of the marsh (Višička kaseta), areas under various crops. A certain number of species belong to the avifauna of humid flooded meadows, the ecosystems which disappeared from Hutovo blato after the construction of the artificial reservoir in Svitavska kaseta. Birds of these natural ecosystems have found nearly the same living conditions during periods of migration and wintering (feeding, shelter, resting) in the newly formed anthropogenous ecosystems.

CONCLUSION

Analysis of the results obtained from the research of bird populations in Hutovo blato and surroundings, conducted in the period January-December 2000, and their comparison with the condition of bird fauna registered in this marsh before the construction of the artificial reservoir in Donje blato in 1979, gives us the following conclusions:

1. In the period January-December 2000 presence of 163 bird species from 39 families (according to VAURIE 1959, 1965) was registered (Table 1).
2. Presence of 16 zoogeographical types of distribution (according to VOOUS 1962) was registered (Ann. 3). Palearctic type of distribution is dominant, with 58 species (36%).
3. According to the seasonal status, greatest number of bird species belongs to winter visitors – 53 species (32.5%) (Ann. 4).
4. Out of all birds registered in 2000, 51 species (31%) belong to various categories of endangerment (King 1979; Obratil, Matvejev 1989) (Ann. 5).
5. Temporal distribution of birds shows that the greatest number of species was registered in the periods of spring migration (106) and autumn migration (102), and approximately the same number of species in the periods of nesting (92) and wintering (86) (Table 1).
6. Temporal and spatial distribution of bird species shows a relatively uniform presence of species in the six researched types of ecosystems (Ann. 2). In the ecosystems of humid forests and meliorated cultivated areas 67 species were registered in each. In other ecosystems number of present species ranges from 48 to 55.
7. Comparison of the ornithofauna registered in the period January-December 2000, with the fauna found in the period before 1979, when the artificial reservoir for the needs of Čapljina power-plant was constructed in Svitavska kaseta (Fig. 1), shows considerable qualitative and quantitative changes in the composition of bird fauna in Hutovo blato marsh and surroundings. The following degradational changes can be singled out, according to their importance:
 - a) the number of registered species decreased by 31%, the number of families decreased by 19%

- b) temporal distribution of birds shows the decrease of number of species during spring and autumn migration by 31%-33%, during wintering by 40%, and nesting by 13%
 - c) most significant decrease of species number and their population's census was registered for the families of ducks (*Anatidae*) by 56%, plovers (*Charadriidae*) by 47% and birds of prey (*Accipitridae* and *Falconidae*) by 21%
 - d) population census, during the nesting period, of the most important members of the autochthonous Hutovo blato ornithofauna, Night Heron (*Nycticorax nycticorax*) and Little Egret (*Egretta garzetta*), shows the decrease by 60% and 67%, respectively.
8. The dominant degradational impact on bird fauna of Hutovo blato marsh had:
- a) degradational processes in natural ecosystems of the entire Neretva marshland, with Hutovo blato marsh as an integral part in ecological sense
 - b) construction of the artificial reservoir in 1979 in Donje blato caused the destruction of humid flooded meadows, an ecosystem which was most visited by populations of European birds in the periods of migration and wintering.
9. In order to restore and retain European importance and interest of this Mediterranean marshland in ornithological aspect, it is necessary to undertake ecological measures of protection in conservation of the remaining part of Gornje blato, which will help it avoid the destiny of Donje blato.
- Therefore I suggest the following:
- a) give the Park of Nature 'Hutovo blato' the status of an ornithological reservation, what excludes hunting tourism
 - b) forbid grazing and burning of reeds
 - c) forbid cutting in humid flooded forests of poplar, willow and ash, and removing of old trunks
 - d) decision on possible construction of a dam in Gornje blato and working regime make with the approval and consultations with other experts (hydrologists, pedologists, botanists, ornithologists etc.), with the aim of slowing down the overgrowth of the marsh and making optimal ecological conditions for fish populations
 - e) Donje blato, where natural ecosystems do not exist today, also has the ornithological importance. This part of the marsh could be given a more liberal regime, after consultations with the experts.

Flora

In the park area up to now, about 610 species and lower taxa of vascular plants (*Pteridophyta* and *Spermatophyta*) have been determined. Alongside, two frequent species of algae (*Nitella* sp. and *Chara hispida*) are included in the content of some plant communities. The moss *Fontinalis antipyretica* (*Isobryales*, *Fontinalaceae*) builds separate communities along sources. The greatest number of terrestrial plants (ass. *Quercus-Carpinetum orientalis*) belong to various sub-groups having a Mediterranean floral element. *Therophyta* dominate in the spectrum of life forms – annual plants that require one summer period from germination to seed, usually not the entire vegetation period. The most numerous family of vascular plants are the *Poaceae*, *Fabaceae*, and *Asteraceae* and *Cichoriaceae*, which confirms the Mediterranean character of the flora. As it requires more than one year of research to show the flora, that is one vegetation period, a separate floristic list is not presented in this study, rather, it is shown through the floral composition of the plant communities. A floristic research of this very interesting region should be continued in order to complete the list of flora.

The water and wetland plants in the park are researched well. Euhydrotophytes and hemihydrotophytes are the dominating life forms, and only fewer species belong to the floating pleustophytes. Euhydrotophytes include: 1) submersed plants; 2) plants that root on the bottom, and whose vegetational organs develop in the upper surface layers or on the water surface itself. Table 1 shows the life forms of water and wetland plants in the park.

Table 1. Life forms of water and wetland plants in the natural park of Hutovo Blato*

LIFE FORMS	ECOLOGICAL CHARACTERISTICS	TAXA
Pleustophytes	Living at water surface in hydrophase or littoral ecophase, usually floating in water without connection to bottom. Can survive short-term limosal ecophase in rooted stage.	<i>Lemna</i> , <i>Hydrocharis</i>
Euhydrotophytes	Living in water column, adapted only to hydrophase and littoral ecophase.	<i>Elodea</i> , <i>Ceratophyllum</i> , most <i>Potamogeton</i> species
Hydatoaerophytes	Living in water column, but in connection with the air; distinguished by great adaptive changes during littoral and limosal partly also terrestrial ecophases.	<i>Nymphaea alba</i> , <i>Nuphar lutea</i> , <i>Hottonia palustris</i>
Hydroochthophytes	Living in hydrophase, forming predominantly ecomorphoses with submerged or floating leaves, optimally developed in littoral ecophase where they form emerged leaves and generative reproductive organs; adaptive changes expressive in hydrophase and littoral ecophase, well adapted even to limosal and initial terrestrial ecophase.	<i>Butomus umbellatus</i> , <i>Rorippa amphibia</i> , <i>Huppuris vulgaris</i>
Ochthohydrotophytes	Usually living in hydrophase for a short time, long-term adaptations to littoral and limosal ecophases and short-term adaptations to terrestrial ecophase; this group contains mostly reed-belt dominants.	<i>Typha</i> , <i>Schoenoplectus</i> , <i>Phragmites australis</i>
Euochthophytes	Adapted to life in short-term hydrophase and long-term	Tall sedges - <i>Carex</i> (<i>Carex</i>)

	limosal and terrestrial ecophases.	<i>elata</i>)
Tenagophytes	Adapted to life near shoreline, i.e., in long-term littoral and limosal ecophases; can grow only temporarily in hydrophase or terrestrial Ecophase. Occurrence often ephemeral.	<i>Callitriche palustris</i> , <i>Cyperus fuscus</i>
Pelochthophytes	Occurring on emerged shores or bottoms; major part of development in limosal ecophase, dissemination in terrestrial ecophase. Can survive during other ecophases only as seeds.	<i>Juncus bufonius</i>
Pelochthotherophytes	Optimum development during short limosal ecophase and subsequent long-term terrestrial ecophase; can also adapt to subsequent secondary littoral ecophase.	<i>Bidens</i> , <i>Leersia oryzoides</i> , <i>Polygonum hydropiper</i> , <i>P. lapathifolium</i> , <i>Chenopodium glaucum</i> , <i>Ranunculus scleratus</i>
Uliginosophytes	Initial development and formation of vegetative parts during limosal or littoral ecophase, generative reproduction in terrestrial ecophase; relative duration of ecophase variable; long-lasting limosal ecophase at advanced stages of land-formation of shore communities, with thick layer of decomposing detritus in upper soil horizon.	<i>Lythrum salicaria</i> , <i>Solanum dulcamara</i> , <i>Lysimachia vulgaris</i> , <i>Galium palustre</i>
Trichohygrophytes	Living in terrestrial ecophase, but requiring considerable soil moisture in early stages of development; survive well in long-lasting limosal ecophase, adapted only to short-term littoral ecophase and hydrophase.	<i>Potentilla reptans</i> , <i>Lysimachia nummularia</i> , <i>Mentha pulegium</i>

* According to Hejny's system (Hejny 1957, 1971).

Table 2 shows 28 species of vascular plants found in the park that are also found on the List of Rare, Endangered and Endemic Species of Bosnia and Herzegovina (Šilić 1994). Each species is labelled according to its category of endangerment according to the criteria of the IUCN Conservation Monitoring Centre (IUCN 1983).

One species, *Ludwigia palustris*, belongs to the category of endangered species (E) and is threatened by extinction if the underlying factors continue to act on the community. In the category of endangered species are those plants whose numbers have been reduced critically, or whose habitats have been reduced drastically, so it is believed they are in immediate danger of extinction. This species belongs to the vegetation of *Fimbristylion dichotomae* alliance.

The greatest number of species (22) belong to the sensitive species (V) of Bosnia and Herzegovina flora, that will find themselves in the endangered group of species in the near future if the underlying factors continue to act. These include water plants or submerged species, and also forests and shrubs of pubescent-oak and oriental horn-beam. This means that there are various negative influences on the ecosystem, usually multiple. The number and content of plant species changes significantly due to anthropogenic influences. These influences can be various; a change of habitat (destruction, degradation, fragmentation), pollution of the soil, water, and air, overuse of natural sources (felling, gathering, burning), and the importation of foreign species. Chapter 6 discusses the reasons why species and habitats are endangered.

A smaller number of species (5) belong to a group of rare species, usually with small populations that are not endangered or sensitive, but are at risk. They are usually localized within a limited geographical area or habitat, or rarely, are scattered over the whole region. The endemic plants, *Rhamnus intermedius* and *Molteka petraea* (Illyrian-Adriatic endemic), and *Petteria ramentacea* (Illyrian-Balkan endem) belong to this group, along with other species.

Table 2. Endangered, vulnerable and rare species of vascular plants in the natural park of Hutovo Blato*

SPECIES	FAMILY	CATEGORY OF ENDANGERMENT
<i>Thelypteris palustris</i> Schott (Suppl. II – Fig. 5)	<i>Aspidiaceae</i>	Vulnerable
<i>Marsilea quadrifolia</i> L.	<i>Marsileaceae</i>	Vulnerable
<i>Celtis tournefortii</i> Lam.	<i>Ulmaceae</i>	Vulnerable
<i>Nuphar lutea</i> (L.) Sm., in Sibth. et Sm.	<i>Nymphaeaceae</i>	Vulnerable
<i>Rhamnus intermedius</i> Steud. et Hohst.	<i>Rhamnaceae</i>	Rare
<i>Petteria ramentacea</i> (Sieb.) C. Presl	<i>Fabaceae</i>	Rare
<i>Ludwigia palustris</i> (L.) Elliott	<i>Oenotheraceae</i>	Endangered
<i>Hippuris vulgaris</i> L. (Suppl. II – Fig. 9)	<i>Hippuridaceae</i>	Vulnerable
<i>Hydrocotyle vulgaris</i> L.	<i>Apiaceae</i>	Vulnerable
<i>Hottonia palustris</i> L. (Suppl. II – Fig. 7)	<i>Primulaceae</i>	Vulnerable
<i>Cyclamen neapolitanum</i> Ten.	<i>Primulaceae</i>	Vulnerable
<i>Cyclamen repandum</i> Sibth. et Sm.	<i>Primulaceae</i>	Vulnerable
<i>Molteka petraea</i> (Tratt.) Griesb.	<i>Boraginaceae</i>	Rare
<i>Veronica anagalloides</i> Guss.	<i>Scrophulariaceae</i>	Vulnerable
<i>Utricularia vulgaris</i> L.	<i>Lentibulariaceae</i>	Vulnerable
<i>Acanthus spinosissimus</i> Pers.	<i>Acanthaceae</i>	Vulnerable
<i>Nymphoides peltata</i> (S.G. Gmelin) O. Kuntze	<i>Menyanthaceae</i>	Vulnerable
<i>Periploca graeca</i> L.	<i>Asclepiadaceae</i>	Vulnerable
<i>Dittrichia viscosa</i> (L.) W. Greuter	<i>Asteraceae</i>	Rare
<i>Baldellia ranunculoides</i> Parl.	<i>Alismataceae</i>	Vulnerable
<i>Butomus umbellatus</i> L. (Suppl. II – Fig. 6)	<i>Butomaceae</i>	Vulnerable

<i>Hydrocharis morsus-ranae</i> L.	<i>Hydrocharitaceae</i>	Vulnerable
<i>Zanichellia palustris</i> L.	<i>Potamogetonaceae</i>	Vulnerable
<i>Asphodelus aestivus</i> Brot.	<i>Liliaceae</i>	Rare
<i>Ruscus aculeatus</i> L.	<i>Liliaceae</i>	Vulnerable
<i>Galanthus nivalis</i> L.	<i>Amaryllidaceae</i>	Vulnerable
<i>Orchis simia</i> Lam.	<i>Orchidaceae</i>	Vulnerable
<i>Orchis spitzelii</i> Saut.	<i>Orchidaceae</i>	Vulnerable

* According to Šilić (1994).

The introduction of foreign, newly-arrived species (neophytes) recently has become a frequent occurrence, primarily due to facilitated communication with various regions of the world. The appearance of numerous anthropogenic plant species, spread unknowingly by mankind, has been noted in the Neretva Valley as well, and some plants (usually widespread) have become quite domesticated. Among those found, the most numerous species is the so-called American neophytes, which includes many dangerous weed species, while some are only in the initial phase of spreading.

In the year 1947, Horvatić (1949) discovered the presence of the South American species *Paspalum paspaloides* ("wild troskot", *Poaceae*, Suppl. II – Fig. 10) in the submerged region between Metković and Opuzen, and between Metković and Gabel, which was a new species for the entire Balkan peninsula. Hodak (1956) made a note of it in the hygrophyle vegetation of Hutovo Blato. It has become totally acclimatized, even becoming the dominant element of wetland vegetation. The best-suited habitats are muddy flooded surfaces that are submerged most of the year. In plant communities of the *Fimbristylion dichotomae* alliance, *Paspalum paspaloides* has practical economic importance, as it is used as a grazing pasture and for meadows. As the *Paspalum paspaloides* can bear permanently stagnated water, and if it is not too deep, this species can be found in other wetland communities (ie. ass. *Myriophyllo-Nupharetum*).

In recent times, in the region of the Neretva Delta and generally along the eastern Adriatic coast, numerous anthropogenic plant species have appeared, coming from all regions of the world (America, Africa, Azia): *Bidens subalternans* (Ilijanić and Hećimović 1983); *Eleusine indica* (Vreš 1996); *Eleusine tristachya* (Trinajstić and Jasprica 1998, Šilić and Šolić, 1999); *Helianthus tuberosus*, *Paspalum dilatatum*, *Echinocystis lobata*, *Phytolacca americana*, *Tagetes minuta* (Šilić and Abadžić 2000); *Datura innoxia* (Kovačić et al. 2000) and others. Most of the species mentioned grow in anthropogenic habitats, along roads and other ruderal surfaces within settlements. We can find some species (ie. *Artemisia verlotiorum*) along rivers, canals, gravel and other waters, where they flourish in semi-natural, damp and shady places along the edges of willows and other types of submerged forests and underbrush (Smital et al. 1998).

5. Vegetation

5.1. Syntaxonomic survey of plant communities in the natural park of Hutovo Blato

In the syntaxonomic survey, the vegetation is divided into four main types: water plant, marsh, low sedges, and conditionally, terrestrial vegetation.

Table 3. Syntaxonomic survey of plant communities in the natural park of Hutovo Blato

A. Water plant communities
1. LEMNETEA R. Tx. 1955
<i>Lemnetalia minoris</i> R. Tx. 1955
<i>Lemnion minoris</i> R. Tx. 1955
<i>Lemno-Utricularietum vulgaris</i> Soó 1928
<i>Lemnion trisulcae</i> Den Hartog et Segal 1964
2. Lemnetum trisulcae Soó 1927
2. STRATIOTETEA Den Hartog et Segal 1964
<i>Hydrocharietalia</i> Rübél 1933
<i>Hydrocharition</i> Rübél 1933
3. Hydrocharietum morsus-ranae van Langendonck 1935
3. POTAMETEA Klika in Klika et Novak 1941
<i>Potametalia</i> W. Koch 1926
<i>Nymphaeion albae</i> Oberd. 1957
<i>Myriophyllo-Nupharetum</i> W. Koch 1926
4. Nymphaoidetum peltatae Oberds. et Th. Müll. 1960
5. Hottonietum palustris Tx. 1937
6. Potamion eurosibiricum W. Koch 1926
7. Potameto-Najadetum Horvatić et Micevski 1960
8. Ceratophyllo-Potametum crispum Horvatić et Micevski 1960
9. Ranunculo-Callitrichetum Soó 1927
10. Elodeetum canadensis Egler 1933
11. Potametum natantis Lkšič. et Pavlović 1976
4. FONTINALETEA ANTIPYRETICAE
<i>Fontinaletalia antipyreticae</i>
<i>Fontinalion antipyreticae</i>
12. Fontinaletum antipyreticae
B. Marsh plant communities
1. PHRAGMITI-MAGNOCARICETEA Klika in Klika et Novak 1941
<i>Phragmitetalia</i> (W. Koch 1926) Pignatti 1953
<i>Phragmition</i> W. Koch 1926

1. *Phragmitetum australis* von Soó 1927 nom. mut. propos.
2. *Scirpetum lacustris* Chouard 1924
3. *Scirpetum tabernaemontani* Pass. 1964
4. *Bolboschoenetum maritimi* Br.-Bl. 1931
5. *Typhetum angustifoliae* Pignatti 1933
6. *Iris pseudacorus* comm.
Magnocaricion W. Koch 1926
Mariscetum serrati Zobr. 1935 (= *Cladietum marisci* Zobr. 1935)
7. *Hydrocotyle-Caricetum elatae* Horvatić 1962
8. *Phalaridetum arundinaceae* Libbert 1931
9. *Cyperetum longi* Micevski 1957
Glycerio-Sparganion Br.-Bl. et Sissingh 1942
11. *Sparganio-Cyperetum longi* Horvatić 1939

C. Vegetation of low sedges

1. **ISOËTO-NANOJUNCETEA** Br.-Bl. et Tx. 1943
Isoëtetalia Br.-Bl. 1931
Fimbristylion dichotomae Horvatić 1954
1. *Cypero-Paspaleetum digitarii* (= *distichi*) Horvatić 1954
Dichostyli-Fimbristyletum dichotomae Horvatić 1954
Paspaleto-Leersietum oryzoidis Bajić 1978

D. Terrestrial plant communities

D-a. Ruderal plant communities

1. **BIDENTETEA TRIPARTITI** Tx. Lohm. et Prsg. in Tx. 1950
Bidentetalia tripartiti Br.-Bl. et Tx. 1943
Bidention tripartiti Tx. 1950
1. *Bidentetum tripartiti* W. Koch 1926
Leersio-Bidentetum (W. Koch 1926) Poli et Tx. 1960
Menthion pulegii Lkšić. 1973
3. *Menthetum pulegii* Lkšić. 1973
2. **CHENOPODIETEA** Br.-Bl. 1951
Chenopodietalia Br.-Bl. (1931) 1936
Chenopodion muralis Br.-Bl. (1931) 1936
4. *Urtico-Sambucetum ebuli* Br.-Bl. 1936
5. *Carduo-Silybetum mariani* Trinajstić 1979
Hordeion Br.-Bl. (1931) 1947
6. *Scolymo-Marubietum incani* Horvatić 1964
3. **PLANTAGINETEA MAJORIS** Tx. et Prsg. 1950
Plantaginetalia majoris Tx. 1950
Polygonion avicularis Br.-Bl. 1931
7. *Lolio-Plantaginetum majoris* Beger 1930

D-b. Forest formations.

1. **QUERCO-FAGETEA** Br.-Bl. et Vlieger 1937
Quercetalia pubescentis Br.-Bl. (1931) 1932
Ostryo-Carpinion orientalis Horvat (1954) 1958
1. *Querco-Carpinetum orientalis* H-ić 1939 (= *C. o. "adriaticum"*)
(incl. *Paliuro-Petterion* p.p. Fuk. 1962; *Petterietum ramentacae* Fuk. 1962, *Juniperetum oxycedrii* Fuk. 1962, *Punicetum hercegovanicum* Fuk. 1962)
2. *Quercetum trojanae* fragm. Em. 1958
Populetalia Br.-Bl. 1931
Salicion (Soó) Oberd. 1953
3. *Salicetum purpureae* Wendbg. 1952
Viticion agni-casti
4. *Periploco-Vitacetum agni-casti* Lkšić. et al.
5. *Rubo-Vitacetum agni-casti* Lkšić.
2. **PALIURETEA** Trinajstić 1978
Paliuretalia Trinajstić 1978
Paliurion adriaticum Trinajstić 1978
6. *Paliuretum adriaticum* Horvatić 1958

5.2. Description of plant communities

5.2.1. Water plant communities

1. *Lemno-Utricularietum vulgaris* Soó 1928 (Suppl. IB-Tab. I, relevé 1-3; Suppl. II-fig. 8)
The community develops in shallow, eutrophic waters, channels and depressions in many localities throughout the park. Most frequently, it inhabits the edges of slow-moving water. The submerged species *Lemna trisulca* is generally

dominant in the floristic content of the community. It is usually accompanied by the *Utricularia vulgaris*. It is extremely rare to find the small water lentil (*Lemna minor*) in this community and it is found only in one area of the park.

2. *Lemnetum trisulcae* Soó 1927 (Suppl. IB-Tab. I, relevé 4-6)

The community has a pronounced submerged and hydrophytic character, and develops under conditions of low light intensity. It cannot be found on the surface of water pools. Specifically, the small water lentil (*Lemna minor*) covers the water surface, while the submerged water lentil (*L. trisulca*) floats directly underneath. Such an alliance of water lentils creates a double, roof layer of compact vegetation that hardly filters any light through the water. For this reason, such places do not allow for the appearance or development of other macrophytes, for the production of organic detritus and for the appearance of mud. In such conditions, there is no process of gradual growth as in water vegetation, rather, the community of water lentils becomes the permanent stage of vegetation. This community is found in a pool southeast of Škrško Lake, and is best developed in the stagnant waters of Bregave, especially during the summer vegetation period.

3. *Hydrocharietum morsus-ranae* van Langendonck 1935 (Suppl. IB-Tab. I, relevé 7-9)

This pleustonic community develops in shallower, eutrophic waters during the summer period (June-August). Usually, it concerns a community that contains only the species *Hydrocharis morsus-ranae*, a perennial plant whose leaves float on the surface of the water. It is found in a few localities in the marsh below Crno Brdo, as well as along the drainage channels around Škrka lake.

Certain authors have very different viewpoints and opinions concerning the higher syntaxonomic units (alliance, order, class) that include the *Hydrocharis morsus-ranae* (and/or *Stratiotes aloides*). Most frequently, importance is given to Rübél's alliance *Hydrocharition* and to the order *Hydrocharitetalia* (Rübél 1933). There is an issue as to which class it belongs to. While Den Hartog and Segal (1964), or Segal (1968) place this community into the separate class *Stratiotetea*, Knapp (1971) and Rothmaler (1972) place it in the class *Lemnetea*, Trinajstić and Pavletić (1980) in the class *Potametea*, and finally Trinajstić (1991) in the class *Stratiotetea*, the one used in this study. However, contrary to the vegetational class *Lemnetea*, where each individual is completely independent, the plant species that forms the vegetational class *Stratiotetea* creates a vast network, on top of which leaf rosettes are formed, thereby building compact, smaller or larger floating „carpets“.

4. *Myriophyllo-Nupharetum* W. Koch 1926 (Suppl. IB -Tab. II, relevé 1-5)

This is a very widespread community that develops, as is known, in deep, still-water pools. In the zonal distribution of water and marsh vegetation, they account for the deepest belt. It is developed in the waters of Krupa, Jelim, Deran Lake, Drijen, Orah, Škrka Lake and others. Most frequently, it covers a surface area between 25 and 40 m². The main species of this plant community are *Nuphar lutea*, *Myriophyllum verticillatum* and *Ceratophyllum demersum*, which give the vegetation a specific appearance.

In some localities, it is developed only fragmentarily, probably caused by proportionally shallow waters resulting from an advanced process of overgrowth in the depression. Also, the difference in the floristic content between localities can be attributed to the differences in habitat conditions, such that more sub-units can be identified according to the dominance of certain species. As a rule, species that are adapted to low light intensities inhabit the deepest and the coldest waters at depths of 3-5m (ie. *Ceratophyllum* i *Myriophyllum*), while shallower waters (depths <3 m) are inhabited by the helophyte species *Nuphar lutea*, *Nymphaea alba* and others.

The presence of the community *Myriophyllo-Nupharetum* in channels can sometimes endanger the functionality of a drainage system overgrown by this community. Specifically, this community represents one stage in the process of eutrophication, frequently as an initial stage or as a stage that follows the ass. *Myriophyllo-Potametum* (it was not possible to characterize this community in Blato). In habitats of ass. *Myriophyllo-Nupharetum* where the water is shallow, the "production of plant detritus is great, and organic matter settles on the bottom, as there is no water to carry it away. The conditions in the shallow and warm water, which does not drain off, allows this community to produce organic matter very rapidly and the process of eutrophication begins its course" (Slavnić 1956).

5. *Nymphoidetum peltatae* Oberds. et Th. Müll. 1960

A community of *Nymphoidetum peltatae* was found in August of 2000 in the channel below Orlov kuk. It is a thermophyte community living in shallow, warm and eutrophic waters. Usually, this community can be found, along with related communities of ass. *Hydrocharidi-Nymphoidetum peltatae*, in the shallower parts of lakes, warm pools, channels and other smaller stagnating waters in the region of the lower Neretva (Ilijanić and Topić 1998). Previously, the ass. *Nymphoidetum peltatae* was noted at the junction of the Krupa and Neretva River.

6. *Hottonietum palustris* Tx. 1937 (Suppl. II-Fig. 7)

The community *Hottonietum palustris* has been noted at two sites in the park (28.4.2000), at: 1) Perušića plesno (Jaruga Škrka), and 2) Deran Lake – under the Londža jaruga. The floral content is dominated by *Hottonia palustris* (*Primulaceae*) – a characteristic species of the association, listed at the same time as a sensitive taxon on the Species List for the Red Book on the Flora of Bosnia and Herzegovina. Contrary to the same community found in neighbouring countries (ie. Slavonia; Rauš et al. 1978), this community is a rare species in Hutovo Blato. The floral composition is as follows:

Table 4. Ass. *Hottonietum palustris*.

	1	2
<i>Hottonia palustris</i>	2	5
<i>Nuphar lutea</i>	4	1
<i>Ceratophyllum demersum</i>	+	.

7. *Potameto-Najadetum* Horvatić et Micevski 1960 (Suppl. IB-Tab. II, relevé 6-8)

Quite rare communities of *Potameto-Najadetum* develop in the shallower and warmer river branches and slow-moving waters. It was found in Donje Blato not far from Ljuban vrela. This association is poor in species, the species *Najas marina* and some species of genus *Potamogeton* are the most important species. According to its floral content, this association is similar to a sub-Mediterranean variety of the community, without the presence of the *Najas minor*.

8. *Ceratophyllo-Potametum crispum* Horvatić et Micevski 1960 (Suppl. IB -Tab. II, relevé 9-12)

This is a water community belonging to southern and sub-Mediterranean regions. It spreads along trenches and channels with slow-moving waters, and along marsh edges. It is rare in Hutovo Blato and is made up of relatively few species. The characteristic species of this association are *Potamogeton crispus*, *P. pussilus* and *P. fluitans*. *Ceratophyllum demersum* is a permanent and a usually characteristic species of the class *Potametea*.

9. *Ranunculo-Callitrichetum* Soó 1927 (Suppl. I-Tab. II, relevé 13-17)

The community are most developed during the month of May, near springs and slow-moving, very clear, waters. The dominant species are *Ranunculus trichophyllus*, and *Callitriche stagnalis*, and the alga *Chara hispida* is sometimes abundant. Abundant findings of this association have been noted at a few sites in Lonža, northeast towards the source in Babino oko, and at many sites below Radanovac.

10. *Elodeetum canadensis* Eggler 1933

A community with the species *Elodea canadensis* was found in Donje Blato between Ljubanovo vrelo and Smokovljak. Besides this species that dominates (3-4), the community also shows the presence of *Nymphaea alba*, *Nuphar lutea* and others. The species *Elodea canadensis* is frequently found in the eutrophic waters of Central Europe along with the species *E. nuttallii* and *E. ernstae*, which are gradually pushing it out of this kind of water.

11. *Potametum natantis* Lkšić. et Pavlović 1976

The species *Potamogeton natans* generally settles mesotrophic stagnant waters, and is very rarely found in running water. A community sized 10 m² was found in Donje Blato, in Sjekošćaka. It can also be found along the drainage channels with still waters along the righthand shore of the Neretva River, near Gabela.

12. *Fontinaletum antipyreticae*

This is a community that has very strong polymorphic moss, which develops on rocks and along sources with fast-moving waters. Up to one half metre long shrubs break off and can be found later on floating on the surface in the waters and channels of Gornje Blato. The ecology of communities in southern Europe has not been studied enough, as has been done with Central and Northern Europe (cf. Dawson and Szoszkiewicz 1999).

5.2.2. Marsh plant communities

1. *Phragmitetum australis* von Soó 1927 nom. mut. propos.

(Suppl. IB-Tab. III, relevé 1-5)

The association *Phragmitetum australis* (a reed) is a dominant helophyte community that takes up relatively large surface areas throughout Blato. Most frequently, it covers the first vegetational belt along the water surface towards the marsh. It settles a wide belt of terrain that is submerged throughout the year, or that is partially exposed, but constantly wet. It is frequently dense and unpassable. In the contact zone (belt) towards the mainland, there is an increasing number of species that belong to the vegetation of *Magnocaricion* alliance, and in the contact zone with the water surface, with species from the *Lemnion minoris* alliances, *Nymphaeion albae* and *Potamion eurosibiricum*. In the floral content, the reed *Phragmites australis* is still very dominant, and we can also find the species *Schoenoplectus lacustris*, *Rorippa amphibia*, *Lythrum salicaria*, *Myosotis scorpioides*, *Stachys palustris* and others.

2. *Scirpetum lacustris* Chouard 1924 (Suppl. IB-Tab. III, relevé 6-10)

Of all the associations from the *Phragmition* alliance, the community *Scirpetum lacustris* settles the deepest waters and covers those areas of the shallow water basin where the water depths fluctuate between 0.5-1 m. In order for this community to develop, the branching network of rhizomes from the characteristic species of *Schoenoplectus lacustris* has to have an adequate supply of water throughout the year. Also, this community develops on a substrate that contains calcium (Ca), and the water is eutrophic. *Schoenoplectus lacustris* dominates in this relatively thermophile community that is scarce in species. The species *Rorippa amphibia* and *Polygonum amphibium* have a significant contribution of the flora composition. During the vegetational period, this community takes up great areas of Deran Lake, while it generally appears in the form of small "islands" in other regions.

3. *Scirpetum tabernaemontani* Pass. 1964 (Suppl. IB-Tab. III, relevé 11-15)

The plant community as. *Scirpetum tabernaemontani* develops on poor alkaline soils that is very wet. This community has, more or less, a uniform floral content, and is spread along many places in Hutovo Blato (the left shore of Škrka Lake, marsh Pod koščelom, Jelim, Drijen and so on.). Most frequently, it creates the frontier belt between communities of *Mariscetum serrati* and *Bolboschoenetum maritimi*.

4. *Bolboschoenetum maritimi* Br.-Bl. 1931 (Suppl. IB-Tab. III, relevé 16-20)

This community is relatively common in the lower regions of the Neretvan River. It develops under certain saline levels. As the waters of Hutovo Blato are poorly alkaline (Štambuk-Giljanović 1998), and the water is not saline (S= 0 psu, Babino oko spring, 3.7.2000), this community has a poor floral content. The community is dominated by the characteristic species *Bolboschoenus maritimus*, but their is another important element of the association missing, the species *Schoenoplectus litoralis*. Alongside the *Bolboschoenus maritimus*, the species *Cyperus longus* has the highest presence in the community.

Most often, the community develops in gentle depressions, along the „rim“, in wet habitats with an organogenic soil. It has been sighted directly along the source Jamica, and at many locations in the marsh Pod koščelom, along the Babino oko spring, along the left bank of Škrka Lake, and so on.

5. *Typhetum angustifoliae* Pignatti 1933 (Suppl. IB-Tab. IV, relevé 1-3)

Typical stands of the ass. *Typhetum angustifoliae* develop in waters up to 0.5 m, as is known (cf. Philippi 1974), while typical contents of the ass. *Typhetum latifoliae* develop in waters up to 0.2 m. In depths between 0.2-0.5 m, mixed stands develop, where one species is predominant, depending upon whether the water is shallower or deeper.

Stands of *Typha angustifolia* in Hutovo Blato develop in somewhat shallower water, and the *Typha latifolia* can be found in either greater or smaller constancy in the floral composition. In the research done up to now, I have not been able to find stands that would match the as. *Typhetum latifoliae*.

The floral composition shows that the community lacks elements of water vegetation, as the water is not deep even when the watertable are high.

6. *Iris pseudacorus* comm. (Suppl. IB-Tab. IV, relevé 4-6; Suppl. II-Fig. 3)

It appears in habitats of fast-flowing waters, building homogenous compositions or short “belts”, most frequently as a part of the community complex of the *Phragmition* alliance. Usually, it is developed only fragmentarily and is found under the Londža jaruga, as well as in the gorge that leads from Lake Deran towards Lake Orah. Stands of *Iris pseudacorus* are also described in Austria and in the Slovak Republic (Lazowski 1985, Otahelova 1996).

7. *Mariscetum serrati* Zobr. 1935 (= *Cladietum marisci* Zobr. 1935)
(Suppl. IB-Tab. V, relevé 1-5)

This usually localized community, distributed throughout the entire eastern Adriatic coast and in continental Karst area, is very widespread in the Gornje Blato region. It usually inhabits shallower, stagnant water (the top soil can dry out occasionally), making up a particular vegetational belt that acts as a buffer in the natural process of eutrophication between communities of the *Phragmition* alliance on the one hand and other communities of the *Magnocaricion* alliance (especially the ass. *Hydocotyle-Caricetum elatae* and ass. *Cyperetum longi*) on the other hand. It directly surrounds “the belt of reeds, rush and cattail” around the lake, and is significantly different in terms of its physiology and ecology. The soil is organogenic and there is calcium present in the substrate. The community has great ecological importance considering that it is an important nesting site. According to the floral composition, besides the characteristic species of the association *Cladium mariscus*, two vulnerable species of Bosnia and Herzegovina flora are also frequently found with: *Thelypteris palustris* and *Hydrocotyle vulgaris*.

8. *Hydrocotyle-Caricetum elatae* Horvatić 1962 (Suppl. IB-Tab. V, relevé 6-10)

The community *Hydrocotyle-Caricetum elatae* is frequent in the lower Neretva marshes. In Gornje Blato, it usually continues along a belt of the ass. *Mariscetum serrati*, whereas in dryer places it spreads into communities of the *Bidention tripartiti*, *Menthion pulegii* or *Fimbristylion dichotomae* alliances. It has a characteristic bushy appearance given by the species *Carex elata* – a characteristic and particularly regional species of the *Magnocaricion* alliance. It is thought that this association stems from similar plant communities in northern Europe, which arrived south during the last ice-age. For this reason, it has plenty of similarities with the continental community *Caricetum elatae*, but it is clearly differentiated from it by the presence of prominent, characteristic and differential species (ie. *Cyperus longus*, *Althaea officinalis*, *Samolus valerandi* and so on.)

This association usually takes over larger topographic depressions that hold water for most of the year. Due to the constant presence of water, the decomposition of organic detritus is slowed down, such that a powerful layer of “peat” is formed. The community is of great significance to marsh birds, offering shelter and a nesting area.

9. *Phalaridetum arundinaceae* Libbert 1931 (Suppl. IB-Tab. V, relevé 11-15)

We can find the community *Phalaridetum arundinaceae* on the left bank of the river Krupa, and on the right bank of Škrka Lake, usually in places where the water levels vary greatly due to rapid water movements. This community develops on a sandy or muddy soils. It is usually limited to those protruding surfaces that are only occasionally submerged. Usually, these are surfaces from 20-50 m² on which we can find the species *Phalaris arundinacea* combined with other species, most frequently with *Alisma plantago-aquatica*, *Mentha aquatica*, *Stachys palustris* and others. It is known that the grass *Phalaris arundinacea* is usually used for covering embankments and for strengthening shorelines, and it is used as a plant for grazing (Hulina 1985).

10. *Cyperetum longi* Micevski 1957 (Suppl. IB-Tab. V, relevé 16-20; Suppl. II-Fig. 4)

The community *Cyperetum longi* represents a very significant stage in the process of natural eutrophication of waters in the Mediterranean and sub-Mediterranean vegetational belt, where the association *Hydocotyle-Caricetum elatae* takes over in places – especially on mineral-based muddy soils – where they usually come into direct contact. The species *Cyperus longus* dominates over all the other species and it gives the community a characteristic physiology. Frequently, this community can be found alongside “pljesne”.

11. *Sparganio-Cyperetum longi* Horvatić 1939 (Suppl. IB-Tab. VI, relevé 1-5)

The *Glycerio-Sparganion* alliance is formed of the *Sparganio-Cyperetum longi* association. This is a marsh community of brook beds and drainage gorges. It has been found in the channels at Karaotok, on both shores of Škrka Lake, in the marsh Pod koščelom, around the Babino oko spring, and in many depressions in Gornje Blato.

5.2.3. Vegetation of *Fimbristylion dichotomae* alliance (low sedges)

Vegetation of the *Fimbristylion dichotomae* alliance colonize muddy and muddy-sandy submerged areas along smaller pools, puddles and lake shorelines that are submerged most of the year, and which are frequently, more or less,

without water during the summer drought. On such surfaces, which are very widespread in areas (Londža, Jelim), communities of ass. *Cypero-Paspaleum digitarii* (=distichi), *Dichostyli-Fimbristyletum dichotomae* and *Paspaleto-Leersietum oryzoidis* develop.

The following communities develop on such surfaces that are very widespread in areas:

1. *Cypero-Paspaleum digitarii* (=distichi) Horvatić 1954
(Suppl. IB-Tab. VII, relevé 1-5, Suppl. II- Fig. 10)

The community *Cypero-Paspaleum digitarii*, as compared to the ass. *Dichostyli-Fimbristyletum dichotomae*, to which it is frequently connected spatially, inhabits areas that are submerged only shortly. In places, it develops as a grazing pasture or a meadow, with a high presence of the *Paspalum paspaloides*.

2. *Dichostyli-Fimbristyletum dichotomae* Horvatić 1954
(Suppl. IB-Tab. VII, relevé 6-10)

The community develops along the shoreline of stagnant and running waters. In places, it appears in special sub-units (*facies*), which are marked by some of the following dominating species: *Cyperus flavescens*, *C. fuscus*, *Mentha pulegium* (frequently, it builds a separate community) and others.

3. *Paspaleto-Leersietum oryzoidis* Bajić 1978 (Suppl. IB-Tab. VII, relevé 11-13)

The community *Paspaleto-Leersietum oryzoidis* in the region of Hutovo Blato is mentioned in the Prodromus of plant communities from Bosnia and Herzegovina (Lakušić et al. 1978). Even though the floral composition of this community is not published anywhere, I noted it during 2000 east of the Londža source towards Boljev kuk, on a surface area just under 1 km², which is used as a meadow. According to size, two smaller compositions are found in the region between the Londža spring towards the Babino oko spring. The soil of these community habitats is organogenic marshy, with a lower level of wetness than with the previous two associations, and very suitable for the development of the species found. Wild rice (*Leersia oryzoides*), in somewhat dryer habitats, comes under the community *Leersio-Bidentetum*.

5.2.4. Terrestrial plant communities

Even though the aim of this study was not to research terrestrial plant communities, they were categorized when possible. A one-year period is inadequate for obtaining a real picture of the floral composition of terrestrial plant communities, including both primary those resulting from degradation. For this reason, we only make mention of those most important. Some are more tied to wet or occasionally wet habitats (vegetation of the order *Bidentetalia tripartiti*).

Vegetation of the *Bidentetalia tripartiti* order belongs to a pioneer community of annual nitrophilous plants that develops on the shores of running and standing waters. Each year, this vegetation covers the shoreline edges that dry out during summer, and which are submerged again in fall. Therefore, the whole life cycle of such vegetation is very short.

Within a period of a few months, most plants that make up this vegetation go through all the phases of their development, from germination to seed. Generally, fewer perennial plants stay sterile. The rapid development of this vegetation is usually enabled by the abundance of soil nutrients.

1. *Bidentetum tripartiti* W. Koch 1926
(Suppl. IB-Tab. VIII, relevé 1-5)

This community is developed along the shores of the river Krupa, Škra Lake and in many spots along Deran, Londža, Karaotok, while it is rare in Donje Blato. The community is most developed at the end of summer, with a spread between 60-80%.

2. *Leersio-Bidentetum* (W. Koch 1926) Poli et Tx. 1960
(Suppl. IB-Tab. VIII, relevé 6-10)

The community *Leersio-Bidentetum* was sited on the left shore of Krupa River. It was irregularly developed as a belt 1,5 m wide, with interruptions of other marsh vegetation. Most frequently, it was in contact with the previous community or willow grove. This is a very pioneer community. The hydrological regime of this community's habitat varies from flowing or stagnant waters to only visible wetness. In the last case, we are dealing with surfaces that were under water for a certain period of time. Wild rice (*Leersia oryzoides*) is the basis of the community, and according to literature, it is a relatively rare species in Central Europe, a moderate belt in Asia and North America, and is a frequent weed in rice and corn plantations in southern Europe (Hegi 1906-1931). Each new siting is of interest bio-geographically, and economically as a potential weed. Ecologically, it is interesting that the wild rice in this region develops in its upright form with normally developed flowering, which usually indicates, as a rule, the longer duration of a muddy ecophase. Normally developed flowering is a precondition for seed formation, so that this circumstance is important for the generative spreading of wild rice.

Wild rice is a quite rare species in the Balkan peninsula. However, it is not included on the List of Rare, Endangered and Endemic Species of Bosnia and Herzegovina (Šilić 1994). According to the data on phytocenology, it is grouped with various communities, which proves how many species can be combined with wild rice, and this complicates the phytocenological determination of compositions.

3. *Menthetum pulegii* Lkšić. 1973

In comparison to the habitats of the previous two plant communities, the as. *Menthetum pulegii* occupies wet surfaces, similar to or identical to the *Fimbristylion dichotomae* alliance. The presence of this community has been confirmed in many areas, and the greatest surfaces are found in frontier areas between the terrestrial and marsh vegetation below Crno brdo, Govedi dol and Jelim. The community is dominated by *Mentha pulegium* (3), and the following species are also present *Agrostis stolonifera* (1), *Phalaris arundinacea* (+), *Bidens tripartita* (+) and others.

4. *Urtico-Sambucetum ebuli* Br.-Bl. 1936

This community has been sited in various areas of the park, and it is especially well developed in Londža, above the spring and behind the office building in the park. The floral composition was as follows: *Urtica dioica*, *Sambucus ebulus*, *Bromus sterilis*, *Galium aparine*, *Lamium maculatum*, *Silene latifolia*, *Xanthium spinosum*, *Avena sterilis*, *Sisymbrium officinale*, *Sonchus oleraceus*, *Scolymus hispanicus*, *Calamintha nepeta* and others.

5. *Carduo-Silybetum mariani* Trinajstić 1979

The community *Carduo-Silybetum mariani* develops on dump sites where various construction material and other similar waste can be found, but with relatively poor organic matter. It has been found 500 m northeast of Škrka Lake, and at Svitava. The floral composition of the community not far from Škrka Lake was: Char. ass.: *Silybum marianum* (4); Char all.: *Ballota foetida* (3), *Foeniculum vulgare* (+), *Galium aparine* (+), *Bromus sterilis* (1), *Plumbago europaea* (1), *Ecbalium elaterium* (+), *Solanum tuberosum* (+); Char ord.: *Carduus pycnocephalus* (3), *Sisymbrium officinale* (2), *Hordeum leporinum* (1), *Sonchus oleraceus* (+), *Malva sylvestris* (+), *M. parviflora* (+), *Rumex pulcher* (+); Comp.: *Convolvulus arvensis* (1), *Papaver rhoeas* (+), *Rubus ulmifolius* (+), *Parietaria vulgaris* (+).

6. *Scolymo-Marrubietum incani* Horvatić 1964

This ruderal community found in the Illyrian-Adriatic Karst area was located below the Milankovac along the road that stretches from Svitava over Ostrvo towards the settlement Deran. The floral composition was dominated by the species *Marrubium incanum* (4), and the following species were also present: *Scolymus hispanicus* (2), *Onopordon illyricum* (1), *Centaurea calcitrapa* (1), *Eryngium amethystinum* (+) and others.

7. *Lolio-Plantaginetum majoris* Beger 1930

The ruderal community *Lolio-Plantaginetum majoris* belongs to the vegetation of trampled habitats, and it was found only at a few sites, basically around Karaotok. Alongside the species *Plantago major* and *Lolium perenne*, the following species were also present: *Trifolium repens*, *Polygonum aviculare*, *Plantago lanceolata* and others.

8. *Quercu-Carpinetum orientalis* Horvatić 1939 (Suppl. IB-Tab. IX, relevé 1-5; Suppl. II-Fig. 2)

Forests and shrubs of pubescent-oak and oriental horn-beam are the climazonal type of vegetation in this region. The floral composition of the community indicates that we are dealing with its most thermophile variety (a large number of Mediterranean evergreen holm-oak forest plants), which I believe is due to the strong influence of the Mediterranean climate and negligible above sea level heights. These forests have been greatly affected by anthropogenic forces, so that we can now find all its fragmentary or completely developed regressive (degradative) stages.

If we apply the outdated meaning to the community *Quercu-Carpinetum orientalis*, which is defined as the ass. *Carpinetum orientalis "adriaticum"*, we can speak of a plant stage whose largest surfaces are presently located on southern surfaces (Radanovac, Jelim), while pomegranate (*Punica granatum*) and prickly juniper (*Juniperus oxycedrus*) stages are frequently found on the northern surfaces (Bjelojevići). The degradation is exceptionally great in certain areas, such that the forest communities gives way to the shrubs of the *Paliuro-Petterion* (that is, *Paliurion*) alliance: or its various associations: ass. *Paliuretum*, and so on.

9. *Quercetum trojanae* fragm. Em. 1958 (Suppl. IB-Tab. IX, relevé 6-8)

The Herzegovina-Dalmatian part of the disjunct areal of Macedonian oak is found within pubescent-oak and oriental horn-beam forest. In the region of Hutovo Blato (below the Knežević kuće), this association is developed in the form of low degradative and very poor forests. It is composed of the following species: *Celtis australis*, *Acer monspessulanum*, *Petteria ramentacea*, *Rhamnus rupestris*, *Colutea arborescens*, *Pistacia terebinthus* and so on.

10. *Salicetum purpureae* Wendbg. 1952 (Suppl. II-Fig. 1)

Forests and shrubs of *Salicetum purpureae* make up the borderline between the marshy and water communities (Đurkin vir, Struge, jaruga Galebica). In the *Salicetum purpureae* community, a layer of lower (annual) plants cover 100% of the surface, mostly marsh plants. The floral composition of a community from one of the phytocoenological relevés (Struge, 13.5.2000, 50 m²) was as follows: *Salix purpurea*, *Fraxinus angustifolia*, *Caltha palustris*, *Carex elata*, *Lycopus erupaeus*, *Leucocjum aestivum*, *Solanum dulcamara*, *Galium palustre*, *Myosotis scorpioides*, *Stachys palustris*, *Euphorbia palustris*, *Mentha aquatica*, *Polygonum hydropiper*.

This community has a broad ecological amplitude, includes a number of associations and lower vegetation units depending on the syndynamic stages of habitat overgrowth. Other species of willow in this region do not form independent formations, rather they grow individually or in small groups. Forests of poplar (*Populus alba*, *P. nigra*), in their typical composition, are not developed, as there is a strong anthropogenic influence (Londža-Babino oko). Stands of *Fraxinus angustifolia*, especially well developed around Londža, should be ecologically and phytocenologically researched in detail.

11-12. *Periploco-Viticetum agni-casti* Lkšić.; *Rubo-Viticetum agni-casti* Lkšić et al.

Along the marsh edges in the north and northeastern part of Gornje Blato, the *Vitex agnus-castus* is part of two plant communities: *Periploco-Viticetum agni-casti* and *Rubo-Viticetum agni-casti*. The first takes over the edge of the marsh itself, which separates the marsh vegetation (and/or the vegetation of the *Fimbristylion dichotomae* alliance) from those terrestrial. Thanks to the high osmotic pressure *Vitex agnus-castus* has the capability of acquiring water from land that appears to be without water, or whose water is inaccessible for other species with lower osmotic pressure. Another community appears in places, only in dryer spots (Donje Blato, around Svitava) and instead of mesophyte and hygrophyte includes xerophyte (*Rubus ulmifolius*, *Asparagus acutifolius* and others). The exceptionally decorative species *Periploca graeca* that is found in the first association, is a vulnerable plant belonging to Bosnia and Herzegovina flora.

13. *Paliuretum adriaticum* Horvatić 1958 (Suppl. IB-Tab. X, relevé 1-4)

Even though shrubs of *Paliurus australis* cannot be classified with forest vegetation in the narrow sense, it is common to include such vegetational forms with forest vegetation, as in fact, they represent a pioneer stage in the development of forest vegetation, and finally, they are made up of woody species. Where the degradation is advanced, and where the base is rocky with a scarcity of shallow soil, there an increasing number of species in the lower layers. This means that these communities are slow to succeed into developed vegetational forms. However, as *Paliuretum adriaticum* develop from the degradation of thermophyle deciduous pubescent oak (oriental horn-beam) forests, they are more significant for the reconstruction of primary forest vegetation.

6. Conclusion and recommendations

Due to the sensitivity of the Donja Neretva region to a number of interactive processes, it is necessary to have plenty of data available upon which the preservation and development of the region can be based. This is why it is necessary to create a database. This is the first step in the inventory and classification of water and marsh habitats in the Bosnia and Herzegovina part of the Neretva Delta, which includes the Hutovo Blato natural park region since 1995. Over 600 species and lower taxa of vascular plants (*Pteridophyta* and *Spermatophyta*) have been identified in the park region up to now. According to an estimate by Bjelčić (1987), Bosnia and Herzegovina has about 4,000 species of higher plants, which means that one sixth of the Bosnia and Herzegovina flora are located in Hutovo Blato. Today, globally, water and marshy habitats, with their accompanying species, are considered as being most endangered. Among the marshy and water

plants that are threatened or rare by European standards, and which can be found in this region in relatively large numbers, the following stand out: *Butomus umbellatus*, *Utricularia vulgaris*, *Marsilea quadrifolia* and others. A total of 28 water, marsh and terrestrial plants from this region (see Table 2, Chapter 4) can be found on the List of Rare, Endangered and Endemic Species of Bosnia and Herzegovina (Šilić 1994). It should be kept in mind that this list is only one way of looking at the status of endangered plant species. Specifically, this list does not mention species (ie. *Teucrium scordium* and some others) that can also be found in the region of Hutovo Blato, but which are noted in the List of Rare, Endangered and Endemic Plants of Europe (IUCN 1983), or on the lists of neighbouring country (Šugar 1994). This can imply that the populations of these species in Bosnia and Herzegovina are large enough so that they do not require special protection, or that the list needs to be revised. The flora is specially marked by the so-called Illyrian floral element, which includes endemic species.

Some of the main reasons for the threat to general biological variety are: 1) change in habitat – destruction, degradation, fragmentation; 2) environmental pollution – soil, water, air; 3) overuse of natural resources – felling, harvesting; 4) transport of habitat species in the ecosystem. The disregard of generally well-known and accepted criteria of values in terms of the conservation of nature, the use of unsatisfactory procedures in estimating the impact of large developmental projects on the environment, no communication with European countries that quickly developed conservation measures of natural areas, and the numerous other reasons that were typical of the times for this part of Europe, all resulted in the destruction of habitats and endangered the related species. The results given by many projects have not justified the investments. The most vivid example of this is the meliorization of the Neretva Delta, which has irreparably degraded one of the most valuable Mediterranean marsh regions. Due to huge maintenance costs, it has been neglected agriculturally, and is gradually returning to its „wild“ state (Radović 1999).

Some examples of change and degradation of habitats can be seen through the regulation of waterway, transforming forest regions into arable land, drying out of marshes, and abandoning the traditional grazing methods of livestock and the growing of traditional cultivated plants. One of the most important reasons behind the threat to bio diversity is the spread of intense agricultural surfaces. A huge problem for waters and marshes is the input of greater quantities of organic material, which results in the fast overgrowth of marshy biotopes. The use of biological property is **not** based on actual knowledge of populations, and the intense gathering of plants (and animals), felling, as well as fires, leads to their direct disappearance from the ecosystem. The bringing in of allochthonous species into the ecosystem can seriously destroy the existing equilibrium. Species that are brought in can frequently push out autochthonous species and can quickly become dominant.

The nature of marshy habitats is such that they are not permanent. Generally, shallow water surfaces become even more shallower relatively soon due to the sedimentation of organic and non-organic material, they become quickly overgrown, and finally dry out. The general impression of Gornje Blato is that it is in the silting stadium of standing waters. There are still free water surfaces in Jelim, Orah, Drijen and less in Šrkra. According to Table 5, the water habitats in Hutovo Blato should be classified as mesotrophic types, which should be verified through chemical and algological research.

Table 5. Field observations (summarised) on growth and production of selected wetland plant species in oligo-, meso-, eu- and hyper-eutrophic habitats (sensu Wetzel 1975; ++ = very good growth; + = good growth; (+) = poor growth; - = absence (also based on the author's own opinions).

Species	Oligo-	Meso-	Eu-	Hyper-
<i>Phragmites australis</i>	(+)	++	++	(+)-
<i>Carex elata</i>	+	++	-	-
<i>Phalaris arundinacea</i>	-	+	++	(+)-
<i>Typha angustifolia</i>	-	+	++	+
<i>T. latifolia</i>	(+)	+	++	++
<i>Sparganium erectum</i>	-	(+)	+	++
<i>Schoenoplectus lacustris</i>	+	++	(+)	-
<i>Bolboschoenus maritimus</i>	+	+	+	-
<i>Oenanthe aquatica</i>	(+)	+	++	++
<i>Butomus umbellatus</i>	-	+	++	-
<i>Eleocharis palustris</i>	-	++	(+)	-
<i>Nuphar-Nymphaea</i>	+	++	(+)	-

It is well known how changes in the chemical composition of water undoubtedly change the floral composition, and accordingly, the type of vegetation. Also, changes in water depth, caused by changes in water levels or sedimentation, are directly correlated to changes in the types of plant communities. In this respect, the relationship between certain types of vegetation and chemical parameters of the water ecosystem should be defined.

The water level in Gornje Blato during the summer months is low. However, regulating the flow of the Neretva River, where a few hydropower plants have been built in its upper reaches, can have an impact on vegetation growth and distribution in the wetland. It allows zonation of the communities (-species), which occupy different positions in relation to water depth. During the summer months, especially in drought years, the water level of the Neretva River decreases when the water is retained in the accumulation areas of the hydropower plants. In the period June-September the average monthly flow of the Neretva River is only 4-5 cm s⁻¹ (Glamuzina 1986). Also, many karstic springs located around the marsh edges, which feed the region with water, run dry.

In order to prevent the disappearance of rare species, canals should be maintained, *treset* should be used, as well as some other plants for industrial use.

Other potential reasons that threaten this region are seen through the intensification of agriculture (e.g. increases in nutrient inputs), which finally causes of vegetation changes in wetland (Simpson et al. 1983). However, a large number of water (and marsh) plants are capable of adapting to sudden changes in habitat conditions (Hejny i Hroudová 1987).

On the basis of a one-year research on the vascular flora and macrophyte vegetation of the Hutovo Blato natural park, the following was found:

1. Over 600 species and lower taxa of vascular plants (*Pteridophyta* and *Spermatophyta*) have been identified in the park region up to now. A total of 28 plants can be designed as rare, endangered and vulnerable species of Bosnia and Herzegovina. Some species have small populations, so they need to be protected together with their habitats. The most important localities (and habitats) in the park should be evaluated as special botanical preserves. The participants of LIFE Project and the Head of the Park need to decide which localities would be included in the protection, and what would be their exact markaton.
2. A total of 11 vegetation classes, of which 4 belong to water vegetation, 1 to marsh vegetation and low sedges vegetation, and 5 classes to terrestrial vegetation. A total of 39 associations (and stands) were determined, of which there are 12 associations of water vegetation, 11 of marsh vegetation, 3 of low sedges vegetation, and 13 associations of terrestrial vegetation.
3. Even though there is a similar number of associations for both marsh and water vegetation, marsh vegetation dominates over water vegetation in the park, based on surface size. Valuable marsh plant communities provide suitable bitopes for the breeding and resting of watre birds.
4. The most common plant community of water vegetation is the ass. *Myriophyllo-Nupharetum*. It grows at the deepest waters. Figures 6 and 7 (Suppl. IA) show the most ideal zonal distribution of vegetation. Esthetically, the rare community *Hottonietum palustris* is especially valuable.
5. The dominant marsh plant community that grows along the water surfaces towards the marsh is the ass. *Phragmitetum australis*. Also, community *Mariscetum serrati* are ecologically important, as well as the *Hydrocotyle-Caricetum elatae* association. Communities that belong to the vegetation of low sedges are especially important as they contain a number of rare and endangered plants.
6. Drying of white willow (*Salix Alba*) presented on Fig. 8 (Suppl. IA) on the edges of water areas and ravines is a direct consequence of adjacent parcels which are frequently devastated by fire. Presence of various degradation forms of forest climate-area vegetation of pubescent oak, oriental hornbean on Fig. 9 (Suppl. IA) is also a direct consequence of frequent fires.
7. Afforestation of degraded forest areas exclusively needs to be done with local autochthonous of forest trees from climate-area vegetation of pubescent oak and oriental hornbean.
8. The importance of the Hutovo Blato wetland biotope is prominent when compared to the lower part of the Neretva River in Croatia. Except of forest formations, the overall picture of the vegetation in the Hutovo Blato wetland does not show serious degradation trends. Further studies are needed to establish the relationship between the distribution of plant communities and environmental variables.
9. This extremely valuable region is marked by the wealthy variety of its plant world that must be preserved at all costs. Therefore human impact needs to be controlled.

CYPRUS NATIONAL REPORT

ON THE APPLICATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN
THE MEDITERRANEAN²

Meeting of National Focal Points - June 2005

I. General Information

1. Country: CYPRUS
2. Period Covered by the Report: June 2003 – March 2005
3. National Body responsible for drawing up the report:
Department of Fisheries and Marine Research, Eolou 13, Nicosia 2416, Cyprus.
Author: Myroula Hadjichristophorou, Senior Fisheries and Marine Research Officer
4. National body and other organizations and/or institutions that provided data for the establishment of the report

List the names and addresses of the bodies others than those mentioned above under point 3 that contributed to the present report by providing information and data.

None.

II. Legal and/or administrative measures taken under the terms of the Protocol³

22. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

Of six marine or marine/coastal areas, which were identified in an earlier study (1998-2000) aimed at implementing the Habitats Directive 92/43 and Bird Directive 79/409 as potential Natura 2000 sites, five were proposed to the EC towards the end of 2004 as Natura 2000 sites. These were Nisia, Cape Greco, Cape Aspro, Moulia and Polis – Yialia (Polis/Limni area). This was done on the basis of the Protection and Management of Nature and Wildlife Law, 153(I)/2003 (This law was passed on the 03/10/2003 and in effect implements the Habitats Directive and partly the Birds Directive). A sixth area, Akamas, is pending, though the Lara/Toxeftra Reserve, within the Akamas marine area, is already protected on the basis of the Fisheries legislation. In addition to these marine/coastal areas a seventh area, the Larnaca Salt Lakes area (a coastal wetland) was proposed to the EC to be listed as a Natura 2000 site.

23. To establish marine and coastal specially protected areas (article 5);

Indicate what legal and/or administrative measures have been adopted and/or implemented during the period under review to establish marine and coastal specially protected areas.

See 6 above. In addition the Fisheries Law was amended in 2004 giving powers to the Minister of Agriculture Natural Resources and Environment to declare marine protected areas, where fishing, the passage of vessels etc is prohibited, for marine species conservation purposes.

24. To provide protection (article 6) :

Indicate what legal and/or administrative measures have been taken during the period under review to apply the provisions of article 6 of the protocol within the specially protected areas, and in particular the measures concerning:

- a) Strengthening the application of the other Protocols to the Convention and other treaties (article 6 a);

The other Protocols are not relevant to the particular existing marine protected area

- b) Prohibiting the dumping or discharge of wastes liable to harm the protected areas (article 6 b) ;

There are no discharges or dumping in the Lara/Toxeftra area

- c) Regulating the passage of ships (article 6 c) ;

The Lara/Toxeftra Reserve area is patrolled in the nesting season and boats of any kind are prohibited in the area

² This new format is in conformity with the reporting system set up within the framework of the Barcelona Convention and adopted by the Contracting Parties during their 13th meeting (Catania, November 2003)

- The information requested should be presented synthetically and the report should not exceed 6 pages (approximately 3000 words)
- The reports should be drafted in English or in French and be sent in electronic form to car-asp@rac-spa.org.tn by the deadline of 1st March 2005.

³ In the case of legal measures, it is requested that a copy of the enacted law be attached to this report or handed in during the meeting of National Focal Points.

- d) Regulating the introduction of species (article 6 d) ;
The Fisheries legislation provisions on imports of live aquatic animals was implemented
- e) Regulating activities (article 6 e), 6 h) ;
No regulation proved necessary
- f) Regulating scientific research activities (article 6 f) ;
These were strictly controlled by the DFMR in the Lara/Toxeftra by the existing legislation. The new law on the "Protection and Management of Nature and Wildlife" 153(I)/2003, requires a permit for any research on protected species and habitats
- g) Regulating fishing, hunting, the taking of animals, and the harvesting of plants as well as the trade in animals or parts of animals, of plants or parts of plants coming from the protected areas.
Implementation of existing regulations on prohibitions under the Fisheries legislation on fishing etc in the Lara/Toxeftra Reserve during the nesting season – see below. Hunting is prohibited in the Larnaca Salt lakes by the provisions of the Game and Wildlife Law also the collection of Artemia and their cysts is prohibited under the Fisheries legislation. Implementation of CITES is also relevant.
25. Concerning planning and management of the specially protected areas (article 7);
Indicate and briefly describe what legal and/or administrative measures have been taken during the period under review to plan, manage and control the specially protected areas.
Of the seven areas mentioned above as proposed Natura 2000 sites, three have already been studied under the MedMPA project and management plans have been proposed. The Akamas management plan already prepared is being deliberated. Tender specifications have been prepared for the drafting of the management plan for the Polis – Yialia area.
The protection and management of the Lara/Toxeftra Reserve was implemented, as in the past, by the Department of Fisheries and Marine Research on the basis of the existing Regulations (Fisheries Regulations, 1989).
In the Polis/Limni area, which so far has the status of a Coastline for Ecological Protection, on the basis of the Town and Country Planning Legislation, the Fisheries Department also undertook the implementation of some management measures, which in combination with the Fisheries Law provisions in the marine area provided some, though incomplete protection.
In addition the new legislation passed i.e., the Protection and Management of Nature and Wildlife Law, 153(I)/2003, has provisions that are relevant *inter alia* to the conservation and management of marine/coastal habitats. This law was passed on the 03/10/2003 and in effect implements the Habitats Directive (and partly the Birds Directive) and the habitats listed are those protected/listed under the Habitats Directive.
See also "6" above.
26. For the protection and conservation of species (article 11);
Indicate what legal and/or administrative measures have been taken during the period under review to apply the measures under article 11 of the Protocol, in particular measures aimed at regulating or prohibiting : a)the taking, possession,, killing, trade, transport and exhibition for commercial purposes of protected species of fauna, their eggs, parts and products, b) the disturbance of wild fauna during critical biological periods and c) the destruction or disturbance of species of protected flora.
There are a number of provisions in the Fisheries legislation regarding the provisions of article 11 which have been implemented effectively for many years by the Department of Fisheries and Marine Research. There relate to the taking, possession, killing, trade etc of protected marine species and eggs and their parts or derivatives. In the Lara/Toxeftra Turtle Reserve the main provisions are: no boats or fishing is allowed in waters shallower than 20 m (about 1-1.5 km from the shore), the public is not allowed on the beaches at night, driving on the beaches is prohibited. All nests are protected by cages. Trawling is prohibited in shallow waters (less than 50m) where the Posidonia beds are. The DFMR enforced these regulations during the period under review.
In addition the new legislation passed i.e., the Protection and Management of Nature and Wildlife Law, 153(I)/2003, has provisions that are relevant to marine/coastal species that are protected under this law. This law in effect implements the Habitats Directive (and partly the Birds Directive) and the species listed are those protected/listed under the Habitats Directive.
27. To regulate the introduction of non-indigenous or genetically modified species (article 13);
Indicate what legal and/or administrative measures have been taken during the period under review to regulate the voluntary or accidental introduction into nature of non-indigenous or genetically modified species and prohibit those that could have adverse effects on the ecosystems, habitats or species in the area to which this protocol applies. Also indicate what

legal and/or administrative measures have been taken during the period under review to ensure the eradication of harmful species already introduced.

The Fisheries legislation provides for the control of all imported aquatic species and the DFMR implemented the provisions of this legislation during the period under review. Emphasis was given to the prevention of introductions. The eradication of alien species in the marine environment is not considered feasible.

The new legislation passed i.e., the Protection and Management of Nature and Wildlife Law, 153(I)/2003, also has provisions that are relevant to introductions of species. This law was passed on the 03/10/2003 and in effect implements the Habitats Directive.

28. To grant exemptions from protection measures (articles 12,18)

Indicate what exemptions to the prohibitions prescribed in the annexes have been granted during the period under review.

None.

III. Technical application of the protocol

29. List the specially protected areas established under the terms of article 5.

Provide a list of the specially protected areas established under article 5 of the Protocol at the end of the period under review. In this list, indicate with the appropriate annotations, which areas had already been established at the beginning of the period, and which were established during the actual period under review.

- Lara/Toxeftra Reserve (Established 1989)
- Seven other areas are "in the pipeline". Two of these, the Larnaca Salt Lakes and Polis/Yialia, already have the status of partially protected areas through other legislation (Fisheries, Game and Town and Country Planning legislation and/or Decisions of the Council of Ministers)

30. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9a)

- a) Date of the proposal/s
- b) Areas proposed (list attached)

Provide a list of areas subject to national jurisdiction proposed for inclusion on the SPAMI list during the period under review, with the date on which each of the proposals was submitted.

None

31. SPAMI list :

- a) Status and state of the areas under national jurisdiction included on the SPAMI list (article 23a)

None

- b) Any modification in the delimitation or the legal status of the SPAMI (article 23 b)

None

Provide an updated list indicating the status and situation of the areas subject to national jurisdiction included on the SPAMI list during the period under review, and briefly describe any modifications made to the delimitation or the legal status of the SPAMIs indicating if they were established before or during the period under review.

None

32. Any modification to the legal status of protected species.

Indicate if any changes have been made to the legal status of protected species during the period under review. If there have been, describe them briefly.

The appendices of the Protection and Management of Nature and Wildlife Law, 153(I)/2003, list the species that are protected under this law. This law was passed on the 03/10/2003 and in effect implements the Habitats Directive (and partly the Birds Directive) and the species listed are those protected/listed under the Habitats Directive.

33. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

Provide information on the presence of new non-indigenous or genetically modified species liable to be harmful.

There have been some new Lessepsian immigrants. Whether these species are "liable to be harmful," or not, remains to be seen and cannot be predicted. No GMS were introduced. Inventories of the components of biological diversity (article 15).

- a) Date of establishment or updating of the inventory of areas containing rare or fragile ecosystems;
- b) Date of establishment or updating of the inventory of endangered or threatened species of flora and/or fauna ;
- c) Attach the inventory/s unless they have already been submitted in a special report Inventory using the standard data format (SDF)

Provide information on the date of establishment or updating of the inventories mentioned in paragraphs a) to c) above, during the period under review. Attach copies of the inventories in question.

Under the Life project "Areas of Conservation" an identification of potential areas and species (terrestrial and marine) was undertaken in 1998-2000. This has been refined further in 2004. A database exists (BioCyprus) which includes both terrestrial and marine species and habitats of fauna and flora.

Exemptions granted to protection measures articles 12,18,23 c).Provide a list of exemptions to protection measures granted under the terms of articles 12, 18 a 23 c during the period under review. In each case, indicate briefly the reasons for the exemption: None

34. Implementation of the action plans adopted within the framework of MAP:
- *Action plan for the conservation of cetaceans in the Mediterranean sea*
Cetaceans are protected in Cyprus since 1971. In the period under review experiments with different kinds of acoustic pingers have been experimented with, to minimise damage to fishing nets and reduce reactions by fishermen. These studies are ongoing.
 - *Action plan for the management of the monk seal in the Mediterranean*
Ad hoc monitoring of sea caves took place. In addition in the framework of the MedMPA project for the development of protected areas in Cyprus, the current presence of Monk seal in Akamas was confirmed by marine scientists. Given the importance of the existence of a Cypriot population of this species for its survival in the region, monitoring of sea caves, with a training component, was requested from RAC/SPA for the Autumn 2005.
 - *Action plan for the conservation of sea turtles in the Mediterranean*
In the period under review the turtle conservation project was continued and training courses for UNEP/MAP (RAC/SPA) sponsored trainees were carried out by the DFMR in cooperation with the Cyprus Wildlife Society
 - *Action plan for the conservation of marine vegetation.*
Trawling was controlled in water deeper than 50m. As of November 2004 the VMS (Vessel Monitoring System) was implemented aiding the enforcement of the law. The use of the VMS was covered by amendments of the Fisheries Law and Regulations.
 - *Action plan for the conservation of cartilaginous fish (Chondrichthyans) in the Mediterranean sea:* This is under study at the present time
 - *Action plan concerning the introduction of species and invasive species in the Mediterranean sea:* All imports of aquatic species were controlled by the DFMR through its import licence legislation.

Describe the developments that occurred during the period under review in the implementation of action plans (in case of no action, please indicate the reasons for lack of action). See above

35. Implementation of other recommendations pertinent to the Contracting Parties
Briefly describe the implementation of other recommendations of the Contracting Parties relative to the Protocol.

IV. Brief description of all problems or constraints encountered in the application of the Protocol

No serious problems were faced

**National Report of Egypt For
The 7 meeting of The National Focal Point
RAC /SPA
Seville – Spain**

General information :

1-Country: **Egypt.**

2-Period cover of the report: 2003 – March 2005.

3-National body responsible for drawing up the report: Ministry of State for Environmental Affairs (MSEA) – Egyptian Environmental Affairs Agency (EEAA) – Nature Conservation Sector (NCS) .

4-National body and other organizations /or institutions that provided data for the establishment of the report : Egyptian Environmental Affairs Agency (EEAA) – Nature Conservation Sector (NCS) .

Address: 30 Misr Helwan El Zyrae – Maadi – Cairo , Egypt .

Telephone : 00202 5248792

Fax : 00202 5248792

E- mail : Foudamos@link.net

Hamiednature@hotmail.com

II .Legal and / or administrative measures :

6- Law 102 of 1983 for Protected Areas.(see attached)

Law 4 of 1994 for the Environment (article 28)

Law 53 of 1965 for Agriculture (article 17)

Law 124 of 1983 for fisheries

Prime Minister decree no 1429 of 1985 adjusted by Prime Ministerial Decree no 3379 of 1996 for Zaranik Protected Area(230km²)

Prime Minister decree no 1444 of 1998 for Lake Burullus Protected Area (460km²) .

Prime Minister decree no 671 of 1986 adjusted by Prime Ministerial Decree no 90 of 1996 for Omayed Protected Area 700 km²) .

International convention that Egypt signed and ratified :

Since 1936, Egypt has been party to a number of international and regional conventions concerning nature conservation and sustainable development . According to Article 151 of the “ Egyptian constitution “ any regional and international convention to which Egypt is a party becomes the law in the land of Egypt and takes precedence over Egyptian legislation . The most relevant of these are :

CBD

CMS

RAMSAR

AEWA

CITIES

7-To Establishment of marine and coastal specially protected areas(article5) :

Specific sites along the Mediterranean coast were selected to evaluate the state of environment and biodiversity .

Addition information were collected on endangered and threatened species ,this was followed by preparing a documents were submitted to the World Bank for funding , till now no action were taken .

Three coastal specially protected areas declared under law 102 / 1983 for Protected Areas they are :

a. Zaranik Protected Area : located at the eastern end of Lake Bardawil north Sinai, the area is shallow salt lagoon accommodate with halophytic vegetation Extensive mud flats and salt marches. Sand dunes dominate the landscape of the southern part. Zaranik is a bottleneck for migrating water birds. Every autumn hundreds of thousands of water birds passes through Zaranik, hunting is illegal and controlled by the staff rangers. Some 270 bird species have been reported in Zaranik

b. Lake Burullus: a large, shallow fresh to brackish coastal lagoon located between the two Nile branches forming Delta .The lake is separated from the sea by sand dune barrier with varies width, there are some 50 islands scattered throughout the lake, Burullus islet (Bughaz) located at the north east is the only direct connection with the Mediterranean. Salinity decreases towards the south and west as the distance from the islet (Bughaz). Fresh water reach the lake from six drains canal from the south. The north shores of the lake are dominated by salt marches and extensive reed swamps, which covered about 25% of the lake area, border mudflats while the southern shores. Lake Burullus is one of Egypt's most important wetland for wintering waterfowl.

c. Omayed : located at the eastern province of the north coast , 80 km west Alexandria . Six major habitats are found in Omayed : coastal sand dune , saline depressions , rocky ridge ,None saline depression

,inland plateau and salt marshes . The area supports maximum number of annual plant species ,About 170 plant species have been reported from Omayed .

d. Future plan for Protected Areas, Egypt included two coastal and marine protected areas:

e. El Qassr– north west coast of Egypt

f. El Salum – at the north west coast of Egypt (near the border with Libyan) .

8- **To provide protection (article 6) :**

a-Initiation and implementation of management plans for the three sites .

- Law enforcement (Law 102 /1983 and Law 4 /1994) .
- Training and capacity building of rangers .
- Local community involvement .
- In - Situ conservation measures (enclosures , hunting management) .
- Ex - Situ measures (captive breeding of Egyptian tortoise .
- Develop actions to conserve threatened and endangered species .
- Protection of the habitats on which the species depend.
- Controlled the introduction and spread of invasive species .
- Controlled the land use and recreational activities .

B &C -Law 102 of 1983 for Protected Areas, **Article (2)**

It is forbidden to polluting the soil, water, or air of the protected areas in any manner.

D Law 102 of 1983 for Protected Areas, **Article (2)**

It is forbidden to introducing foreign (non-indigenous) species of biota into the protected area;

E-Law 102 of 1983 for Protected Areas **Article (2)**

It is also forbidden to erect buildings and establishments, pave roads, drive vehicles, or undertake any agriculture, industrial, or commercial activities in the protected areas except with the permission of the concerned Administrative Body and restrictions specified by the Prime Ministerial Decree.

F- Law 102 of 1983 for Protected Areas :

Article (4)

- The Administrative Body will be responsible for the following functions:

* Preparation and execution of necessary studies and programs to enhance protectorates;

* Surveying and monitoring natural features and wildlife within the protectorates, and creating a registry of same;

* Managing and coordinating activities related to the protectorates;

G- Law 102 of 1983 for Protected Areas Article (2) and Article 28 of Law no 4 / 1994.

- It is forbidden to commit actions (deeds or activities or undertakings) which will lead to the destruction or deterioration of the natural environment or harm the biota (terrestrial, marine or fresh water), or which will detract from the esthetic (beauty) standards within protected areas.

- In particular, the following are forbidden:

* Catching transporting killing or disturbing wildlife;

* Damaging or removing any living organisms or natural features and resources, such as shells, corals, rocks, or soil for any purpose;

* Damaging or removing plants (from) the protected areas;

9-Concerning planning, management supervision and monitoring of the specially protected areas (article 7) :

Management plan for the three sites was carried out by MedwetCoast project (Zaranik , Burullus and Omayed).These management plans goals are :

- * Preparation and execution of necessary studies and programs to enhance protectorates .
- * Surveying and monitoring natural features and wildlife within the protectorates .
- * Managing and coordinating activities related to the protectorates.
- * Educating the public about the natural resources within protectorates, and the objectives and reasons for creating protectorates
- * Monitoring of water.
- * Encourage local community for participation in Protected Areas activities .
- * Exchanging information and experiences relevant to the protectorates and natural resources with other countries and international organizations .

10- **For the protection and conservation of species (article 11) :**

- New list of protected species Egypt under development and review .
- Hunting management system under development .
- Law enforcement confiscations of protected animals from markets .

11- **To regulate the introduction of non – indigenous or genetically modified species (article13):**

- Egypt ratified biosafety protocol of CBD and entered into force by march 2004 .

- A draft of national legislation for bio safety is being prepared by national experts under EEAA, NCS and will be under the consideration of general assembly for approval. This legislation will regulate the use of genetically modified species.

12- **To grant exemptions from protection measures (articles 12, 18) :**

There is no exemption .

III . Technical application of the protocol

13- **List the specially protected areas established under the terms of article 5.**

All these areas already part of the national network for protected areas Egypt and none was established at the period under review.

14- No.

15- No

16 –No .

17 - No new data.

18 - See attached list

19 – There is no exemption.

20-Implementation of the action plans adopted within the framework of MAP:

- Action plan for the conservation of cetaceans in the Mediterranean :

Till now very limited knowledge exist on cetaceans . No expertise available . Needs for research and training , prior action plan .

Suggest Accopamas be involved .

Monk seal : No recent record of Monk seal in Egypt coastal and marine areas

Sea turtle : Research program has been implemented recently in two important nesting sites in Egypt .

- Nesting areas are investigated.
- .Monitoring of turtles continues regularly .
- Implementation of public awareness programme for different target group (Stakeholder , fishermen schoolchildren)
- Apply law 102 for protected areas . Action plan for the conservation of marine vegetation :
- Information on marin vegetation were collected . Most of the studies concentrated around Alexandria , Matrouh . Information are bing stored to prepare national action plan .

Action plan for the conservation of bird species listed in Annex 2 of the protocol:

Bird species which occur though Egypt as a migrant and listed in Annex 2 of the protocol are protected by law .

Action plan for the conservation of cartilaginous fish :

- No action made yet , human, technical and financial are very limited .

Action plan concerning the introduction species in the Mediterranean :

- Establishment a core group for preparing an Egyptian strategy and action plan the invasive species, which is adopted with CBD clarifications .
- List of invasive species in Egypt is being prepared .
- Review the existing literature of invasive species with world situation of invasive species
- First invasive species workshop was held at Aim shams University last year to review the present situation of invasive species in Egypt . participants of the workshop included students, stockholders , NGO'S , and governmental institutions

Implementation of other recommendations pertinent to the contracting parties :

No recommendations .

IV .Brief description of all problems or constraints in the application of the protocol :

- Limited funding for management, research and monitoring in coastal and marine protected areas .
- Limited of basic knowledge on both physical and biological data of marine and coastal systems, including statistical information .
- Limited number of and marine taxonomist.
- Habitat destruction, fragmentation, erosion or disturbance .
- Gaps in knowledge, (scientific, technical, management) .
- Weakness in institutional and human capacity for implementing, monitoring, assessing and updating
- Weak participation, involvement of the general public and stakeholders
- Limited of incentives .
- Gaps and conflicts in legislation .
- Urban pollution: untreated sewage discharge (via rivers or outfalls), solid waste disposal (dumping) .
- Industrial pollution and heavy metals .
- Floating plastic objects and debris, affecting sea turtles and marine mammals.
- Excessive hunting of wetland and coastal birds can lead to decline their populations.
- Overgrazing of coastal areas can also result in the degradation of some important vegetation.

ANNEXES

ANNEX 1

Alphabetical list of the flora of Burullus Protected Area
Genera and species , Numbers of genera and species
representing each family are given in parentheses.

Aizoaceae (1/2)*Mesembryanthemum crystallinum* L., *Mesembryanthemum nodiflorum* L.,**Alliaceae (1/1)***Allium roseum* L.**Amaranthaceae (2/4)***Alternanthera sessilis* (L.) DC., *Amaranthus hybridus* L. ssp. *hybridus*, *A. lividus* L.,
A. viridis L.**Amaryllidaceae (1/1)***Pancratium maritimum* L.**Asclepiadaceae (1/1)***Cynanchum acutum* L.**Azollaceae (1/1)***Azolla filiculoides* Lam.**Boraginaceae (1/1)***Heliotropium curassavicum* L.**Caryophyllaceae (4/5)***Paronychia arabica* (L.) DC., *Silene succulenta* Forssk., *Silene villosa* Forssk., *Spergula fallax* (Lowe) Krause, *Spergularia marina* (L.)
Griseb.**Ceratophyllaceae (1/2)***Ceratophyllum demersum* L., *Ceratophyllum submersum* L.**Chenopodiaceae (11/21)***Agathophora alopecuroides* (Delile) Fenzl ex Bunge, *Arthrocnemum macrostachyum* (Moric.) K. Koch, *Atriplex canescens* (Pursh) Nutt.,
Atriplex halimus L., *Atriplex leucoclada* Boiss., *Atriplex nummularia* Lindl., *Atriplex portulacoides* L., *Bassia indica* (Wight) A.J. Scott, *Beta*
vulgaris L. ssp. *maritima* (L.) Archang., *Chenopodium album* L., *Chenopodium ambrosioides* L., *Chenopodium glaucum* L., *Chenopodium*
murale L., *Chenopodium opulifolium* Schrad. ex Koch et Ziz., *Cornulaca monacantha* Delile, *Halocnemum strobilaceum* (Pallas) M. Bieb.,
Salsola kali L., *Sarcocornia fruticosa* (L.) A.J. Scott, *Suaeda maritima* (L.) Dumort., *Suaeda pruinosa* Lange, *Suaeda vera* Forssk. ex J.F.
Gmel.**Compositae (nom. altern.: Asteraceae) (21/26)***Aster squamatus* (Spreng.) Hieron., *Calendula arvensis* L., *Carduus pycnocephalus* L., *Centaurea calcitrapa* L., *Centaurea pumilio* L.,
Chrysanthemum coronarium L., *Cichorium endivia* L. ssp. *pumilum* (Jacq.) Cout., *Conyza bonariensis* (L.) Cronquist, *Echinops*
spinosissimus Turra, *Eclipta alba* (L.) Hassk., *Filago desertorum* Pomel, *Gnaphalium luteo-album* L., *Ifigia spicata* (Forssk.) Sch.-Bip.,
Inula crithmoides L., *Launaea capitata* (Spreng.) Dandy, *Lanaea nudicaulis* (L.) Hook.f., *Pluchea dioscoridis* (L.) DC., *Reichardia tingitana*
(L.) Roth., *Senecio glaucus* L. ssp. *coronopifolius* (Maire) C. Alexander, *Senecio vulgaris* L., *Silybium marianum* (L.) Gaertn., *Sonchus*
asper (L.) Hill., *Sonchus macrocarpus* Boulos et C. Jeffrey, *Sonchus oleraceus* L., *Sphaeranthus suaveolens* (Forssk.) DC., *Urospermum*
picroides (L.) F.W. Schmidt**Convolvulaceae (3/4)***Convolvulus arvensis* L., *Convolvulus lanatus* Vahl, *Cressa cretica* L., *Ipomoea carnea* Jacq.,**Cruciferae (nom. altern. Brassicaceae) (10/12)***Brassica tournefortii* Gouan, *Brassica rapa* L., *Cakile maritima* Scop., *Coronopus didymus* (L.) Sm., *Coronopus squamatus* (Forssk.)
Aschers., *Eruca sativa* Mill., *Lobularia arabica* (Boiss.) Muschler, *Raphanus raphanistrum* L., *Rapistrum rugosum* (L.) All., *Rorippa palustris*
(L.) Besser, *Sinapis arvensis* L. ssp. *allionii* (Jacq.) Baillarg., *Sisymbrium irio* L.**Cynomoriaceae (1/1)***Cynomorium coccineum* L.**Cyperaceae (3/10)***Carex divisa* Huds., *Cyperus alopecuroides* Rottb., *Cyperus articulatus* L., *Cyperus capitatus* Vand., *Cyperus difformis* L., *Cyperus*
laevigatus L., *Cyperus rotundus* L., *Scirpus holoschoenus* L., *Scirpus litoralis* Schrad., *Scirpus maritimus* L.**Euphorbiaceae (2/2)***Euphorbia pepelis* L., *Ricinus communis* L.**Frankeniaceae (1/2)***Frankenia revoluta* Forssk., *Frankenia pulverulenta* L.**Geraniaceae (1/1)***Erodium laciniatum* (Cav.) Willd.**Gramineae (nom. altern. Poaceae) (24/35)***Aeluropus lagopoides* (L.) Trin. Ex Thwaites, *Aeluropus littoralis* (Gouan.) Parl., *Avena fatua* L., *Bromus catharticus* Vahl, *Cutandia*
dichotoma (Forssk.) Trab., *Cutandia memphetica* (Spreng.) K. Richt., *Cynodon dactylon* (L.) Pers., *Echinochloa colona* (L.) Link,
Echinochloa crus-galli (L.) P. Beauv., *Echinochloa stagnina* (Retz.) P. Beauv., *Elymus farctus* (Viv.) Runemark ex Melderis, *Hordeum*
murinum L. ssp. *leporinum* (Link) Archang., *Hordeum marinum* Huds., *Imperata cylindrica* (L.) Raeusch., *Lolium multiflorum* Lam., *Lolium*
perenne L., *Lolium temulentum* L., *Panicum turgidum* Forssk., *Parapholis incurva* (L.) C.E. Hubb., *Parapholis marginata* Runemark,
Paspalum geminatum (Forssk.) Stapf, *Paspalum distichum* L., *Phalaris minor* Retz, *Phalaris paradoxa* L., *Phragmites australis* (Cav.)
Trin. Ex Steud., *Poa annua* L., *Polypogon monspeliensis* (L.) Desf., *Polypogon viridis* (Gouan) Breistr., *Saccharum spontaneum* L.,
Schismus barbatus (L.) Thell., *Setaria verticillata* (L.) Beauv., *Setaria viridis* (L.) Beauv., *Sphenopus divaricatus* (Gouan) Reichenb.,
Sporobolus pungens (Schreb.) Kunth, *Vossia cuspidata* (Roxb.) Griff.**Hydrocharitaceae (1/2)**

Najas marina L. ssp. *armata* (H. Lindb.) Horn., *Najas minor* All.

Juncaceae (1/4)

Juncus acutus L., *Juncus bufonius* L., *Juncus rigidus* Desf., *Juncus subulatus* Forssk.

Labiatae (nom. altern. Lamiaceae) (1/1)

Mentha longifolia (L.) Huds.

Leguminosae (nom. altern. Fabaceae) (9/14)

Alhagi graecorum Boiss., *Astragalus boeticus* L., *Astragalus peregrinus* Vahl, *Lathyrus marmoratus* Boiss. et Bl., *Lotus arabicus* L., *Lotus halophilus* Boiss. et Spruner, *Medicago intertexta* (L.) Mill. var. *ciliaris* (L.) Heyn, *Medicago polymorpha* L., *Melilotus indicus* (L.) All., *Trifolium alexandrinum* L., *Trifolium resupinatum* L., *Trigonella laciniata* L., *Trigonella stellata* Forssk., *Vigna luteola* (Jacq.) Benth.

Lemnaceae (2/3)

Lemna gibba L., *Lemna perpusilla* Torrey, *Pseudowolffia hyalina* (Delile) Hartog et Pals.

Liliaceae (2/2)

Asparagus stipularis Forssk., *Urginea undulata* (Desf.) Steinh.

Malvaceae (2/2)

Malva parviflora L., *Sida alba* L.

Onagraceae (1/1)

Ludwigia stolonifera (Guill. Et Perr.) P.H. Raven

Orobanchaceae (2/4)

Cistanche phelypaea (L.) Cout., *Orobanche cernua* Loefl., *Orobanche crenata* Forssk., *Orobanche ramosa* L. var. *schweinfurthii* (Beck) Hadidy

Palmae (nom. altern. Arecaceae) (1/1)

Phoenix dactylifera L.

Plantaginaceae (1/1)

Plantago major L.

Plumbaginaceae (2/2)

Limonium monopetalum (L.) Boiss., *Limonium pruinosum* (L.) Chaz.

Polygonaceae (4/6)

Emex spinosa (L.) Campd., *Persicaria salicifolia* (Willd.) Assenov, *Persicaria senegalensis* (Meisn.) Sojak, *Polygonum equisetiforme* Sibth. Et Sm., *Rumex dentatus* L., *Rumex pictus* Forssk.

Pontederiaceae (1/1)

Eichhornia crassipes (Mart.) Solms-Laub.

Portulacaceae (1/1)

Portulaca oleracea L.

Potamogetonaceae (2/2)

Potamogeton crispus L., *Potamogeton pectinatus* L.

Primulaceae (1/1)

Anagallis arvensis L.

Ranunculaceae (2/3)

Adonis dentata Delile, *Ranunculus marginatus* d'Urv., *Ranunculus sceleratus* L.

Salicaceae (1/1)

Salix tetrasperma Roxb.

Solanaceae (1/1)

Lycium scheinfurthii Dammer

Tamaricaceae (1/3)

Tamarix aphylla (L.) Karst., *Tamarix nilotica* (Ehrenb.) Bunge, *Tamarix tetragyna* Ehrenb.

Typhaceae (1/1)

Typha domingensis (Pers.) Poir. Ex Steud.

Umbelliferae (nom. altern. Apiaceae) (3/3)

Ammi visnaga (L.) Lam., *Anethum graveolens* L., *Coriandrum sativum* L.

Verbenaceae (2/2)

Clerodendrum acerbianum (Vis.) Benth. et Hook.f., *Phyla nodiflora* (L.) Greene

Zygophyllaceae (2/2)

Fagonia arabica L., *Zygophyllum album* L.f. ssp. *album*

ANNEX 2
Species composition of phytoplankton of Lake Burullus
Number of genera/number of
species representing each group are given after its name

I. Bacillariophyceae (diatoms): 35/108

<i>Acnantes brevipes</i> Agardh
<i>Amphiphora surireoides</i> Henedy
<i>Amphiphora paludosa</i> Sm.
<i>Amphora coffeaeformis</i> (Agardh) Kützing
<i>Amphora ovalis</i> Kützing
<i>Amphora venata</i> Kützing
<i>Asterionella japonica</i> Cleve
<i>Aulocoseira ambigua</i> (Grunow) Simonsen
<i>Aulocoseira distans</i> (Ehrenberg) Simonsen
<i>Aulocoseira granulata</i> (Ehrenberg) Simonsen
<i>Aulocoseira granulata</i> var. <i>angustissima</i> Sim.
<i>Aulocoseira islandica</i> Simonsen
<i>Aulocoseira italica</i> (Ehrenberg) Simonsen
<i>Bacillaria paradoxa</i> Gmelin
<i>Biddulphia laevis</i> Ehrenberg
<i>Caloneis bacillum</i> (Grunow) Cleve
<i>Campylodiscus clypeus</i> Ehrenberg
<i>Campylodiscus echeneis</i> Ehrenberg
<i>Campylodiscus placentula</i> Ehrenberg
<i>Campylodiscus placentula</i> var. <i>euglypta</i> Ehrenberg
<i>Cocconeis placentula</i> Ehrenberg
<i>Cyclotella kützingiana</i> Thwaites
<i>Cyclotella meneghiniana</i> Kützing
<i>Cymatopura solea</i> (Brebisson) W.Smith
<i>Cymbella affinis</i> Kirtx
<i>Cymbella minuta</i> Hilse
<i>Cymbella silesiaca</i> Bleisch
<i>Cymbella turgida</i> Gregory
<i>Diploneis elliptica</i> (Kützing) Cleve
<i>Diploneis didyma</i> Ehrenberg
<i>Epithemia smithii</i> Carruthers
<i>Epithemia sores</i> Kützing
<i>Epithemia turgida</i> (Ehrenberg) Kützing
<i>Epithemia zebra</i> (Ehrenberg) Kützing
<i>Eutonia</i> sp.
<i>Fragilaria brevistriata</i> Grunow
<i>Fragilaria construens</i>
<i>Fragilaria pinnata</i> Ehrenberg
<i>Gomphonema clevei</i> Fricke
<i>Gomphonema gracilis</i> Ehrenberg
<i>Gomphonema lanceolata</i> Ehrenberg
<i>Gomphonema parvulum</i> Kützing
<i>Gomphonema truncatum</i> Ehrenberg
<i>Gomphonema subclavatum</i> Grunow
<i>Gomphonema olivaceum</i> Kützing
<i>Gomphonema constrictum</i> Ehrenberg
<i>Gomphonema interactum</i> Kützing
<i>Gyrosigma attenuatum</i> Kützing
<i>Mastigolia braunii</i> Grunow
<i>Mastigolia elliptica</i> Cleve
<i>Mastigolia smithii</i> Thwaites
<i>Melosira granulata</i> Ehrenberg
<i>Melosira varians</i> Agardh
<i>Navicula atomus</i> Kützing
<i>Navicula cincta</i> Ehrenberg
<i>Navicula cocconeiformis</i> Gregory
<i>Navicula cryptocephala</i> Kützing
<i>Navicula cuspidata</i> Kützing
<i>Navicula decussis</i> Ostrup
<i>Navicula digitoradiata</i> Gregory
<i>Navicula gastrum</i> Ehrenberg
<i>Navicula humerosa</i> Breb.
<i>Navicula pupula</i> Kützing
<i>Navicula radiosa</i> Kützing
<i>Navicula spicula</i> Cleve
<i>Navicula schizonemoides</i> Heruck
<i>Navicula yarrensensis</i> Grunow
<i>Nitzschia angusta</i> Grunow
<i>Nitzschia apiculata</i> Grunow
<i>Nitzschia frustulum</i> (Kützing) Grunow
<i>Nitzschia granulata</i> Grunow

<i>Nitzschia levidensis</i> var. <i>salinarum</i> Grunow
<i>Nitzschia microcephala</i> Grunow
<i>Nitzschia obtusa</i> W. Smith
<i>Nitzschia palea</i> (Kützing) W. Smith
<i>Nitzschia panduriformis</i> Gregory
<i>Nitzschia perminuta</i> (Grunow) Peragallo
<i>Nitzschia scalaris</i> (Ehrenberg) W. Smith
<i>Nitzschia sigma</i> (Kützing) W. Smith
<i>Nitzschia longissima</i> (Breb.) Ralfs
<i>Nitzschia closterium</i> Smith
<i>Nitzschia punctata</i> (Smith) Grunow
<i>Nitzschia amphibia</i> Grunow
<i>Nitzschia acuminata</i> W. Smith
<i>Nitzschia reversa</i> W. Smith
<i>Pinnularia acrosphaeria</i> Rabenhorst
<i>Pinnularia maior</i> (Kützing) Rabenhorst
<i>Pinnularia microsauron</i> var. <i>brebissonii</i> Mayer
<i>Plagiogramma interruptum</i> (Gregory) Ralfs
<i>Pleurosigma angulatum</i> Quekett
<i>Pleurosigma salinarum</i> Grunow
<i>Pleurosigma elongatum</i> Smith
<i>Pleurosigma macrum</i> W. Smith
<i>Podosira montagnei</i> Kützing
<i>Rhoicosphenia curvata</i> (Kützing) Grunow
<i>Rhopalodia acuminata</i> Kramer
<i>Rhopalodia gibba</i> (Ehrenberg) O. Müller
<i>Rhopalodia gibba</i> var. <i>ventricosa</i> (Kützing) Grunow
<i>Rhopalodia rhopala</i> (Ehrenberg) Hustedt
<i>Rhopalodia gibberula</i> (Ehrenberg) O. Müller
<i>Stauroneis anceps</i> Ehrenberg
<i>Stauroneis smithii</i> Grunow
<i>Stephanodiscus minutulus</i> (Kützing) Cleve
<i>Surirella striatula</i> Turpin
<i>Synedra nana</i> Meister
<i>Synedra tabulata</i> (Agardh) Kützing
<i>Synedra ulna</i> (Nitzsch) Ehrenberg
<i>Synedra longissima</i> W. Smith
<i>Thalassiosira rotula</i> Meun.
<i>Thalassiosira</i> sp.
<i>Tabellaria flocculosa</i> .

II. Chlorophyta (green algae): 33/52

<i>Actinastrum hantzschii</i> Lagerh.
<i>Ankistrodesmus falcatus</i> var. <i>mirabile</i> W. et G.S. West
<i>Ankistrodesmus falcatus</i> var. <i>spirilliformis</i> G.S. West
<i>Ankistrodesmus falcatus</i> var. <i>acicularis</i> (A. Braun) G.S. West
<i>Ankistrodesmus setigerus</i> (Schrad.) G.S. West
<i>Botryococcus braunii</i>
<i>Carteria cordiforme</i> (Turn.) Breb.
<i>Chlorella</i> sp.
<i>Chlamydocapsa planctonica</i>
<i>Chlamydomonas reinhardtii</i> Dang.
<i>Chlodatella subsala</i>
<i>Closterium parvulum</i> var. <i>angustum</i> W. et G.S. West
<i>Coenococcus planctonicus</i>
<i>Cosmarium sublatera-undulatum</i> W. et G.S. West
<i>Cosmarium galeatum</i> W. et G.S. West
<i>Cosmarium elgungii</i> Racib.
<i>Cosmarium subtunidum</i> Nordst.
<i>Cosmarium subcrenatum</i> Hanzach
<i>Cruigenia maritima</i>
<i>Cruigenia tetrapedia</i> (Kirchn.) W. et G.S. West
<i>Cruigenia quadrata</i> Morren
<i>Dictyosphaerium pulchellum</i> Wood
<i>Elakatothrix biplex</i>
<i>Eudorina</i> sp.
<i>Francia droecher</i> G.M. Smith
<i>Geminella minor</i> (Nag.) Hansg.
<i>Golenkia radiata</i> Chodat
<i>Kirechneriella lunaris</i> (Kirchn.) Moebius
<i>Kirechneriella microscopica</i>
<i>Monoraphidium capriornutum</i>
<i>Nephrocytium limneticum</i> G.M. Smith
<i>Oedogonium</i> sp.
<i>Oocytis</i> sp.

<i>Oocytis borgei</i> Snow
<i>Pandorina morum</i> (Mill.) Bory
<i>Pediastrum duplex</i> Meyen
<i>Pediastrum simplex</i> Meyen
<i>Pediastrum tetras</i> (Her.) Ralfs
<i>Pediastrum boryanum</i> (Turp.) Menegh.
<i>Pseudosphaerocystis lacustris</i>
<i>Phacotus lenticularis</i>
<i>Scenedesmus spinosus</i>
<i>Scenedesmus bijugatus</i> (Turp.) Kützing
<i>Scenedesmus bijugatus</i> var. <i>alternans</i> Hansg.
<i>Scenedesmus quadricauda</i> (Turp.) Breb.
<i>Scenedesmus diagonalis</i> S. Fang
<i>Scenedesmus opliensis</i> Rich.
<i>Scenedesmus acuminatus</i> (Lagerh.) Chodat
<i>Scenedesmus armatus</i> (Chodat) G.M. Smith
<i>Selenastrum gracile</i> Reinsch.
<i>Spirogyra hassalli</i> (Denner) Petit
<i>Sphaerocystis schroeteri</i> Chodat
<i>Tetraedron minimum</i> (A. Braun) Hansg.
<i>Tetraedron proteiforme</i> (Turn.) Brunnthaler
<i>Westella botryoides</i> .

III. Cyanophyceae (blue-green algae): 19/31

Anabaena sp., *Anabaenopsis circularia* (G.S. West) Wol. Et Miller, *Aphanotheca* sp., *Aphanocapsa pulchra* (Kützing) Rabenhorst, *Aphanizomenon* sp., *Aulosira laxa*, *Chroococcus limneticus*, *Chroococcus turgidus*, *Chroococcus dispersus* (Reissl.) Lemn., *Chroococcus tenuis* Agardh, *Coelosphaerium confervis* W. et G.S. West, *Dactylococcopsis irregularis* G.M. Smith, *Gleocapsa* sp., *Isocystis* sp., *Lyngbya limnetica* Lemn., *Lyngbya* sp., *Merismopedia punctata* Meyen, *Merismopedia minima*, *Merismopedia tenuissima*, *Microcystis aeruginosa* Kützing, *Nostoc microscopicum*, *Nostoc ellipsosporum*, *Nostoc verrucosum*, *Oscillatoria limnetica*, *Oscillatoria formosa*, *Oscillatoria agardhii*, *Oscillatoria lacustris* (Kleb.) Geitl., *Oscillatoria principis* Vaucher, *Phormidium limnosum*, *Plectonema* sp., *Spirulina* sp.

ANNEX 3
Inventory of species of Zooplankton in Lake Burullus
numbers of genera and species
Representing each group are given in parentheses

I. Rotifera (19/34)

<i>Anuraeopsis fissa</i> Gosse
<i>Brachionus angularis</i> Gosse
<i>Brachionus budapestensis</i> Daday
<i>Brachionus calyciflorus</i> Pallas
<i>Brachionus caudatus</i> (Barrois & Daday)
<i>Brachionus quadridentatus</i> Hermann
<i>Brachionus plicatilis</i> (Muller)
<i>Brachionus rubens</i> Her.
<i>Brachionus urceolaria</i> (Muller)
<i>Cephalodella gibba</i> Her.
<i>Colurella adriatica</i> Carlin
<i>Filinia longiseta</i> Her.
<i>Harringia rouseleti</i> Beauchamp
<i>Hexarthra mira</i> Hudson
<i>Keratella cochlearis</i> Gosse
<i>Keratella quadrata</i> Muller
<i>Keratella tropica</i> Apstein
<i>Keratella valga</i> Her.
<i>Lecane bulla</i> Gosse
<i>Lecane luna</i> Muller
<i>Macrochautus nearsubquadratus</i> Petry
<i>Polyarthra vulgaris</i> Carlin
<i>Polyarthra ramata</i> Skor.
<i>Philodina roseola</i> Ehr.
<i>Rotatoria</i> sp.
<i>Synchaeta pectinata</i> Her.
<i>Synchaeta oblonga</i> Her.
<i>Trichocerca cylindrica</i> Imhof
<i>Trichocerca elongata</i> Gosse
<i>Trichocerca pusilla</i> Jennings
<i>Trichocerca gracilis</i> Tessin
<i>Proalidis</i> sp.
<i>Asplachna girodi</i> De Guerne
<i>Asplachna seiboldi</i> Leydig
<i>Testudinella patina</i> Hermann.

II. Copepoda (6/9)

<i>Macrocyclus albidus</i>
<i>Acanthocyclops americanus</i> March.
<i>Thermocyclops neglectus</i> Sars.
<i>Thermocyclops decipinis</i> Kieker
<i>Apocyclops panamensis</i> March
<i>Nitocra lacustris</i> Schmank.
<i>Schizopera nilotica</i>
Nauplius larvae
Copepodid stages.

III. Cladocera (7/7)

<i>Bosmina longirostris</i> Muller
<i>Chydorus sphaericus</i> Muller
<i>Diaphanosoma brachynurum</i> Lieven
<i>Diaphanosoma excisum</i> Sars
<i>Macrothrix rosea</i> Jurine
<i>Macrothrix laticornis</i> Jurine
<i>Moina micrura</i> Kurz
<i>Oxyurella longicaudis</i> Birge
<i>Daphnia similis</i> Claus
<i>Ilyocryptus agilis</i> Kurz.

ANNEX 4

Systematic enumeration of insects collected from Burullus Protected Area and their habitat types. I = islets; S = Lake shores; W = Lake water. Rare species are asterisked.

Orders	Families	Species	Habitat	
1. Odonata (Damsel and dragon flies)	Aeschnidae	<i>Hemianax ephippiger</i>	I,S	
		<i>Anax</i> sp.*	I,S	
		<i>Aeschna</i> sp.*	I,S	
	Cordullidae	<i>Maromia</i> sp.*	I,S	
		Libellulidae	<i>Libellula pulchella</i> *	I,S
	<i>Libellula plathemis</i> *		I,S	
	<i>Orthetrum chrysostigma</i>		I,S	
	<i>Crocothemis erythraea</i>		I,S	
Agriionidae	<i>Ischnura senegalensis</i>	I,S		
2. Thysanoptera (Thrips)	Phlaeothripidae	<i>Haplothrips cottei</i>	S	
	Thripidae	<i>Limothrips cerealium</i>	S	
3. Plecoptera (Stoneflies)	Isoperlidae	<i>Perla maxima</i>	I,S	
		<i>Isoperla confusa</i> *	S	
4. Phemeroptera	Ephemeridae	<i>Polymitarcys savignii</i>	I,S	
5. Collembola (Springtails)	Poduridae	<i>Lepidocyrtinus insertus</i>	I,S	
	Sphearidae	<i>Sphearida</i> sp.	I,S	
	Onychiuridae	<i>Onychiurus</i> sp.	I,S	
	Tulbergidae	<i>Tulbergi</i> sp.	I,S	
	Folsomidae	<i>Folsomides</i> sp.	I,S	
	Freiseoidae	<i>Freisea</i> sp.	I,S	
	Hypogastridae	<i>Hypogasterura</i> sp.	I,S	
	Isotomidae	<i>Isotomodes</i> sp.*	I,S	
	Entombyridae	<i>Entombyra</i> sp.	I,S	
	6. Hemiptera	Pentatomidae	<i>Nezara viridula</i>	I,S
Anthocoridae		<i>Orius</i> spp.	S	
		Belostomatidae	<i>Lethocerus niloticus</i>	W
			<i>Bencus griseus</i> *	W
			<i>Sphaerodema urinator</i> *	W
<i>Limnogeton fiebeni</i> *			W	
Nepidae		<i>Ranatra vicina</i> *	W	
Notonectidae		<i>Notonecta</i> sp.*	W	
Corixidae		<i>Sigara selecta</i> *	W	
7. Homoptera Aphididae		Aphididae	<i>Aphis</i> spp.	W
	Aleyrodidae	<i>Bemisia labaci</i>	S	
	Jassidae	<i>Empoasca</i> sp.	I,S	
8. Neuroptera (Lacewigs)	Myrmelionidae	<i>Cueta</i> sp.	I,S	
	Chrysopidae	<i>Chrysoperla</i> sp.	S	
9. Dermaptera (Earwigs)	Labiduridae	<i>Labidura riparia</i>	S	
		<i>Euborellia annulipes</i> *	I,S	
10. Orthoptera	Forficulidae	<i>Diaperasticus erythrocephalus</i> *	I,S	
	Tettigoniidae	<i>Conocephalus mandibularis</i>	I,S	
	Gryllidae	<i>Liogryllus bimaculatus</i>	I,S	
Orders	Families	Species	Habitat	
10- Orthoptera	Gryllidae	<i>Gryllus domestica</i>	S	
		Acridiidae	<i>Locusta migratoria</i>	S
	<i>Anacridium aegyptium</i>		I,S	
	<i>Euprepocnemis plorans</i>		I,S	
	<i>Thisoicetrus littoralis</i>		I,S	
	<i>Aiolopus strepens</i>		I,S	
	<i>Acrotylus insubricus</i>		I,S	
	Gryllotalpidae		<i>Gryllotalpa gryllotalpa</i>	I,S
		<i>G. gryllotalpa</i> var. <i>cophta</i>	S	
		<i>Gryllotalpa africana</i>	S	
	11- Trichoptera	Polycentropidae	<i>Dipseudopsis</i> sp.*	S
	12- Dictyoptera	Mantidae	<i>Sphodromantis bioculata</i>	S
			<i>Mantis religiosa</i>	I,S
<i>Calidomantis savignyi</i>			I,S	
13-Diptera	Muscidae	<i>Musca</i> spp.	I,S	
		<i>Stomoxys calcitrans</i>	I,S	
	Tabanidae	<i>Tabanus</i> sp.	I,S	
	Chironomidae	<i>Chironomus</i> sp.	I,S	
	Culicidae	<i>Culex pipiens</i>	I,S	
		<i>Anopheles</i> sp.	I,S	
		<i>Aedes</i> sp.	I,S	
	Ephedridae	<i>Ephedra riparia</i>	I,S	
	Tachinidae	<i>Tachina</i> sp.	W	
	Sarcophagidae	<i>Sarcophaga</i> sp.	S	
Syrphidae	<i>Syrphus</i> sp.	S		

	Calliphoridae	<i>Lucilia sericata</i>	I
		<i>Calliphora erythrocephala</i> *	I,S
14. Hymenoptera	Formicidae	<i>Monomorium pharaonis</i>	I,S
		<i>Componotus maculatus</i>	S
		<i>Cataglyphus bicolor</i>	S
		<i>Vespa orientalis</i> *	S
	Vespidae	<i>Polistes gallica</i>	S
15. Coleoptera	Dytiscidae	<i>Cybister tripunctatus</i>	W
	Carabidae	<i>Calosoma</i> sp.	S
	Scarabaeidae	<i>Pentodon</i> sp.	S
	Dermestidae	<i>Dermestes</i> sp.	I
	Staphylinidae	<i>Paederus alfieri</i>	I,S
	Coccinellidae	<i>Coccinella undecimpunctata</i>	I,S
		<i>Coccinella septempunctata</i>	S
		<i>Scymnus</i> sp.	S
		<i>Cydania vicina nilotica</i>	S
		<i>Cydania vicina isis</i>	S
Hydrophilidae	<i>Rhanatus</i> sp.*	W	
16. Lepidoptera	Nymphalidae	<i>Vanessa</i> spp.	S
Orders	Families	Species	Habitat
16. Lepidoptera	Pieridae	<i>Pieris rapae</i>	S
	Hesperiidae	<i>Pelopidas thrax</i>	I,S
		<i>Pelopidas borbanica</i>	I,S
	Hesperiidae	<i>Gegenus notrodames</i>	S
	Pyralidae	<i>Chilo</i> sp.	I,S
	Noctuidae	<i>Diatraea saccharalis</i>	S
		<i>Sesamia wiltshieri</i>	I,S
		<i>Agrotis</i> sp.*	S
Total: 16 orders	59 families	94 species	

ANNEX 5.
Systematic list of fish species in Lake Burullus
with their habitat types.

Family	Species	Habitat
Characidae	<i>Hydrocynus forskalii</i> (Cuvier, 1819)	Fresh
Cyprinidae	<i>Labeo niloticus</i> (Forsk., 1775)	Fresh
	<i>Barbus bynni</i> (Forsk., 1775)	Fresh
	<i>Barbus perince</i> (Ruppel, 1837)	Fresh
Siluridae	<i>Clarias gariepinus</i> (Burchell, 1822)	Fresh
	<i>Bagrus bajad</i> (Forsk., 1775)	Fresh
Anguillidae	<i>Anguilla anguilla</i> (Linnaeus, 1758)	Fresh/Saline
Cyprinodontidae	<i>Aphanius fasciatus</i> (Valenciennes, 1821)	Brackish/Saline
Poeciliidae	<i>Gambusia affinis</i> (Baird & Girard, 1853)	Brackish
Atherinidae	<i>Atherina mochon</i> Cuvier, 1829	Brackish
Mugilidae	<i>Mugil cephalus</i> Linnaeus, 1758	Fresh/Saline
	<i>Liza ramada</i> (Risso, 1826)	Fresh/Saline
	<i>Liza saliens</i> (Risso, 1810)	Saline
Serranidae	<i>Lates niloticus</i> (Linnaeus, 1762)	Fresh
	<i>Dicentrarchus labrax</i> (Linnaeus, 1758)	Saline
	<i>Dicentrarchus punctatus</i> (Bloch, 1792)	Saline
Cichlidae	<i>Hemichromis bimaculatus</i> Gill, 1862	Fresh
	<i>Haplochromis bloyeti</i> (Sauvage, 1883)	Fresh
	<i>Tilapia zillii</i> (Gervais, 1848)	Fresh/Saline
	<i>Oreochromis niloticus niloticus</i> (Linn., 1757)	Fresh
	<i>Oreochromis aureus</i> (Steindachner, 1864)	Fresh
	<i>Sarotherodon galileus</i> (Artedi, 1757)	Fresh
Sparidae	<i>Sparus aurata</i> Linnaeus, 1758	Saline
Sciaenidae	<i>Johnius hololepidotus</i> (Lacepede, 1803)	Saline
Soleidae	<i>Solea solea</i> (Linnaeus, 1758)	Saline

ANNEX 6
Reptile and Amphibian species recorded from Burullus
Protected Area

Latin name	English name	Abundance
<i>Bufo viridis</i>	Green Toad	Uncommon
<i>Bufo regularis</i>	Egyptian Toad	Abundant
<i>Bufo kassasii</i> *	Nile Valley Toad	Uncommon
<i>Rana bedriagae</i>	Levantine Frog	Common
<i>Ptychadena mascareniensis</i>	Mascarene Frog	Common
<i>Hemidactylus turcicus</i>	Turkish Gecko	Common
<i>Chamaeleo africanus</i>	African Chameleon	Uncommon
<i>Chamaeleo chamaeleon</i>	Common Chmaeleon	Uncommon
<i>Acanthodactylus boskianus</i>	Bosc's Fringe-toed Lizard	Uncommon
<i>Acanthodactylus scutellatus</i>	Nidua Fringe-toed Lizard	Uncommon
<i>Mabuya quinquetaeniata</i>	Bean Skink	Common
<i>Mabuya vittata</i>	Brideled Skink	Uncommon
<i>Chalcides ocellatus</i>	Ocellated Skink	Common
<i>Sphenops sepsoides</i> **	Audouin's Skink	Rare
<i>Malpolon monspessulanus</i>	Montpellier Snake	Uncommon
<i>Natrix tesellatus</i>	Diced Water Snake	Uncommon
<i>Eryx jaculus</i> **	Javelin Sand Boa	Rare
<i>Psammophis sibilans</i>	African Beauty Snake	Uncommon
<i>Coluber florulentus</i>	Flowered Snake	Uncommon
<i>Naja haje</i>	Egyptian Cobra	Uncommon
<i>Caretta caretta</i> ***	Loggerhead Turtle	Rare
<i>Chelonia mydas</i> ***	Green Turtle	Rare

* = species endemic to Egypt

** = locally threatened species

*** = globally threatened species.

ANNEX 7

Species of birds recorded in Burullus Protected Area with the number of birds observed (N.Bur.) compared to that recorded in N. Africa (N.N.Afr.); * = breeding; *** = globally threatened

Scientific name	English name	N.Bur.	N.N.Afr.
<i>Chlidonias leucoptera</i>	White-winged Black Tern	5220	225,000
<i>Sterna hirundo hirundo</i>	Common Tern	236	0
<i>Hirundo rustica rustica</i>	Swallow	1104	0
<i>Ceryle rudis rudis</i>	Pied Kingfisher	965	0
<i>Egretta garzetta garzetta</i>	Little Egret	519	125,000
<i>Gallinula chloropus chloropus</i> *	Moorhen	27	0
<i>Hoplopterus spinosus</i> *	Spur-winged Plover	126	10,000
<i>Sterna albifrons albifrons</i>	Little Tern	3427	60,000
<i>Falco tinnunculus tinnunculus</i>	Kestrel	325	0
<i>Ardeola ralloides</i>	Squacco Heron	289	0
<i>Circus pygargus</i>	Montagu's Harrier	1	0
<i>Streptopelia senegalensis</i>	Laughing Dove	42	0
<i>Philomachus pugnax</i>	Ruff	3	77,000
<i>Centropus senegalensis aegyptius</i>	Senegal Coucal	23	0
<i>Merops orientalis cleopatra</i>	Little Green Bee-eater	15	0
<i>Elanus caeruleus caeruleus</i>	Black-shouldered Kite	5	0
<i>Riparia riparia riparia</i>	Sand Martin	50	0
<i>Galerida cristata nigricans</i>	Crested Lark	4	0
<i>Calidris alpina alpina</i>	Dunlin	62	150,000
<i>Corvus corone cornix</i>	Hooded Crow	13	0
<i>Scotocerca inquieta inquieta</i>	Scrub Warbler	18	0
<i>Lanius collurio collurio</i>	Red-backed Shrike	2	0
<i>Cuculus canorus canorus</i>	Cuckoo	2	0
<i>Alcedo atthis atthis</i>	Common Kingfisher	15	0
<i>Larus ridibundus</i>	Black-headed Gull	1	0
<i>Larus fuscus fuscus</i>	Lesser Black-backed Gull	16	0
<i>Upupa epops epops</i>	Hoopoe (European form)	4	0
<i>Motacilla flava flavissima</i>	Yellow Wagtail	10	0
<i>Nycticorax nycticorax nycticorax</i>	Night Heron	13	0
<i>Anas querquedula</i>	Garganey	177	200,000
<i>Porphyrio porphyrio madagascariensis</i> *	Purple Gallinule	7	0
<i>Tachybaptus ruficollis ruficollis</i> *	Little Grebe	14	0
<i>Fulica atra atra</i>	Coot	5	2,500,000
<i>Emberiza calandra calandra</i>	Corn Bunting	24	0
<i>Bubulcus ibis ibis</i>	Cattle Egret	312	0
<i>Streptopelia decaocto decaocto</i>	Collared Dove	4	0
<i>Athene noctua glaux</i>	Little Owl	3	0
<i>Limosa lapponica lapponica</i>	Bar-tailed Godwit	1	100,000
<i>Calidris minuta</i>	Little Stint	130	1,000,000
<i>Tringa nebularia</i>	Greenshank	1	28,000
<i>Larus genei</i>	Slender-billed Gull	131	60,000
<i>Ardea cinerea</i>	Grey Heron	40	450,000
<i>Motacilla cinerea cinerea</i>	Grey Wagtail	6	0
<i>Recurvirostra avocetta</i>	Pied Avocet	1	0
<i>Lymnocyptes minimus</i>	Jack Snipe	2	0
<i>Anas clypeata</i>	Shoveler		
<i>Larus argentatus cachinnans</i>	Herring Gull	8	0
<i>Charadrius hiaticula tundrae</i>	Ringed Plover	120	200,000
<i>Charadrius leschenaultii</i>	Greater Sand Plover	10	0
<i>Ixobrychus minutus minutus</i> *	Little Bittern	15	70,000
<i>Tringa totanus totanus</i>	Redshank	144	55,000
<i>Charadrius alexandrinus alexandrinus</i> *	Kentish Plover	10	0
<i>Emberiza schoeniclus intermedia</i>	Reed Warbler	4	0

List of 94 bird species recorded in Lake Burullus

Scientific name	English name	Endem.	Status in Burullus
<i>Gavia arctica arctica</i>	Black-throated Diver		AcV
<i>Tachybaptus ruficollis capensis</i>	Little Grebe		CRe
<i>Podiceps cristatus cristatus</i>	Great Crested Grebe		CWV
<i>Podiceps nigricollis nigricollis</i>	Black-necked Grebe		CWV
<i>Phalacrocorax carbo sinensis</i>	Cormorant		CP, CWV
<i>Ardea cinerea cinerea</i>	Grey Heron		CWV
<i>Ardeola ralloides</i>	Squacco Heron		CP, ScWV
<i>Ixobrychus minutus minutus</i>	Little Bittern		CRe
<i>Egretta alba alba</i>	Great White Egret		ScP, CWV
<i>Egretta ibis ibis</i>	Cattle Egret		CRe
<i>Egretta garzetta garzetta</i>	Little Egret		CP, CWV, RRe
<i>Phoenicopterus ruber roseus</i>	Greater Flamingo		CP, CWV, FB
<i>Tadorna tadorna</i>	Common Shelduck		CWV
<i>Anas platyrhynchos platyrhynchos</i>	Mallard		Ore, CP, CWV
<i>Anas crecca crecca</i>	Green-winged Teal		CWV, CP
<i>Anas strepera strepera</i>	Gadwall		CWV
<i>Anas penelope</i>	European Wigeon		CP, CWV
<i>Anas clypeata</i>	Shoveler		CP, CWV
<i>Netta rufina</i>	Red-crested Pochard		ScWV
<i>Aythya ferina</i>	Common Pochard		CWV
<i>Aythya nyroca</i> ***	Ferruginous Duck		CWV
<i>Aythya fuligula</i>	Tufted Duck		CP, CWV
<i>Elanus caeruleus caeruleus</i>	Black-shouldered Kite		CRe
<i>Circus cyaneus cyaneus</i>	Hen Harrier		RP, RWV
<i>Circus aeruginosus aeruginosus</i>	Marsh Harrier		ScP, ScWV
<i>Falco tinnunculus rupicolaeformis</i>	Kestrel		CRe
<i>Rallus aquaticus aquaticus</i>	Water Rail		CRe, CWV
<i>Porzana porzana</i>	Spotted Crane		CP, ScWV
<i>Gallinula chloropus chloropus</i>	Moorhen		CRe, AP, AWW
<i>Porphyrio porphyrio madagascariensis</i>	Purple Gallinule		CRe
<i>Fulica atra atra</i>	Coot		RRe, AWW
<i>Rostratula benghalensis benghalensis</i>	Painted Snipe		CRe
<i>Himantopus himantopus himantopus</i>	Black-winged Stilt		CP, RB, RWV
<i>Recurvirostra avosetta</i>	Pied Avocet		RRe, CWV, RSuV
<i>Glareola pratincola pratincola</i>	Collared Pratincole		RWV, CP
<i>Charadrius hiaticola tundrae</i>	Ringed Plover		CP, CWV
<i>Charadrius dubius curonicus</i>	Little Ringed Plover		ScP, RWV
<i>Charadrius picuarius allenbyi</i>	Kittlitz's Plover		ScRe
<i>Charadrius alexandrinus alexandrinus</i>	Kentish Plover		CB, CWV
<i>Charadrius leschenaultii</i>	Greater Sand Plover		CP, CWV, ORe
<i>Pluvialis squatarola</i>	Grey Plover		CP, ScWv, UcSuV
<i>Vanellus vanellus</i>	Lapwing		CP, CWV
<i>Chettusia leucura</i>	White-tailed Plover		RP, OsuV, OWV
<i>Hoplopterus spinosus</i>	Spur-winged Plover		CRe
<i>Calidris alba</i>	Sanderling		RP, RWV
<i>Calidris temminckii</i>	Temminck's Stint		ScP, RWV
<i>Calidris ferruginea</i>	Curlew Sandpiper		ScAuP, CSP, RWV
<i>Calidris minuta</i>	Little Stint		AP, AWW, UcSuV
<i>Calidris alpina alpina</i>	Dunlin		AP, AWW
Scientific name	English name	Endem.	Status in Burullus
<i>Philomachus pugnax</i>	Ruff		CWV, CP
<i>Gallinago gallinago gallinago</i>	Snipe		CP, CWV
<i>Limosa limosa limosa</i>	Black-tailed Godwit		CP, RWV, RSuV
<i>Numenius arquata arquata</i>	Common Curlew		ScP, ScWV
<i>Tringa erythropus</i>	Spotted Redshank		CP, ScWV
<i>Tringa totanus totanus</i>	Redshank		CP, CWV, OSuV
<i>Tringa nebularia</i>	Greenshank		CP, ScWV, RSuV
<i>Tringa ochropus</i>	Green Sandpiper		CP, ScWV, RSuV
<i>Tringa glareola</i>	Wood Sandpiper		CP, ScWV, RSuV
<i>Tringa stagnatilis</i>	Marsh Sandpiper		ScP, ScWV
<i>Actitis hypoleucos</i>	Common Sandpiper		CP, ScWV
<i>Arenaria interpres interpres</i>	Turnstone		ScP, ScWV
<i>Larus ichthyaetus</i>	Great Black-headed Gull		RP, RWV
<i>Larus minutus</i>	Little Gull		ScWV
<i>Larus ridibundu</i>	Black-headed Gull		AP, AWW, ScSuV
<i>Larus genei</i>	Slender-billed Gull		CP, CWV
<i>Larus fuscus fuscus</i>	Lesser Black-backed Gull		CP, CWV, RSuV
<i>Larus argentatus cachinnans</i>	Yellow-legged Gull		CWV
<i>Chlidonias niger niger</i>	Black Tern		ScP, RWV, RSuV
<i>Chlidonias hybrida hybrida</i>	Whiskered Tern		CP, CWV
<i>Sterna albifrons albifrons</i>	Little Tern		CB

<i>Thalasseus sandvicensis sandvicensis</i>	Sandwich Tern		CP
<i>Streptopelia senegalensis aegyptiaca</i>	Laughing Dove	*	ARe
<i>Centropus senegalensis aegyptius</i>	Senegal Coucal	*	CRc
<i>Tyto alba alba</i>	Barn Owl		CRc
<i>Athene noctua saharae</i>	Little Owl		CRc
<i>Alcedo atthis atthis</i>	Kingfisher		CP, CWV
<i>Ceryle rudis rudis</i>	Pied Kingfisher		CRc
<i>Upupa epops major</i>	Hoopoe		CRc
<i>Hirundo rustica savignii</i>	Swallow	*	CRc
<i>Calandrella rufescens nicolli</i>	Lesser Short-toed Lark		CRc
<i>Galerida cristata nigricans</i>	Crested Lark	*	ARe
<i>Anthus cervinus</i>	Red-throated Pipit		AP, AWW
<i>Motacilla flava pygmaea</i>	Egyptian Wagtail	*	CRc
<i>Motacilla alba alba</i>	White Wagtail		AP, AWW
<i>Sturnus vulgaris vulgaris</i>	Starling		CWV
<i>Corvus corone cornix</i>	Hooded Crow		CRc
<i>Acrocephalus stentoreus stentoreus</i>	Clamorous Reed Warbler		ARe
<i>Phylloscopus collybita collybita</i>	Chiffchaff		AP
<i>Prinia gracilis</i>	Graceful Warbler		ARe
<i>Cisticola juncidis juncidis</i>	Fan-tailed Warbler		ARe
<i>Saxicola torquata rubicola</i>	Stonechat		CWV
<i>Merops orientalis cleopatra</i>	Little Green Bee-eater	*	CRc
<i>Passer domesticus niloticus</i>	House Sparrow		ARe
<i>Passer hispaniolensis hispaniolensis</i>	Spanish Sparrow		AP, AWW, OSuV

A = Abundant; Ac = Accidental; Au = Autumn; B = Breeder; C = Common; O = Occasional; P = Passer; R = Rare; Re = Resident; Sc = Scarce; Su = Summer; Uc = Uncommon; V = Visitor; W = Winter. *** = globally threatened.

ANNEX 9
List of mammals recorded from Burullus Protected Area
And their abundance.
* = endemic to Egypt; ** = vulnerable

Species	English name	Abundance
<i>Hemiechinus auritus</i> (Gmelin, 1770)	Long-eared Hedgehog	Common
<i>Crocidura flavescens deltae</i> Haim de Balsac & Barloy, 1966	Giant Musk Shrew	Uncommon
<i>Crocidura floweri</i> Dollman, 1915 *	Flower's Shrew	Rare
<i>Rousettus aegyptiacus</i> (Geoffroy, 1810)	Fruit Bat	Uncommon
<i>Rhinopoma microphyllum</i> (Brunnich, 1782)	Mouse-tailed Bat	Uncommon
<i>Pipistrellus kuhlii</i> (Kuhl, 1819)	Kuhl's Pipistrelle	Uncommon
<i>Gerbillus andersoni andersoni</i> De Winton, 1902	Anderson's Gerbil	Abundant
<i>Psammomys obesus</i> Crtezschar, 1828	Fat Sand Rat	Common
<i>Rattus rattus</i> (Linnaeus, 1758)	Black Rat	Abundant
<i>Rattus norvegicus</i> (Berkenhaut, 1769)	Brown Rat	Abundant
<i>Mus musculus praetextus</i> (Brants, 1827)	House Mouse	Common
<i>Canis aureus</i> Linnaeus, 1758 **	Jackal	Uncommon
<i>Vulpes vulpes</i> (Linnaeus, 1758)	Red Fox	Common
<i>Herpestes ichneumon ichneumon</i> (Linnaeus, 1758)	Egyptian Mongoose	Common
<i>Felis chaus nilotica</i> De Winton, 1898 **	Swamp Cat	Rare

ANNEX 3

Flora of Lake Bardawil and its immediate vicinity. The genera and species are arranged alphabetically. Life forms (LF) and the distribution of the species are given. CH = chamaephyte, G = geophyte, He = hemicryptophyte, Hy = hydrophyte, Ph = phanerophyte, Th = therophyte. * = endemic; ** = near-endemic.

Species	LF	Distribution		
		Sand bar	Islands	Southern shores
<i>Acacia saligna</i> (Labill.) H.L.Wendl.	Ph			+
<i>Adonis dentata</i> Del.	Th	+	+	+
<i>Aegilops kotschyi</i> Boiss.	Th			+
<i>Allium curtum</i> Boiss. & Gaill.	G		+	
<i>Allium papillare</i> Boiss. **	G		+	
<i>Amaranthus viridis</i> L.	Th			+
<i>Anabasis articulata</i> (Forssk.) Moq.	Ch	+	+	+
<i>Anchusa humilis</i> (Desf) I.M Johnst	Th		+	+
<i>Argyrolobium uniflorum</i> (Dec.) Jaub. & Spach	He		+	+
<i>Artemisia monosperma</i> Del.	Ch		+	+
<i>Arthrocnemum macrostachyum</i> (Moric.) K. Koch	Ch	+	+	+
<i>Asparagus stipularis</i> Forssk.	G	+	+	+
<i>Asphodelus viscidulus</i> Boiss.	Th		+	+
<i>Astragalus annularis</i> Forssk.	Th			+
<i>Astragalus boeoticus</i> L.	Th			+
<i>Astragalus camelorum</i> Barb.	He			+
<i>Astragalus caprinus</i> L.	Th			
<i>Astragalus fruticosus</i> Forssk.	Ch		+	+
<i>Astragalus kahiricus</i> DC.	He		+	+
<i>Atractylis cancellata</i> L.	Ch			+
<i>Atractylis carduus</i> (Fossk.) C. Chr.	Ch		+	+
<i>Avena sativa</i> L.	Th		+	+
<i>Bassia muricata</i> (L.) Asch.	Th		+	+
<i>Bellevia salah-eidii</i> Täckh. & Boulos *	G		+	
<i>Biarum boevi</i> Blume **	Th		+	
<i>Brachypodium distachyon</i> (L.) P. Beauv.	Th		+	
<i>Brassica tournefortii</i> Gouan	Th		+	+
<i>Bromus rubens</i> L.	Th		+	+
<i>B. lanceolatus</i> Roth.	Th		+	+
<i>Buplerum semicompositum</i> L.	Th	+	+	+
<i>Cakile maritima</i> Scop.	Th	+	+	+
<i>Calendula arvensis</i> L.	Th			+
<i>Calligonum polygonoides</i> L.	Ph		+	+
<i>Centaurea calcitrapa</i> L.	Th		+	+
<i>Centropodia forsskaolii</i> (Vahl) Cope	G		+	+
<i>Chrysanthemum cronarium</i> L.	Hy			
<i>Cistanche phelypaea</i> (L.) Cout.	Th	+	+	+
<i>Cistanche salsa</i> (C.A. Mey.) Beck.	Th	+	+	+
<i>Cleome amblyocarpa</i> Barr. & Murb.	He			+
<i>Conyza bonariensis</i> (L.) Cronquist	Th			+
<i>Convolvulus lanatus</i> Vahl	Ch		+	+
<i>Cornulaca monacantha</i> Del.	Ch	+	+	+
<i>Cotula cinerea</i> Delile	Th			+

<i>Cressa cretica</i> L.	He			+
<i>Crucianella membrenacea</i> Boiss.	Th		+	+
<i>Cutandia dichotoma</i> (Forssk.) Trab.	Th	+	+	+
<i>Cutandia memphetica</i> (Spreng.) K. Richt.	Th	+	+	+
<i>Cymodocea nodosa</i> (Ucria) Asch.	Hy		+	
<i>Cynodon dactylon</i> (L.) Pers.	G			+
<i>Cynorium coccineum</i> L.	Th		+	+
<i>Cyperus conglomeratus</i> Rottb.	G		+	+
<i>Cyperus laevigatus</i> L.	G			+
<i>Daucus littoralis</i> Boiss. var. <i>littoralis</i>	Th		+	+
<i>Deverra tortuosa</i> (Desf.) DC.	Ch		+	+
<i>Digitaria sanguinalis</i> (L.) Scop.	Th			+
<i>Dipcadi erythraeum</i> Webb & Berth.	G		+	
<i>Echium angustifolium</i> Mill.	Ch		+	+
<i>Echinops spinosissimus</i> Turra	He		+	+
<i>Echiochilon fruticosum</i> Desf.	Ch		+	+
<i>Emex spinosus</i> (L.) Campd.	Th		+	+
<i>Ephedra alata</i> Decne.	Ch			+
<i>Eremobium aegyptiacum</i> (Spreng.) Asch. & Schweinf.	Th		+	+
<i>Erodium laciniatum</i> (Cav.) Willd.	Th		+	+
<i>Erucaria hispanica</i> (L.) Druce.	Th		+	+
<i>Euophorbia granulata</i> Forssk	Th		+	+
<i>Euophorbia terracina</i> L.	He		+	+
<i>Fagonia arabica</i> L.	Ch			+
<i>Filago desertorum</i> Pomel	Th		+	
<i>Frankenia revoluta</i> L.	He		+	
<i>Frankenia pulverulenta</i> L.	Th		+	+
<i>Gymnocarpos decander</i> Forssk.	Ch		+	+
<i>Halocnemum strobilaceum</i> (Pall.) M. Bieb.	Ch	+	+	+
<i>Halodule uninervis</i> (Forssk.) Asch.	Hy		+	
<i>Haloxylon scoparium</i> Pomel	Ch		+	
<i>Haplophyllum tuberculatum</i> (Forssk.) Juss.	He		+	+
<i>Helianthemum stipulatum</i> (Forssk.) C. Chr.	Ch		+	+
<i>Heliotropium digynum</i> (Forssk.) C. Chr.	Ch		+	+
<i>Herniaria hemistemon</i> J. Gay	Ch		+	+
<i>Herniaria hirsuta</i> L.	Th		+	+
<i>Hippocrepis areolata</i> Desv.	Th			+
<i>Ifloga spicata</i> (Forssk.) Sch.-Bip.	Th	+	+	+
<i>Imperata cylindrica</i> (L.) Raeusch	G			+
<i>Iris mariae</i> Barbey **	G		+	
<i>Juncus rigidus</i> Desf.	G			
<i>Launaea capitata</i> (Spreng.) Dandy	Th		+	+
<i>Launaea nudicaulis</i> (L.) Hook.f.	He		+	+
<i>Launaea tenuiloba</i> (Boiss.) Kuntze	He		+	+
<i>Leopoldia bicolor</i> Boiss	G		+	
<i>Limoniastrum monopetalum</i> (L.) Boiss.	Ch			+
<i>Limonium pruinatum</i> (L.) Chaz.	He	+	+	+
<i>Linaria haelava</i> (Forssk.) Delile	Th			+
<i>Lobularia arabica</i> (Boiss.) Muschl.	Th		+	+
<i>Lotus halophilus</i> Boiss. & Spruner	Th		+	+
<i>Lycium shawii</i> Roem. & Schult.	Ph		+	+
<i>Malva parviflora</i> L.	Th		+	+
<i>Mesembryanthemum crystallinum</i> L.	Th		+	+
<i>Mesembryanthemum nodiflorum</i> L.	Th		+	+
<i>Moltkiopsis ciliata</i> (Forssk.) I.M. Johnst.	Ch		+	+
<i>Muscari bicolor</i> Boiss. **	Ch			+
<i>Neurada procumbens</i> L.	Th		+	+
<i>Nitraria retusa</i> (Forssk.) Asch.	Ch	+	+	+
<i>Noaea mucronata</i> (Forssk.) Asch. & Schweinf.	Ch		+	+
<i>Opophytum forsskaolii</i> (Boiss.) N.B.Br.	Th		+	
<i>Ononis serrata</i> Forssk.	Th		+	+
<i>Orobanche cernua</i> Loefl.	Th		+	+
<i>Pancratium maritimum</i> L.	G		+	+
<i>Pancratium sickenbergeri</i> Asch. & Schweinf.	G		+	+
<i>Panicum turgidum</i> Forssk.	Ch		+	+
<i>Paronychia arabica</i> (L.) DC.	Th		+	+
<i>Paronychia argentea</i> Lam.	Th			+
<i>Peganum harmala</i> L.	He			+
<i>Phoenix dactylifera</i> L.	Ph			+
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	G			+
<i>Plantago albicans</i> L.	He		+	+
<i>Plantago cylindrica</i> Forssk.	Th		+	+
<i>Plantago ovata</i> Forssk.	Th		+	
<i>Poa annua</i> L.	Th		+	+
<i>Polycarpaea repens</i> (Forssk.) Asch. & Schweinf.	He		+	+

<i>Polycarpon succulentum</i> (Del.) J. Gay	Th		+	+
<i>Pseudorlaya pumila</i> (L.) Grande	Th			
<i>Reichardia tingitana</i> (L.) Roth	Th		+	+
<i>Retama raetam</i> (Forssk.) Webb & Berthel.	Ph		+	+
<i>Ricinus communis</i> L.	Ph			+
<i>Rumex pictus</i> Forssk.	Th		+	+
<i>Ruppia cirrhosa</i> (Petagna) Grande	Hy		+	
<i>Salicornia europaea</i> L.	Th	+	+	+
<i>Salsola kali</i> L.	Th	+		+
<i>Salsola tetrandra</i> Forssk.	Ch	+	+	+
<i>Salvia lanigera</i> Poirlet	Ch		+	+
<i>Sarcocornia fruticosa</i> (L.) A.J. Scott	Ch		+	+
<i>Schismus arabicus</i> Nees	Th		+	+
<i>Senecio glaucus</i> L.	Th		+	+
<i>Silene villosa</i> Forssk.	Th		+	+
<i>Setaria verticillata</i> (L.) P. Beauv.	Th			+
<i>Solanum elaeagnifolium</i> Cav.	He			+
<i>Sonchus oleraceus</i> L.	Th			+
<i>Spergularia marina</i> (L.) Griseb.	Th		+	+
<i>Stipagrostis ciliata</i> (Desf.) de Winter	He		+	
<i>Stipagrostis lanata</i> (Forssk.) de Winter	He		+	+
<i>Stipagrostis scoparia</i> (Trin. & Rupr.) de Winter	He		+	+
<i>Stipa capensis</i> Thunb.	He		+	+
<i>Suaeda aegyptiaca</i> (Hasselq.) Zohary	Th		+	+
<i>Suaeda salsa</i> (L.) Pall.	Ch		+	+
<i>Suaeda vera</i> Forssk. ex J.F. Gmel.	Ch	+		+
<i>Tamarix amplexicaulis</i> Ehrenb.	Ph			+
<i>Tamarix nilotica</i> Bunge	Ph			+
<i>Thymelaea hirsuta</i> (L.) Endl.	Ch		+	+
<i>Traganum nudatum</i> Delille	Ch			+
<i>Trigonella stellata</i> Forssk.	Th		+	+
<i>Zygophyllum aegyptium</i> A. Hosny *	Ch	+	+	+
<i>Zygophyllum album</i> L.	Ch	+	+	+
<i>Zygophyllum propinquum</i> Decne.	Ch	+		
<i>Zygophyllum simplex</i> L.	Th			+

ANNEX 4

Zooplankton of Lake Bardawil as recorded by Fouda *et al.* (1985) and in 2002 together with the present status of the species. C = common; MC = moderately common; R = rare; VR = very rare.

	1985	2002	Present Status
<i>Protozoa</i>			
<i>Tintinnopsis beroidea</i> Stein	*	*	MC
<i>Tintinnopsis labiancoi</i> Daday	*	*	R
<i>Tintinnopsis nucula</i> Fol	*	*	MC
<i>Tintinnopsis cylindrica</i> Daday	*	*	MC
<i>Tintinnopsis campanula</i> Ehr.	*	*	R
<i>Tintinnopsis tocantinesis</i> Kofoid & Campbel	-	*	C
<i>Stensomella nivalis</i>	*	*	R
<i>Tintinnidium neapolitanum</i>	*	-	-
<i>Codonella aspera</i> Fol.	*	*	MC
<i>Codonella amphorella</i> Biedermann	*	*	R
<i>Codonella agalea</i> Haecxel	*	*	R
<i>Metacylis meraschkowskii</i>	*	-	
<i>Cyrtorocylis plagiostoma</i>	*	*	VR
<i>Dictyocysta obtusa</i>	*	*	VR
<i>Dictyocysta muvileri</i>	*	-	
<i>Rhobdonella elegans</i> Jorgensen	*	*	VR
<i>Favella serrata</i> Momus	*	*	C
<i>Favella ehernbergi</i> Clap & Lach.	-	*	R
<i>Undella dohrni</i>	*	*	VR
<i>Helicostomella subulata</i>	*	*	R
<i>Petalotricha major</i> Jorgensen	-	*	VR

<i>Ptychocytis minor</i> Jorgensen	-	*	VR
<i>Epiplocyliis acuminata</i> Daday	-	*	VR
<i>Ciliophore</i> spp.	-	*	R
<i>Globegrina bulloides</i>	*	*	R
<i>Orbulina universa</i>	*	-	
<i>Leprotintinnus bottnicus</i>	-	*	VR
<u>Copepoda</u>			
<i>Nauplius larvae</i>	-	*	C
<i>Cyclopoid copepodid</i>	-	*	C
<i>Calanoid copepodid</i>	-	*	C
<i>Harpacticoid copepodid</i>	-	*	MC
<i>Lucicutia flavicornis</i> Claus	*	-	
<i>Lucicutia ovales</i> Wolfenden	*	-	
<i>Temora longicornis</i> Hill	*	-	
<i>Acartia clausii</i> Giesbrecht	*	*	MC
<i>Paracartia latisetosa</i> Kriczaguin	-	*	R
<i>Calanus finmarchisus</i> Gunnerus	*	-	
<i>Eurytemora hiruridoides</i>	*	*	VR
<i>Paracalanus parvus</i> Claus	-	*	R
<i>Centropagus potincus</i> Karawiew	-	*	C
<i>Sapphirina opalina</i> Dana	*	-	
<i>Sapphirina angusta</i> Dana	*	-	
<i>Parapontella brevicornis</i> Lubbock	*	-	
<i>Parapontanum parvus</i>	*	-	
<i>Oithona nana</i> Giesbrecht	-	*	C
<i>Oithona plumifera</i> Baird	-	*	MC
<i>Corycaeus clausi</i> F. Dhal	*	-	
<i>Isias clavipes</i> Boeck	*	-	
<i>Euterpina acutiformis</i> Dana	*	*	C
<i>Microsetella norvegica</i> Boeck	*	*	R
<i>Amallothrix auropecten</i>	*	-	
<i>Echinocomptus</i> spp.	*	-	
<i>Canuella</i> sp.	-	*	VR
<i>Harpacticus littoralis</i> Sars	-	*	R
<i>Metis Jousseaumei</i> Richard	-	*	VR
<u>Cladocera</u>			
<i>Bosmina coregoni maritima</i> Muller	*	-	
<i>Evadne spinifera</i> Muller	*	*	R
<i>Evadne tergestina</i> Claus	-	*	R
<i>Podon polyphemoides</i> Leuckart	-	*	VR
<u>Rotifera</u>			
<i>Synchaeta calva</i>	*	*	MC
<i>Synchaeta</i> sp.	-	*	R
<u>Coelenterates</u>			
<i>Rhizostoma pulmo</i>	*	*	VR
<i>Obelia</i> spp	-	*	R
<i>Catylorhiza tuberculata</i>	*	-	
<u>Petropods</u>			
<i>Limacina inflata</i> D'orbigny	*	*	R

<u>Cheatoznatha</u>			
<i>Sagitta setosa</i> Muller	-	*	C
<u>Appendicularians</u>			
<i>Oikopleura longicauda</i> Vogt	-	*	R
<u>Meroplankton</u>			
Polychaete larvae	*	*	C
Cirriped larvae	*	*	MC
Molluscan larvae	*	*	C
Echinodermats larvae	*	*	VR
Ostracod spp	*	*	R
Chironomus larvae	-	*	VR
<i>Mysis</i> sp	-	*	VR
Fish egg & embryos	-	*	VR
Free living nematoda	*	*	VR

ANNEX 5

Systematic listing of the insect fauna in Zaranik Protected Area together with the status of the species. C = common; MC = moderately common; R = rare; VC = very common; VR = very rare.

Species	Common Name	Status
BLATTARIA		
Blattidae		
<i>Blattella arundinicola</i> Werner	Cockroach	M C
<i>Heterogamodes cerverae</i> Bolivar	Sand cockroach	V C
<i>Periplaneta americana</i> (L.)	American cockroach	M C
<i>Periplaneta tartara</i> Saussure	Cockroach	R
COLEOPTERA		
Anobiidae		
<i>Lasioderma</i> sp.	Cigarette beetle	R
<i>Stegobium panicum</i> (L.)	Bread beetle	V C
<i>Xyletinus bucephalus bucephalus</i> Illiger	Drug store beetle	R
Anthicidae		
<i>Anthicus floralis</i> (L.)	Ant beetle	R
<i>Anthicus</i> sp1	Ant beetle	M C
<i>Anthicus</i> sp2	Ant beetle	M C
<i>Anthicus</i> sp3	Ant beetle	M C
<i>Anthicus</i> sp4	Ant beetle	M C
Carabidae		
<i>Anthia sexmaculata pharaonum</i> Bedel	Domino Beetle	M C
<i>Cicindela aulica</i> Dejean	Tiger beetle	R
<i>Cicindela litorea</i> Forskal	Tiger beetle	V C
<i>Megacephala euphratica</i> Lat.	Ground beetle	R
<i>Paussus thomsoni</i> Reiche	Ground beetle	R
<i>Pogonus gilvipes</i> Dejean	Ground beetle	R
<i>Scarites guineensis</i> Dejean	Ground beetle	M C
<i>Syrdenus grayi</i> Wollaston	Ground beetle	V C
<i>Tachys scutellaris aegyptiacus</i> Sch. & Koch	Ground beetle	C

<i>Trichis maculatus</i> Klug	Ground beetle	R
Cerambycidae		
<i>Phytoecia</i> sp.	wood boring beetle	V R
<i>Prionus aegyptiacus</i> Pic	Palm stem borer	V C
Cleridae		
<i>Necrobia rufipes</i> (Degeer)	Copra or red-legged ham beetle	R
Coccinellidae		
<i>Coccinella undecimpunctata</i>	Lady bird beetle	C
Dermestidae		
<i>Attagenus</i> sp.	Carpet beetle	R
<i>Dermestes maculatus</i> Degeer	Skin or hide beetle	C
Dytiscidae		
<i>Eretes sticticus</i> L.	Diving beetle	V R
Elateridae		
<i>Isidus letourneuxi</i> Pic	Click beetle	V R
Histeridae		
<i>Saprinus</i> sp1	Hister beetle	R
<i>Saprinus</i> sp2	Hister beetle	R
Hydrophilidae		
<i>Sternolophus solieri</i> Lapouge	Water scavenger beetle	V C
Lathrididae		
<i>Melanophthalma distinguenda</i> Comolli		R
Nitidulidae		
<i>Nitidula ciliata</i> Erichson	Sap-feeding beetle	M C
<i>Nitidula</i> sp1	Sap-feeding beetle	M C
<i>Nitidula</i> sp2	Sap-feeding beetle	R
Oedemeridae		
G1 sp		V R
Phalacridae		
<i>Olibrus corticalis</i> Panzer	Shining flower beetle	M C
Ptinidae		
<i>Ptinus soubironi</i> Pic	Spider beetle	V C
Scarabaeidae		
<i>Aphodius dorsalis</i> Klug	Dung beetle	M C
<i>Aphodius hydrochoereis</i> (Fabricius)	Dung beetle	R
<i>Aphodius lucidus</i> Klug	Dung beetle	V C
<i>Aphodius pallescens</i> Walker	Dung beetle	V C
<i>Aphodius</i> sp	Dung beetle	R
<i>Onthophagus melanocephalus</i> Klug		M C
<i>Oryctes nasicornis</i> (L.)	Unicorn beetle	M C
<i>Phyllognathus excavatus</i> Forster	Unicorn beetle	V C
<i>Rhyssalus coluber</i> Klug	Dung beetle	R
<i>Scarabaeus cristatus</i> Fabricius	Scrab beetle	M C
<i>Trox squalidus</i> (Olivier)	Dung beetle	R
<i>Bledius capra capra</i> Fauvel	Rove beetle	V C
<i>Philonthus</i> sp	Rove beetle	R
Tenebrionidae		

<i>Alphitobius diaperinus</i> Panzer	Darkling beetle	M C
<i>Blaps polychresta</i> Forskal	Darkling beetle	C
<i>Cataphronetis apicilaevis</i> Marseul	Darkling beetle	R
<i>Clitobius oblongiusculus lineicollis</i> Fairmaire	Darkling beetle	R
<i>Clitobius ovatus</i> Erichson	Darkling beetle	R
<i>Mesostena</i> sp.	Darkling beetle	C
<i>Oterophloeus alreatus peyerimhoffi</i> Koch	Darkling beetle	C
<i>Phaleria prolixa aegyptiaca</i> Seidlitz	Darkling beetle	C
<i>Pimelia angulata sinaïtica</i> Sch. & Koch	Darkling beetle	C
<i>Pimelia barthelemyi</i> Solier	Darkling beetle	C
<i>Prionotheca coronata</i> Olivier	Darkling beetle	V C
<i>Scaurus aegyptiacus</i> Solier	Darkling beetle	V C
<i>Scleron</i> sp.	Darkling beetle	R
<i>Tentyrina orbiculata</i> Fabricius	Darkling beetle	C
<i>Zophosis plana plana</i> Fabricius	Sand swimmer beetle	R
Throscidae		
<i>Throscus</i> sp.	Pseudo-click beetle	C
DERMAPTERA		
Labiduridae		
<i>Labidura confusa</i> Capra	Earwig	M C
DIPTERA		
Asilidae		
<i>Apoclea femoralis</i> Wiedemann	Robber fly	M C
<i>Nemochtherus clypeatus</i> Becker	Robber fly	M C
<i>Neolophonotus molitor</i> Wied	Robber fly	M C
<i>Promachus griseiventris</i> Becker	Robber fly	V C
Bombyliidae		
<i>Exhyalanthrax</i> sp.	Bee fly	R
<i>Petrorossia</i> sp.	Bee fly	R
<i>Spogostylum candidum</i> (Sack)	Bee fly	R
Chironomidae		
<i>Cricotopus mediterraneus</i>	Midge	V C
Culicidae		
<i>Culex pusillus</i> (Macquart)	Mosquito	V C
Ephydriidae		
<i>Actoecetor margaritatus</i> Wied.		V C
G1 sp.	Shore fly	M C
G2 sp.	Shore fly	M C
<i>Notiphila setigera</i> Bick.	Shore fly	C
Muscidae		
<i>Musca albina</i> Wied.	House fly	R
<i>Musca domestica</i> L.	House fly	V C
<i>Musca</i> sp.	House fly	R
Otitidae		
<i>Physiphora alcae</i> (Preysslner)	Pictured-winged fly	V C
<i>Physiphora smaragdina</i> Loew	Pictured-winged fly	V C
Sarcophagidae		
<i>Wohlfahrtia villeneuvi</i> Sal	Flesh fly	M C

Stratiomyidae		
<i>Nemotelus albifascies</i> Bick	Soldier fly	C
Syrphidae		
<i>Syrphus corollae</i> Fabricius	Flower fly	MC
Tabanidae		
<i>Ochropus agrestis</i> Wied.	Horse fly	C
<i>Tabanus albifacies</i> Loew	Horse fly	R
Tachinidae		
<i>Actia crassicornis</i> (Meigen)	Tachinid fly	MC
<i>Eurithia castellana</i> (Strobl)	Tachinid fly	MC
<i>Exorista larvarum</i> (L.)	Tachinid fly	MC
G1 sp.	Tachinid fly	MC
<i>Nemorilla floralis</i> (Fallen)	Tachinid fly	MC
<i>Siphona efflatouni</i> Mesnil	Tachinid fly	MC
Therevidae		
<i>Neothereva angustifrons</i> Krob.	Therevid fly	R
<i>Psilocephala frauenfeldi</i> Loew	Therevid fly	R
EMBIOPTERA		
Oligotomidae		
<i>Oligotoma</i> sp.	Web-spinner	R
HETEROPTERA		
Cydnidae		
<i>Geotomus intrusus</i> Wagner	Burower bug	C
<i>Macroscytus Brunneus</i> (Fieber)	Burower bug	C
Lygaeidae		
G1 sp.	Seed bug	MC
<i>Geocoris henoni</i> Puton	Ground bug	MC
<i>Lamprodema maurum</i> Fabricius	Seed bug	MC
<i>Nysius cymoides</i> (Spinola)	Ground bug	MC
<i>Pachybrachius annulipes</i> (Bar.)	Seed bug	MC
Miridae		
<i>Campylomma</i> sp.	Capsid bug	MC
<i>Lygus apicalis</i> Fieber	Capsid bug	MC
<i>Tuponia lethierryi</i> Reuter	Capsid bug	MC
<i>Tuponia</i> sp.	Capsid bug	MC
Pentatomidae		
<i>Acrosternum heegeri</i> (Fieber)	Shield bug	R
<i>Acrosternum millieri</i> (Mulsant & Rey)	Shield bug	R
<i>Choanatha ornatula</i> (H-Sch.)	Shield bug	VC
<i>Mecidea lindbergi</i> Wagner	Shield bug	R
Rhopalidae		
<i>Liorhyssus hyalinus</i> Fabricius		MC
HOMOPTERA		
F1		
G1 sp.		MC
F2		
G1 sp.		R

HYMENOPTERA		
Evaniidae		
<i>Evania dimidiata</i>	Ensign wasp	M C
Formicidae		
<i>Camponotus maculatus</i>	Carpenter ant	C
<i>Camponotus oasium</i> Forel	Carpenter ant	V C
<i>Cardiocondyla</i> sp1	Ant	M C
<i>Cardiocondyla</i> sp2	Ant	M C
<i>Cataglyphis diehli</i> (Forel)	Ant	M C
<i>Cataglyphis lividus</i> (Andre)	Ant	V C
<i>Cataglyphis niger</i> (Andre)	Ant	M C
<i>Crematogaster aegyptiacus</i> Mayr	Ant	V C
<i>Messor aegyptiacus</i> Emery	Harvester ant	R
<i>Messor ebininus</i> Santschi	Harvester ant	R
<i>Monomorium carbonarium</i> (Smith)	Ant	M C
<i>Monomorium niloticum</i> Emery	Ant	M C
<i>Pheidole katonae</i> Forel	Ant	V C
<i>Pheidole</i> sp.	Ant	M C
Ichneumonidae		
G1 sp.	Ichneumon-fly	R
Mutillidae		
G1 sp.	Velvet ant	R
G2 sp.	Velvet ant	R
Pompilidae		
G1 sp.	Spider-hunting wasp	R
LEPIDOPTERA		
Arctiidae		
<i>Utetheisa pulchella</i> L.		M C
Noctuidae		
<i>Agrotis herzogii</i> Rebel		M C
<i>Agrotis ipselon</i> (Hufnagel)	Greasy or black cutworm	M C
<i>Armada</i> sp.		M C
<i>Autographa gamma</i> L.		R
<i>Earias insulana</i> (Boisduval)	Spiny bollworm	M C
<i>Grammodes boisdeffrei</i> Oberthur		V C
<i>Helicoverpa armigera</i> Hubner		C
<i>Leucanitis kabyfaria</i>		R
<i>Mythemna loryei</i> Duponchel		M C
<i>Noctua floralis</i> H.		M C
<i>Noctua pronuba</i> L.		R
<i>Ophiusa tirhaca</i> Cramer		R
<i>Plusia</i> sp.		R
<i>Polia</i> sp.		R
<i>Prosalta</i> sp.		R
<i>Protoschinia</i> sp.		R
<i>Spodoptera exigua</i> (Hubner)	Beet army worm	M C
<i>Spodoptera littoralis</i> Boisduval		M C
Pyralidae		

<i>Anerastia nitidicostella</i> Ragonot		V C
<i>Antigastra</i> sp.		R
<i>Nephoterix cleopatrella</i> Ragonot		R
<i>Nomophila noctuella</i> D. & Sch.		C
<i>Syria pilosella</i> Zeller		R
Sphingidae		
<i>Agrius convolvuli</i> L.	Sphinx moth	C
<i>Macroglossum stellatarum</i> L.	Sphinx moth	C
Tineidae		
<i>Trichophaga abruptella</i>		MC
<i>Trichophaga tapetzella</i> L.		MC
MANTODEA		
Mantidae		
<i>Blepharobsis mendica</i> (Fabricius)	Mantis	C
<i>Emeles aegyptiaca</i> Werner	Mantis	C
<i>Iris orlatoria</i> (L.)	Mantis	VR
<i>Reivetina fasciata</i> (Thunberg)	Mantis	C
NEUROPTERA		
Chrysopidae		
<i>Chrysoperla carnea carnea</i> (Stephens)	Aphid-lion	MC
Myrmelionidae		
<i>Creoleon antennatus</i> (Navas)	Ant-lion	C
<i>Cueta lineosa</i> (Rambur)	Ant-lion	C
G1 sp.	Ant-lion	MC
<i>Gepus curvatus</i> Navas	Ant-lion	C
<i>Gepus invisus</i> Navas	Ant-lion	C
<i>Myrmecaelurus laetus</i> (Klug)	Ant-lion	C
<i>Neoclisia lineata</i> Navas	Ant-lion	VC
<i>Neurleon lugubris</i>	Ant-lion	C
<i>Phanoclisi longicollis</i>	Ant-lion	C
<i>Pseudoformicales nobilis</i> Navas	Ant-lion	C
ODONATA		
Aeschnidae		
<i>Anax parthenope</i> (Selys)	Emperor dragonfly	VR
Coenagriidae		
<i>Ischnura senegalensis</i> (R.)	Damselfly	R
Libellulidae		
<i>Crocothemis erythraea</i> Brulle	Dragonfly	R
ORTHOPTERA		
Acrididae		
<i>Hyalorhipis rhamses</i> Saussure	Grasshopper	MC
<i>Leptopternis gracilis</i> (Ev.)	Grasshopper	MC
<i>Platypterna gracilis</i> Krauss	Grasshopper	R
<i>Tryxalis nasuta</i> (L.)	Grasshopper	MC
Gryllidae		
<i>Gryllodes sigillatus</i> (Walker)	Cricket	R
<i>Gryllomorpha rufescens</i> Uvarov	Cricket	VC

<i>Gryllopsis mareoticus</i> (Warner)	Cricket	R
<i>Gryllus bimaculatus</i> Degeer	Cricket	M C
<i>Modicogryllus algericus</i> (Saussure)	Cricket	C
<i>Modicogryllus palmatorum</i> (Krauss)	Cricket	R
<i>Stenonemobius gracilis</i> (Jakovlev)	Tree cricket	R
Pyrogomorphidae		
<i>Pyrogomorpha</i> sp.	Grasshopper	M C
SIPHONAPTERA		
F1		
G1 sp.	Flea	R
STREPSIPTERA		
Mengenillidae		
<i>Mengenilla</i> sp.		V R
THYSANURA		
F1		
G1 sp.	Firebrat	C
G2 sp.	Firebrat	C
G3 sp.	Firebrat	C

ANNEX 6

List of the tentatively identified species of Arachnida collected from Zaranik Protected Area .

Order : **Araneida** (Spiders)

Family :Agelenidae *Agelena lepida*

Family :Araneidae *Argiope lobata*, *Argiope* sp., *Cyclosa* sp., ? sp.

Family :Clubionidae *Cheiracanthium canariense?*, *Cheiracanthium* sp.1, ***Cheiracanthium* sp.2, ? sp.1, ? sp.2**

Family :Eresidae *Stegodyphus lineatus*

Family :Gnaphosidae *Pterotricha lesserti* ?, *Zelotes* sp., ? sp.1, ? sp.2, ? sp.3, ? sp.4

Family :Linyphiidae ? sp.

Family :Liocranidae ? sp.1, ? sp.2

Family :Lycosidae ? sp.1, ? sp.2, ? sp.3

Family :Nemesiidae ? sp.

Family :Oonopidae ? sp.

Family :Philodromidae *Ebo* sp., *Thanatus* sp.

Family :Pholcidae ? sp.

Family: Salticidae *Menemerus animatus* ?, *Mogrus* sp., *lexippus paykulli*, ? sp.1, ? sp.2, ? sp.3, ? sp.4, ? sp.5

Family :Scytodidae *Scytodes* sp.

Family :Sparassidae ? sp.

Family :Tetragnathidae ? sp.1, ? sp.2

Family :Theridiidae ? sp.1, ? sp.2, ? sp.3, ? sp.4, ? sp.5, ? sp.6

Family :Thomisidae *Thomisus* sp., *Xysticus* sp.

Family :Uloboridae *Uloborus* sp.

Family :Zodariidae *Zodarion* sp.

Order : **Pseudoscorpionida** (Fale Scorpions)

Family :Olpiidae 9 specimens

Family :Chernetidae 1 specimen

Order : **Scorpionida** (Scorpions)

Family :Buthidae *Androctonus amoreuxi*, *Androctonus bicolor*, *Buthacus leptochelys*

ANNEX 7

Systematic list of the crustacea and fish recorded in Lake Bardawil with their status. C = common; MC = moderately common; R = rare; VR = very rare.

Scientific name	English name	Arabic name	Status
CLASS: CRUSTACEA			
Order: Decapoda			
Sub-order: Macrura			
Family: Penaeidae			
<i>Penaeus japonicus</i> (Bate, 1888)	Krevette Kurma	Gambari yabani	MC
<i>Penaeus kerathurus</i> (Forsskal, 1775)	Caramote Prawn	Gambari azzaz	R
<i>Penaeus semisulcatus</i> (De Haan, 1844)	Green Tiger Prawn	Gambari swesi	C
<i>Metapenaeus monoceros</i>	Red Shrimp	Gambari ahmar	C
<i>Metapenaeus tebbingi</i> (Nobili, 1904)	Peregrine Shrimp	Gambari abiad	C
Sub-order: Brachyura			
Family: Lupidae			
<i>Lupa pelagicus</i> (Linnaeus, 1746)	Blue swimming crab	Kaborya	C
CLASS: CHONDRICHTHYSES (cartilaginous fish)			
Family: Rhinobatidae			
<i>Rhinobatos rhinobatos</i> (Linnaeus, 1758)	Common Guitar Fish	Haradi	R
CLASS: OSTEICHTHYSES (bony fish)			
Family: Mugilidae (mullet)			
<i>Mugil cephalus</i> (Linnaeus, 1758)	Flathead Grey Mullet	Bouri horr	C
<i>Liza ramada</i> (Risso, 1826)	Thin Lip Mullet	Toubara	C
<i>Liza aurata</i> (Risso, 1810)	Gold Spotted Mullet	Dahbana	C
<i>Liza saliens</i> (Risso, 1810)	Leaping Mullet	Garan	R
<i>Liza carinata</i> (Valenciennes, 1836)	Keeled Mullet	Seheya	R
<i>Chelone labrosus</i> (Risso, 1826)	Thick Lip Mullet	Calon	R
Family: Cyprinodontidae			
<i>Aphanius fasciatus</i> (Valenciennes, 1821)	Toothed Carps		R
<i>Aphanius dispar</i> (Rüppel, 1829)	Toothed Carps		R
Family: Hemiramphidae (Halfbeaks)			
<i>Hemiramphus far</i> (Forsskal, 1775)	Black-barred Halfbeak	Abou-Monkar	R
Family: Sparidae (Sea Breams)			
<i>Sparus aurata</i> (Linnaeus, 1758)	Gilthead Sea Bream	Denis	C
<i>Boops boops</i> (Linnaeus, 1758)	Porgies	Mouza	R
<i>Dentex dentex</i> (Linnaeus, 1758)	Common Dentex		R
<i>Lithognathus mormyrus</i> (Linnaeus, 1758)	Striped Sea Bream		VR
Family: Atherinidae (Silverside, Sand Smelt)			
<i>Atherina boyeri</i> (Risso, 1810)	Big-scale Sand Smelt	Besaeia	R
<i>Atherina benguis</i> (Risso, 1810)			
Family: Moronidae (Sea Bass)			
<i>Dicentrarchus labrax</i> (Linnaeus, 1758)	Sea Bass	Karous	C
<i>Dicentrarchus punctatus</i> (Bloch, 1792)	Spotted Sea Bass	Nokt	R
Family: Sciaenidae (Drums, Croakers)			

<i>Argyrosomus regius</i> (Asso, 1801)	Meagre	Loot	MC
<i>Umbrina cirrosa</i> (Linnaeus, 1758)	Corb		VR
Family: Soleidae			
<i>Solea solea</i> (Linnaeus, 1758)	Common Sole	Samak Musa	C
Family: Pomatomidae			
<i>Pomatomus saltator</i> (Linnaeus, 1766)	Blue Fish		VR
Family: Theraponidae			
<i>Therapon jarbua</i> (Forskål, 1775)	Grunters, Thornfish		R
Family: Gobiidae			
<i>Pomatoschistus minutus</i> (Pallas, 1770)	Sand Goby		R
<i>Pomatoschistus mormaratus</i> (Risso, 1816)	Marbled Goby		R
Family: Triglidae			
<i>Trigla lyra</i> (Linnaeus, 1758)	Piper Gurnard		VR
Family: Scorpaenidae			
<i>Scorpaena porcus</i> (Linnaeus, 1758)	Black Scorpion Fish		VR
Family: Cichlidae			
<i>Tilapia zillii</i> (Gervais, 1848)	Tilapia	Bolti akhdar	R
Family: Siganidae			
<i>Siganus rivularis</i> (Fowler & Bean, 1929)	Rabbit Fish	Sigan	R
Family: Anguillidae			
<i>Anguilla anguilla</i> (Linnaeus, 1758)	Europæan Eel	Thoban Elsamak	R
Family: Lutjanidae			
<i>Lutjanus lutjanus</i> (Bloch, 1790)	Big-eye Snapper	Shokhrom	R
Family: Serranidae (Groupers)			
<i>Epinephelus aeneus</i> (St. Hilaire, 1817)	White Grouper	Wakar	MC

ANNEX 8

Systematic listing of the species of reptiles recorded in Zaranik Protected Area. C = common; MC = moderately common; VC = very common; F = frequent; R = rare; VR = very rare; E = endangered; * = not observed during present survey.

CLASS: REPTILIA

Scientific name	English name	Arabic name	Status
Order: SQUAMATA			
Suborder: Sauria (Lizards)			
Family: Gekkonidae			
<i>Hemidactylus turcicus</i>	Turkish Gecko	Bors	R
<i>Ptycodactylus hasselquistii</i>	Fan-footed Gecko	Bors	R
<i>Stenodactylus petrii</i>	Petrie's Gecko	Bors El-Raml	C
<i>Stenodactylus sthenodactylus</i>	Elegant Gecko	Bors El-Raml	VR
Family: Agamidae			
<i>Trapelus savignyi</i>	Savigny's Agama	Hardun	C
<i>Uromastix aegyptius</i>		Dabb	VR*
Family: Lacertidae			
<i>Acanthodactylus boskianus</i>	Bosc's Lizard	Orban	R
<i>Acanthodactylus longipes</i>	Saharan Fringe-toed lizard	Orban	C
<i>Acanthodactylus scutellatus</i>	Nidua Lizard	Orban	VC
<i>Mesalina olivieri</i>	Olivier's Lizard	Orban	C
Family: Scincidae			
<i>Chalcides ocellatus</i>	Ocellated Skink	Malaga Samra	R
<i>Scincus scincus</i>	Sandfish	Malaga Safra	C
<i>Sphenops sepiois</i>	Audoin's Sand Skink	Abul-Mallal	C
Family: Chameleontidae			
<i>Chamaeleo chamaeleon</i>	Chameleon	Herbaya	C
Family: Varanidae			
<i>Varanus griseus</i>	Desert Monitor	Waral	C
Order: Ophidia (Snakes)			
Family: Viperidae			
<i>Cerastes vipera</i>	Sand Viper	Herfsh	R
Family: Colubridae			
<i>Lytorhynchus diadema</i>	Sand Snake	Ham Ramly	C
<i>Psammophis schokari</i>	Schokari Sand Snake	Ham Selimani	C
<i>Spalerosophis diadema</i>	Clifford's Snake	Ham	VR
<i>Malpolon moillensis</i>	Molia Snake		VR*
Order: Chelonia			
Family: Testudinidae			
<i>Testudo kleinmanni</i>	Egyptian Tortoise	Sohlefa	R,E
Family: Cheloniae			
<i>Caretta caretta</i>	Loggerhead Turtle	Tersa	VC
Scientific name English name Arabic name Status			
<i>Chelonia mydas</i>	Green Turtle	Tersa	C
<i>Dermodochelys coriacea</i>	Leather-backed Turtle	Tersa	VR*

ANNEX 9

Birds known to occur in the Zaranik Protected Area and their status in the Protectorate and in Egypt.

A = Abundant ; Ac = Accidental; AuP = Autumn Passer; B = Breeder; C = Common; F = Former; O = Occasional; P = Passer; R = Rare; Re = Resident; Sc = Scarce; SP = Spring Passer; SuV = Summer Visitor; Uc = Uncommon; WV = Winter Visitor. * = endemic.

No.	English Name & Scientific Name	Status in Zaranik	Status in Egypt
Order: PROCELLARIIFORMES			
Family: Procellariidae			
1	Cory's Shearwater <i>Calonectris d. diomedea</i>	ScP	ScP
2	Sooty Shearwater <i>Puffinus griseus</i>	RP	RP
3	Manx Shearwater <i>Puffinus puffinus yelkouan</i>	ScP	ScP
Order: PODICIPEDIIFORMES			
Family: Podicipedidae			
4	Little Grebe <i>Tachybaptus r. ruficollis</i>	RRe	CRc
5	Great Crested Grebe <i>Podiceps c. cristatus</i>	ScWV	CWV
6	Black-necked Grebe <i>Podiceps n. nigricollis</i>	CWV	CWV
Family: Phalacrocoracidae			
7	Cormorant <i>Phalacrocorax carbo sinensis</i>	CP & CWV	CP & CWV
Family: Sulidae			
8	Gannet <i>Sula b. bassana</i>	RP	RP
Family: Pelecanidae			
9	White Pelican <i>Pelecanus onocrotalus</i>	CP	CP
Order: CICONIIFORMES			
Family: Ardeidae			
10	Night Heron <i>Nycticorax n. nycticorax</i>	CP	CP & CWV
11	Squacco Heron <i>Ardeola ralloides</i>	CP	CRc, CP & ScWV

12	Cattle Egret <i>Egretta i. ibis</i>	CP	CRe, CP & CWV
13	Little Egret <i>Egretta g. garzetta</i>	CP	ScRe, CP& CWV
14	Great White Egret <i>Egretta a. alba</i>	ScR & CWV	ScP & ScWV
15	Grey Heron <i>Ardea c. cinerea</i>	CP	RRe, CP& CWV
16	Purple Heron <i>Ardea p. purpurea</i>	CP	CP,RWV& RSuV
17	Goliath Heron <i>Ardea goliath</i>	RWV	RRe & RWV
18	Bittern <i>Botaurus s. stellaris</i>	RWV	RWV
19	Little Bittern <i>Ixobrychus m. minutus</i>	CRe	CRe
Family: Ciconiidae			
20	Black Stork <i>Ciconia nigra</i>	RP	ScP, RWV&ScSuV
21	White Stork <i>Ciconia c. ciconia</i>	CP	CP,ScWV&ScSuV
Family: Threskiornithidae			
22	Glossy Ibis <i>Plegadis falcinellus</i>	RP	ScAuP, CSP & UcWV
23	Spoonbill <i>Platalea l. leucorodia</i>	RAuP	RRe, RSuV, ScP & ScWV
ORDER: PHOENICOPTERIFORMES			
Family: Phoenicopteridae			
24	Greater Flamingo <i>Phoenicopterus ruber roseus</i>	CWV	ScRe
Order: ANSERIFORMES			
Family: Anatidae			
25	Common Shelduck <i>Tadorna tadorna</i>	CWV	CWV
26	Wigeon <i>Anas penelope</i>	CP & CWV	CP & CWV
27	Gadwall <i>Anas s. strepera</i>	ScP & ScWV	Sc P & CWV
28	Teal <i>Anas c. crecca</i>	CP & CWV	CP & CWV
29	Mallard <i>Anas p. platyrhynchos</i>	CP & CWV	Ore, CP & CWV
30	Pintail <i>Anas a. acuta</i>	CP & CWV	CP & CWV
31	Garganey <i>Anas querquedula</i>	CP	CP
32	Shoveler <i>Anas clypeata</i>	CP & CWV	CP, CWV&RSuV
33	Marbled Duck <i>Marmaronetta angustirostris</i>	RRe	RRe
34	Red-crested Pochard <i>Netta rufina</i>	OWV	ScWV
35	Common Pochard <i>Aythya ferina</i>	CWV	CP,CWV& RSuV
36	Ferruginous Duck <i>Aythya nyroca</i>	UcP	CP & CWV
37	Tufted Duck <i>Aythya fuligula</i>	UcP	CP & CWV
38	Red-breasted Merganser <i>Mergus s. serator</i>	RWV	RWV
Order: ACCIPITRIFORMES			
Family: Accipitridae			
39	Honey Buzzard <i>Pernis a. apivorus</i>	ScAuP	ScAuP & CSP
40	Buzzard <i>Buteo buteo vulpinus</i>	CP	CP, UcV& SuV
41	Steppe Buzzard <i>Buteo buteo vulpinus</i>	CP	CP, UcWV& SuV
42	Long-legged Buzzard <i>Buteo r. rufinus</i>	ScP	ORe, ScP & ScWV
43	Black Kite <i>Milvus m. migrans</i>	CSP	ScRe & CP
44	Short-toed Eagle <i>Circaetus g. gallicus</i>	CP	ARe, CP, OSuV & OWV
45	Lesser Spotted Eagle <i>Aquila p. pomarina</i>	CP	CP & RWV
46	Steppe Eagle <i>Aquila nipalensis orientalis</i>	CP	CP, RWV & RSuV
47	Imperial Eagle <i>Aquila h. heliaca</i>	RP	RP & UcWV
48	Booted Eagle <i>Hieraaetus p. pennatus</i>	ScP	ScP & RWV
49	Egyptian Vulture <i>Neophron p. percnopterus</i>	RRe	RRe & RP
50	Griffon Vulture <i>Gyps f. fulvus</i>	ScP	FRe, ScP & RWV
51	Marsh Harrier <i>Circus a. aeruginosus</i>	ScP & ScWV	ScP & ScWV
52	Hen Harrier <i>Circus c. cyaneus</i>	RP	RP & RWV
53	Pallid Harrier <i>Circus macrourus</i>	ScP & ScWV	ScP & ScWV
54	Montagu's Harrier <i>Circus pygargus</i>	ScP	RP & OWV
55	Sparrowhawk <i>Accipiter n. nisus</i>	CP	CP & ScWV
56	Levant Sparrowhawk <i>Accipter brevipes</i>	CP	CP
Family: Pandionidae			
57	Osprey <i>Pandion h. haliaetus</i>	ScRe, CP & CWV	CRe& SPWV
Order: FALCONIFORMES			
Family: Falconidae			
58	Lesser Kestrel <i>Falco n. naumanni</i>	CSuP	OB, Sc AuP&OWV
59	Kestrel <i>Falco t. tinnunculus</i>	Unknown	CRe
60	Red-footed Falcon <i>Falco v. vespertinus</i>	RAuP	ScAuP & RSP
61	Hobby <i>Falco s. subbuteo</i>	RB	ScP & RSuV
62	Merlin <i>Falco columbarius aesalon</i>	RWV	RWV
63	Eleonora's Falcon <i>Falco eleonorae</i>	RP	RP
64	Sooty Falcon <i>Falco concolor</i>	RB	ScB
65	Lanner <i>Falco biarmicus tanypterus</i>	RRe	ScRe
66	Peregrine Falcon <i>Falco p. peregrinus</i>	RAuP	RP & RWV
67	Saker <i>Falco c. cherrug</i>	RP & RWV	RP & RWV
Order: GALLIFORMES			
Family: Phasianidae			
68	Quail <i>Coturnix c. coturnix</i>	CP	ScRe, CP, UcWV& RSuV
Order: GRUIFORMES			
Family: Gruidae			
69	Crane <i>Grus g. grus</i>	RAuP	CP & OWV
Family: Rallidae			
70	Water Rail <i>Rallus a. aquaticus</i>	RP	CRe & CWV
71	Little Crake <i>Porzana parva</i>	RP	AcRe, Sc P&ScWV

72	Corncrake <i>Crex crex</i>	RP	ScP
73	Moorhen <i>Gallinula c. chloropus</i>	CP & CWV	CR _e , AP & AWV
74	Coot <i>Fulica a. atra</i>	AWV	RR _e ,AWV,RSuV
Order: CHARADRIIFORMES			
Family: Rostratulidae			
75	Painted Snipe <i>Rostratula b. benghalensis</i>	AR _e	CR _e
Family: Haematopodidae			
76	Oystercatcher <i>Haematopus o. ostralegus</i>	RP	ScP,ScWV&RSuV
Family: Recurvirostridae			
77	Black-winged Stilt <i>Himantopus h. himantopus</i>	ScP	RB, RWV & CP
78	Avocet <i>Recurvirostra avosetta</i>	CWV	RR _e , CWV & CSuV
Family: Burhinidae			
79	Common Thick-knee <i>Burhinus o. oedicnemus</i>	CR _e & ScAuP	CR _e , P & CWV
Family: Glareolidae			
80	Cream-coloured Courser <i>Cursorius c. cursor</i>	CR _e & RAuP	CR _e & CP
81	Collared Pratincole <i>Glareola p. pratincola</i>	ScAuP	CP & RWV
82	Black-winged Pratincole <i>Glareola nordmanni</i>	RAuP	RP
Family: Charadriidae			
83	Little Ringed Plover <i>Charadrius dubius curonicus</i>	ScP	ScP & RWV
84	Ringed Plover <i>Charadrius hiaticula tundrae</i>	CAuP	CP & CWV
85	Kentish Plover <i>Charadrius a. alexandrinus</i>	CAuP	CR _e , CP & CWV
86	Greater Sand Plover <i>Charadrius leschenaultii</i>	ScB	CP, WV & OR _e
87	Dotterel <i>Charadrius morinellus</i>	RAuP	ScWV
88	Golden Plover <i>Pluvialis a. apricaria</i>	RWV	ScWV
89	Grey Plover <i>Pluvialis s. squatarola</i>	ScP & WV	CP,ScWV&Uc SuV
90	Spur-winged Plover <i>Hoplopterus spinosus</i>	OB	CR _e
91	White-tailed Plover <i>Chettusia leucura</i>	RAuP	RP, OW & OSuP
92	Lapwing <i>Vanellus vanellus</i>	RAuP&CWV	CP & CWV
Family: Scolopacidae			
93	Knot <i>Calidris c. canutus</i>	RAuP & RSuP	RP, OWV & SuP
94	Sanderling <i>Calidris alba</i>	CAuP	CP & CWV
95	Little Stint <i>Calidris minuta</i>	CAuP	AP, WV & UcWV
96	Temminck's Stint <i>Calidris temminckii</i>	ScP & RWV	ScP & RWV
97	Curlew Sandpiper <i>Calidris ferruginea</i>	CAuP	ScAuP, CSP & R WV
98	Broad-billed Sandpiper <i>Limicola f. falcinellus</i>	RAuP	RP&OWV
99	Dunlin <i>Calidris a. alpina</i>	CAuP	AP & AWV
100	Jack Snipe <i>Lymnocyptes minimus</i>	RAuP	Sc & ScWV
101	Snipe <i>Gallinago g. gallinago</i>	RAuP	CP & CWV
102	Great Snipe <i>Gallinago media</i>	RAuP	RP & OWV
103	Ruff <i>Philomachus pugnax</i>	CAuP	CP, CWV & RSuV
104	Black-tailed Godwit <i>Limosa l. limosa</i>	ScAuP	CP, RWV & RSuV
105	Bar-tailed Godwit <i>Limosa l. lapponica</i>	OuP	RP & RWV
106	Whimbrel <i>Numenius p. phaeopus</i>	ScAuP	ScP, R WV & SuV
107	Slender-billed Curlew <i>Numenius tenuirostris</i>	AP & AWV	R P & RWV
108	Curlew <i>Numenius a. arquata</i>	ScAuP	Sc P & ScWV
109	Spotted Redshank <i>Tringa erythropus</i>	UcAuP&CSuP	CP & Sc WV
110	Redshank <i>Tringa t. totanus</i>	CAuP	CP, CWV & OSuV
111	Greenshank <i>Tringa nebularia</i>	RAuP & ScWV	CP, ScWV & RSuV
112	Marsh Sandpiper <i>Tringa stagnatilis</i>	RAuP	ScP & ScWV
113	Green Sandpiper <i>Tringa ochropus</i>	CAuP	CP, ScWV & RSuV
114	Wood Sandpiper <i>Tringa glareola</i>	RAuP	CP, ScWV & RSuV
115	Terek Sandpiper <i>Xenus cinereus</i>	RAuP	RP
116	Common Sandpiper <i>Actitis hypoleucos</i>	CAuP	CP & ScWV
117	Turnstone <i>Arenaria i. interpres</i>	ScAuP	ScP & SWV
Family: Phalaropodidae			
118	Red-necked Phalarope <i>Phalaropus lobatus</i>	RAuP	RAuP
119	Grey Phalarope <i>Phalaropus fulicarius</i>	RAuP	UcP & UcWV
Family: Stercorariidae			
120	Pomarine Skua <i>Stercorarius pomarinus</i>	RSuV & AuP	RP, RWV & RSuV
121	Arctic Skua <i>Stercorarius parasiticus</i>	ScAuP	ScP & SWV
122	Long-tailed Skua <i>Stercorarius longicaudus</i>	RAuP	RP
Family: Laridae			
123	Little Gull <i>Larus minutus</i>	ScAuP	ScWV
124	Mediterranean Gull <i>Larus melanocephalus</i>	ScWV	ScWV&RSuV
125	Black-headed Gull <i>Larus ridibundus</i>	ScAuP	AP, AWV & ScSuV
126	Great Black-headed Gull <i>Larus ichthyæetus</i>	RSP	RP & RWV
127	Slender-billed Gull <i>Larus genei</i>	CAuP	ScRe, CP, CWV & CSuV
128	Audouin's Gull <i>Larus audouinii</i>	AAuP	RP
129	Sooty Gull <i>Larus hemprichii</i>	Unknown	ScWV
130	Common Gull <i>Larus c. canus</i>	RWV	RWV
131	Lesser Black-backed Gull <i>Larus f. fuscus</i>	CAuP	CP, CWV & RSuV
132	Yellow-legged Gull <i>Larus c. cachinnans</i>	CWV	RR _e , ScSuV & CWV

133	Black-legged Kittiwake <i>Rissa t. tridactyla</i>	RWV	RWV
134	Gull-billed Tern <i>Gelochelidon n. nilotica</i>	ScAuP	ScP& RWV
135	Caspian Tern <i>Sterna c. caspia</i>	RAuP	CRe, ScP & WV
136	Lesser Crested Tern <i>Sterna bengalensis par</i>	RP	RP
137	Sandwich Tern <i>Sterna s. sandvicensis</i>	CP, CWV&ScSuV	CP, WV&ScSuV
138	Common Tern <i>Sterna h. hirundo</i>	CAuP	CP& ScSuV
139	Little Tern <i>Sterna a. albifrons</i>	CB	CB & CP
140	Whiskered Tern <i>Chlidonias h. hybridus</i>	ScAuP	CP & CWV
141	Black Tern <i>Chlidonias n. niger</i>	RAuP	ScP, RWV & SV
142	White-winged Black Tern <i>Chlidonias leucopterus</i>	ScSuV& CAuP	CP, ScSuV& OWV
143	Spotted Sandgrouse <i>Pterocles senegallus</i>	RRe	CRe
Order: COLUMBIFORMES			
Family: Columbidae			
144	Stock Pigeon <i>Columba o. oenas</i>	RWV	RWV
145	Collared Dove <i>Streptopelia d. decaocto</i>	ScRe	CRe
146	Turtle Dove <i>Streptopelia turtur arenicola</i>	CP	CB
147	Palm Dove (Laughing Dove) <i>Streptopelia senegalensis aegyptiaca</i> *	ScRe	ARe
Order: CUCULIFORMES			
Family: Cuculidae			
148	Great Spotted Cuckoo <i>Clamator glandarius</i>	UcP	Rre& UcP
149	Cuckoo <i>Cuculus canorus</i>	ScP	ScP
Family: Strigidae			
150	Scops Owl <i>Otus s. scops</i>	OAU	ScP
151	Long-eared Owl <i>Asio o. otus</i>	OAU	RWV
152	Short-eared Owl <i>Asio f. flammeus</i>	RAuP	ScP & SWV
153	Little Owl <i>Athene noctua saharae</i>	CRe	CRe
Order: CAPRIMULGIFORMES			
Family: Caprimulgidae			
154	Nightjar <i>Caprimulgus europaeus meridionalis</i>	ScAuP	ScP
Order: APODIFORMES			
Family: Apodidae			
155	Swift <i>Apus a. apus</i>	CP	CP
Order: CORACIIFORMES			
Family: Coeaciidae			
156	Roller <i>Coracias g. garrulus</i>	ScP	ScP
Family: Alcedinidae			
157	Kingfisher <i>Alcedo a. atthis</i>	ScAuP, ScWV&R SP	OB, CP & CWV
158	White-breasted Kingfisher <i>Halcyon s. smyrnensis</i>	UcWV	UcWV
Family: Meropidae			
159	Bee-eater <i>Merops apiaster</i>	CP&RB	CP
Family: Upupidae			
160	Hoopoe <i>Upupa e. epops</i>	CRe & ScAuP	CRe
Family: Alaudidae			
161	Bar-tailed Desert Lark <i>Ammomanes cincturus arenicolor</i>	CRe	CRe
162	Crested Lark <i>Galerida cristata maculata</i>	ARe	ARe
163	Skylark <i>Alauda arvensis cantarella</i>	CWV	CWV
164	Hoopoe Lark <i>Alaemon a. alaudipes</i>	CRe	CRe
165	Short-toed Lark <i>Calandrella cinerea brachydactyla</i>	CAuP& RWV	AP, ScWV&UcRe
Order: PICIFORMES			
Family: Picidae			
166	Wryneck <i>Jynx t. torquilla</i>	ScP	ScP
167	Sand Martin <i>Riparia riparia shelleyi</i>	ARe, ScWV, CP & OSuV	CP
168	Crag Martin <i>Ptyonoprogne r. rupestris</i>	RP	RP & RWV
169	House Martin <i>Delichon u. urbica</i>	RSuV	CP, RSuV& OWV
170	Red-rumped Swallow <i>Hirundo daurica rufula</i>	CP	CP, OSuV&OWV
171	Swallow <i>Hirundo rustica savignii</i> *	Unknown	ARe
Family: Motacillidae			
172	Tawny Pipit <i>Anthus c. campestris</i>	CP&ScWV	CP& ScWV
173	Tree Pipit <i>Anthus trivialis</i>	CP	CP
174	Meadow Pipit <i>Anthus p. pratensis</i>	CWV	CWV& ScP
175	Red-throated Pipit <i>Anthus cervinus</i>	CP & CWV	AP&WV
176	Water (Rock) Pipit <i>Anthus spinoletta coutellii</i>	CWV	CWV& UcP
177	Egyptian Wagtail <i>Motacilla flava pygmaea</i> *	Unknown	CRe
178	Grey Wagtail <i>Motacilla c. cinerea</i>	ScAuP& CWV	CP & WV
179	White Wagtail <i>Motacilla a. alba</i>	AP & AWW	AP & WV
Order: PASSERIFORMES			
Family: Laniidae			
180	Red-backed Shrike <i>Lanius c. collurio</i>	CAuP, RSP& UcWV	CAuP, RSP& UcWV
181	Lesser Grey Shrike <i>Lanius m. minor</i>	UcAuP	CAuP& UcSP
182	Great Grey Shrike <i>Lanius excubitor elegans</i>	CRe	CRe
183	Masked Shrike <i>Lanius nubicus</i>	CSP	ScAuP& CSP
184	Woodchat <i>Lanius s. senator</i>	RAuP& CSP	RAuP& CSP

Family: Oriolidae			
185	Golden Oriole <i>Oriolus o. oriolus</i>	CP	CP
Family: Corvidae			
186	Hooded Crow <i>Corvus corone cornix</i>	UcRe	CRc
187	Brown-necked Raven <i>Corvus r. ruficollis</i>	CRc	CRc
Family: Sylviidae			
188	Cetti's Warbler <i>Cettia cettia orientalis</i>	Unknown	Unknown
189	Savi's Warbler <i>Locustella l. luscinioides</i>	RAuP	ScP& UnWV
190	Moustached Warbler <i>Acrocephalus m. melanopogon</i>	RAuP	ScP
191	Rufous Bush Robin <i>Cercotrichas g. galactotes</i>	CB&CP	CB, CP& RWV
192	Sedge Warbler <i>Acrocephalus schoenobaenus</i>	CP	CP& UcWV
193	Reed Warbler <i>Acrocephalus scirpaceus fucus</i>	Unknown	CP& OWV
194	Great Reed Warbler <i>Acrocephalus a. arundinaceus</i>	ScAuP&, CSP	ScAuP& CSP
195	Marsh Warbler <i>Acrocephalus palustris</i>	Unknown	ScAuP& RSP
196	Olivaceous Warbler <i>Hippolais pallida elaeica</i>	CP	CP
197	Spectacled Warbler <i>Sylvia c. conspicillata</i>	ScWV	ScWV
198	Sardinian Warbler <i>Sylvia m. melanocephala</i>	RB, CP & CWV	RB, CP & CWV
199	Ruppell's Warbler <i>Sylvia r. rueppelli</i>	CP	C P& RWV
200	Whitethroat <i>Sylvia c. communis</i>	CP	CP
201	Lesser Whitethroat <i>Sylvia c. curruca</i>	CAuP&, ASP	CAuP, ASP, CWV& RSuV
202	Garden Warbler <i>Sylvia b. borin</i>	Unknown	CP& RWV
203	Bonelli's Warbler <i>Phylloscopus b. bonelli</i>	CP	CP& RSuV
204	Wood Warbler <i>Phylloscopus sibilatrix</i>	CSP	UcAuP& CSP
205	Willow Warbler <i>Phylloscopus t. trochilus</i>	CP	CP
206	River Warbler <i>Locustella fluviatilis</i>	RP	RP
207	Subalpine Warbler <i>Sylvia cantillans albistriata</i>	CSP	ScAuP, CSP & CWV
208	Barred Warbler <i>Sylvia n. nisoria</i>	RAuP	RAuP&CS P
209	Graceful Warbler <i>Prinia gracilis palestine</i>	CRc	ARc
210	Olive-tree Warbler <i>Hippolais olivetorum</i>	RP	RP
211	Blackcap <i>Sylvia a. atricapilla</i>	ScP	ScAuP, ScWV&CS P
212	Chiffchaff <i>Phylloscopus c. collybita</i>	CWV	AP& CWV
213	Graceful Prinia <i>Prinia g. gracilis</i>	CRc	ARc
214	Red-breasted Flycatcher <i>Ficedula p. parva</i>	ScP	ScAuP, RSP&RWV
215	Spotted Flycatcher <i>Muscicapa s. striata</i>	CP& UcWV	CP&UcWV
Family: Muscicapidae			
216	Semi-collared Flycatcher <i>Ficedula semitorquata</i>	RAuP& CSP	RAuP&CSP
217	Collared Flycatcher <i>Ficedula albicollis</i>	RP	RAuP&CSP
218	Pied Flycatcher <i>Ficedula h. hypoleuca</i>	RP	RAuP& CSP
Family: Turdidae			
219	Whinchat <i>Saxicola r. rubetra</i>	CP	CP
220	Stonechat <i>Saxicola torquata rubicola</i>	CP & CWV	CP & CWV
221	Isabelline Wheatear <i>Oenanthe isabellina</i>	CP & CWV	CP & CWV
222	Wheatear <i>Oenanthe o. oenanthe</i>	CP& UcWV	CP& UcWV
223	Black-eared Wheatear <i>Oenanthe hispanica melanoleuca</i>	CAuP	CAuP, UcWV
224	Desert Wheatear <i>Oenanthe deserti homachroa</i>	UcP	RRc & RWV
225	Mourning Wheatear <i>Oenanthe lugens halophila</i>	RRc	CRc
226	Redstart <i>Phoenicurus p. phoenicurus</i>	CP& UcWV	CP& UcWV
227	Rock Thrush <i>Monticola s. saxatilis</i>	ScP	ScAuP, CSP& UcWV
228	Thrush Nightingale <i>Luscinia luscinia</i>	CAuP,	CAuP& ScSP
229	Nightingale <i>Luscinia m. megarhynchos</i>	ScAuP& CSP	ScAuP& CSP
230	Bluethroat <i>Luscinia s. svecica</i>	CP & CWV	CP & CWV
231	Blackbird <i>Turdus m. merula</i>	CRc	CRc & CWV
232	Blue Rock Thrush <i>Monticola s. solitarius</i>	CP & CWV	ORc, CP & CWV
233	Song Thrush <i>Turdus p. philomelos</i>	CWV	CWV
Family: Passeridae			
234	House Sparrow <i>Passer domesticus niloticus</i>	CRc	ARc
235	Spanish Sparrow <i>Passer h. hispaniolensis</i>	ScWV	AP, AWV&OSuV
Family: Fringillidae			
236	Greenfinch <i>Carduelis chloris aurantiiventris</i>	CRc & CWV	CWV
237	Goldfinch <i>Carduelis carduelis niediecki</i>	CRc	CRc
Family: Emberizidae			
238	Ortolan Bunting <i>Emberiza hortulana</i>	RAuP	CP&OWV
239	Cretzschmar's Bunting <i>Emberiza caesia</i>	RP	CP
240	Black-headed Bunting <i>Emberiza melanocephala</i>	RP	RP
241	Corn Bunting <i>Emberiza c. calandra</i>	CWV	CP & WV

Mammals of Zaranik Protected Area with their abundance and status in Egypt.

Abun = Abundance; A = abundant; C = common; LC = least concern;

R = rare; Thr = threatened; Uc = uncommon

Scientific name	English name	Abun	Stat.
ORDER: INSECTIVORA			
1 -Family: Erinaceidae			
<i>Hemiechinus auritus</i> (Fischer, 1882)	Long Eared Hedgehog	C	LC
2- Family: Soricidae			
<i>Crocidura nana</i> Dobson, 1890	Dwarf Shrew	R	LC
ORDER: CHIROPTERA			
3- family: Hipposideridae			
<i>Astellia tridens</i> (E. Geoffroy, 1813)	Leaf-nosed Trident Bat	Uc	LC
4- Family: Rhinolophidae			
<i>Rhinolophus clivosus</i> Cretzschmar, 1928	Horse-shoe Bat	Uc	LC
5- Family: Vespertilionidae			
<i>Pipistrellus kuhli</i> (Kuhl, 1819)	Kuhl's Pipistrelle	Uc	LC
<i>Otonycteris hemprichi</i> Peters, 1859	Hemprich's Long-eared Bat	Uc	LC
ORDER: LAGOMORPHA			
6- Family: Leporidae			
<i>Lepus capensis</i> Linnaeus, 1758	Cape Hare	Uc	LC
ORDER: RODENTIA			
Sub-order: Myomorpha			
7- Family: Muridae			
<i>Rattus rattus</i> (Linnaeus, 1758)	Black Rat, House Rat	Uc	LC
<i>Mus musculus</i> Linnaeus, 1758	House Mouse	C	LC
8- Family: Crecitidae			
<i>Gerbillus gerbillus</i> (Olivier, 1801)	Lesser Egyptian Gerbil	A	LC
<i>Gerbillus pyramidum</i> Geoggroy, 1825	Greater Egyptian Gerbil	A	LC
<i>Gerbillus andersoni</i> De Winton, 1902	Anderson's Gerbil	A	LC
<i>Diplopodillus amoenus</i> De Winton, 1902	Charming Dipodil	Uc	LC
<i>Merionis crassus</i> Sundevall, 1842	Sundevall's Jird	Uc	LC
<i>Psammomys obesus</i> Cretzschmar, 1828	Fat Sand Rat	Uc	LC
9- Family: Dipodidae			
<i>Jaculus jaculus</i> (Linnaeus, 1758)	Lesser Egyptian Jerboa	R	LC
<i>Jaculus orientalis</i> Erxleben, 1777	Greater Egyptian Jerboa	Uc	Thr
ORDER: CARNIVORA			
10- Family: Canidae			
<i>Vulpes zerda</i> (Zimmmann, 1780)	Fennec Fox	Uc	Thr
11- Family: Felidae			
<i>Felix margarita</i>	Sand Cat	Uc	Thr
<i>Felix silvestris</i>	Wild Cat	Uc	Thr

ANNEX 1

An alphabetical list of 288 species representing 49 families of flowering plants recorded from Omayed Protected Area. The species are distinguished into two major groups (perennials vs. annuals or sometimes biennials). The life form of each species is given: Ch = chamaephytes; GH = geophytes-helpophytes; H = hemicryptophytes; HH = hydrophytes; P = phanerophytes; Th = therophytes. Endemic species are asterisked.

Species	Family	Life Form
PERENNIALS		
<i>Achillea santolina</i> L.	Compositae	H
<i>Aeluropus lagopoides</i> (L.) Trin. Ex Thwaites	Gramineae	G
<i>Agathophora alopecuroides</i> (Delile) Fenzl ex Bunge	Chenopodiaceae	Ch
<i>Alhagi graecorum</i> Boiss.	Leguminosae	H
<i>Alkanna lehmanii</i> (Tim.) A. DC.	Boraginaceae	Ch
<i>Allium desertorum</i> Frossk.	Alliaceae	G
<i>Allium erdellii</i> Zucc.	Alliaceae	G
<i>Allium roseum</i> L.	Alliaceae	G
<i>Althaea ludwigii</i> L.	Malvaceae	H

<i>Ammophila arenaria</i> (L.) Link	Gramineae	G
<i>Anabasis articulata</i> (Frossk.) Moq.	Chenopodiaceae	Ch
<i>Anabasis oropediorum</i> Maire	Chenopodiaceae	Ch
<i>Anchusa azurea</i> Miller	Boraginaceae	Ch
<i>Argyrobium uniflorum</i> (Decne.) Jaub. & Spach	Leguminosae	Ch
<i>Arisarum vulgare</i> Targ.-Tozz.	Araceae	G
<i>Artemisia herba-alba</i> Asso	Compositae	Ch
<i>Artemisia monosperma</i> Delile	Compositae	Ch
<i>Arthroceum macrostachyum</i> (Moric.) K. Koch	Chenopodiaceae	Ch
<i>Asparagus aphyllus</i> L.	Liliaceae	G
<i>Asparagus stipularis</i> Forssk.	Liliaceae	G
<i>Asphodelus ramosus</i> L.	Liliaceae	G
<i>Aster squamatus</i> (Spreng.) Hieron	Compositae	Ch
<i>Astragalus caprinus</i> L.	Leguminosae	Ch
<i>Astragalus spinosus</i> (Forssk.) Muschl.	Leguminosae	Ch
<i>Astragalus trigonus</i> DC.	Leguminosae	Ch
<i>Atractylis carduus</i> (Forssk.) C. Chr.	Compositae	H
<i>Atriplex halimus</i> L.	Chenopodiaceae	Ph
<i>Atriplex leucoclada</i> Boiss	Chenopodiaceae	Ch
<i>Calligonum polygonoides</i> subsp. <i>comosum</i> (L'Her.) Soskov	Polygonaceae	Ph
<i>Carduncellus eriocephalus</i> Boiss.	Compositae	Ch
<i>Carduncellus mareoticus</i> (Delile) Hanelt	Compositae	Ch
<i>Centaurea alexandrina</i> Delile	Compositae	Ch
<i>Centaurea calcitrapa</i> L.	Compositae	Ch
<i>Centaurea pumilio</i> L.	Compositae	Ch
<i>Cistanche tubulosa</i> (Schenk) Hook.	Orobanchaceae	P
<i>Citrullus colocynthis</i> (L.) Schrad.	Cucurbitaceae	H
<i>Cleome africana</i> Botsch.	Cleomaceae	Ch
<i>Colchicum ritchii</i> R. Br.	Liliaceae	G
<i>Convolvulus arvensis</i> L.	Convolvulaceae	H
<i>Convolvulus lanatus</i> Vahl.	Convolvulaceae	Ph
<i>Cressa cretica</i> L.	Chenopodiaceae	H
<i>Crucianella maritima</i> L.	Rubiaceae	H
<i>Cynachum acutum</i> L.	Asclepiadaceae	Ph
<i>Cynodon dactylon</i> (L.) Pers.	Gramineae	G
<i>Cyperus capitatus</i> Vand.	Cyperaceae	G
<i>Cyperus rotundus</i> L.	Cyperaceae	G
<i>Dactylis glomerata</i> L.	Gramineae	G
<i>Deverra tortuosa</i> (Desf.) DC.	Umbelliferae	Ch

<i>Dipcadi erythraeum</i> Webb & Berthel.	Liliaceae	G
<i>Ebenus armetagei</i> Schweinf. & Taub.	Leguminosae	H
<i>Echinops spinosissimus</i> Turra	Compositae	H
<i>Echiochilon fruticosum</i> Desf.	Boraginaceae	Ch
<i>Echium angustifolium</i> subsp. <i>sericeum</i> (Vahl) Klotz	Boraginaceae	H
<i>Elymus farctus</i> (Viv.) Runemark ex Melderis	Gramineae	G
<i>Eminium spiculatum</i> (Blume) Schott	Araceae	G
<i>Eryngium campestre</i> L.	Umbelliferae	G
<i>Euphorbia bivonae</i> Stoud.	Euphorbiaceae	Ch
<i>Euphorbia hierosolymitana</i> Boiss.	Euphorbiaceae	H
<i>Euphorbia paralias</i> L.	Euphorbiaceae	H
<i>Euphorbia retusa</i> Forssk.	Euphorbiaceae	H
<i>Fagonia cretica</i> L.	Zygophyllaceae	H
<i>Foeniculum vulgare</i> Miller	Umbelliferae	Ch
<i>Frankenia revoluta</i> Forssk.	Frankeniaceae	H
<i>Gagea fibrosa</i> (Desf.) Schult. & Beauverd	Liliaceae	G
<i>Globularia arabica</i> Jaub. & Spach	Globulariaceae	Ch
<i>Gymnocarpus decander</i> Forssk.	Caryophyllaceae	Ch
<i>Gynadriis sisyrinchium</i> (L.) Parl.	Iridaceae	G
<i>Haplophyllum tuberculatum</i> (Forssk.) A. Juss.	Rutaceae	Ch
<i>Halocnemum strobilaceum</i> (Pall.) M. Bieb.	Chenopodiaceae	Ch
<i>Helianthemum kahirichum</i> Del.	Cistaceae	Ch
<i>Helianthemum lippii</i> (L.) Dum. Cours.	Cistaceae	Ch
<i>Helianthemum sphaerocalyx</i> Gaub & Janchen *	Cistaceae	Ch
<i>Helianthemum stipulatum</i> (Forssk.) C. Chr.	Cistaceae	Ch
<i>Heliotropium bacciferum</i> Forssk.	Boraginaceae	Ch
<i>Herniaria hemistemon</i> J. Gay	Caryophyllaceae	H
<i>Hyoscyamus muticus</i> L.	Solanaceae	H
<i>Hyoseris radiata</i> subsp. <i>Graeca</i> Halacsy	Compositae	G
<i>Imperata cylindrica</i> (L.) Beauv.	Gramineae	G
<i>Inula crithmoides</i> L.	Compositae	Ph
<i>Juncus acutus</i> L.	Juncaceae	G
<i>Juncus rigidus</i> C.A. Mey.	Juncaceae	G
<i>Kickxia aegyptiaca</i> (L.) Nabelek	Scrophulariaceae	Ch
<i>Launaea nudicaulis</i> (L.) Hook. f.	Compositae	H
<i>Leontodon tuberosus</i> L.	Compositae	G
<i>Limoniastrum monopetalum</i> (L.) Boiss.	Plumbaginaceae	Ch
<i>Limonium pruinosum</i> (L.) Chaz.	Plumbaginaceae	H
<i>Limonium tubiflorum</i> (Delile) Kuntze	Plumbaginaceae	H
<i>Lolium perenne</i> L.	Gramineae	G

<i>Lotus creticus</i> L.	Leguminosae	H
<i>Lotus glaber</i> Mill.	Leguminosae	H
<i>Lotus polyphyllus</i> E. D. Clarke	Leguminosae	H
<i>Lycium europaeum</i> L.	Solanaceae	Ph
<i>Lycium schawii</i> Roem. & Schult.	Solanaceae	Ph
<i>Lygeum spartum</i> Loeffl. ex L.	Gramineae	G
<i>Marrubium vulgare</i> L.	Labiatae	Th
<i>Moltikiopsis ciliata</i> (Forssk.) I.M. Johnst.	Boraginaceae	H
<i>Moricandia nitens</i> (Viv.) Durand & Barratte	Cruciferae	Ch
<i>Narcissus tazetta</i> L.	Amaryllidaceae	G
<i>Noaea mucronota</i> (Forssk.) Asch. & Schweinf.	Chenopodiaceae	Ch
<i>Ononis vaginalis</i> Vahl	Leguminosae	Ch
<i>Ornithogalum trichophyllum</i> Boiss. & Heldr.	Liliaceae	G
<i>Otanthus maritimus</i> (L.) Hoffmanns. & Link	Compositae	Ch
<i>Pancreatium maritimum</i> L.	Amaryllidaceae	G
<i>Pancreatium sickenbergeri</i> Asch.	Amaryllidaceae	G
<i>Panicum turgidum</i> Forssk.	Gramineae	G
<i>Parietaria alsinifolia</i> Delile	Urticaceae	Th
<i>Paronychia argentea</i> Lam.	Caryophyllaceae	Ch
<i>Peganum harmala</i> L.	Zygophyllaceae	H
<i>Phagnalon rupestre</i> (L.) DC.	Compositae	Ch
<i>Phlomis floccosa</i> D. Don.	Labiatae	Ph
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Gramineae	G,HH
<i>Plantago albicans</i> L.	Plantaginaceae	H
<i>Polycarpha repens</i> (Forssk.) Asch. & Schweinf.	Caryophyllaceae	H
<i>Polygonum equisetiforme</i> Sm.	Polygonaceae	Ch
<i>Polygonum maritimum</i> L.	Polygonaceae	Th
<i>Potamogeton pectinatus</i> L.	Potamogetonaceae	HH
<i>Prasium majus</i> L.	Labiatae	Ch
<i>Reaumuria hirtella</i> Jaub. & Spach	Tamaricaceae	Ch
<i>Retama raetam</i> (Forssk.) Webb & Berthel.	Leguminosae	Ph
<i>Rhodalsine geniculata</i> (Poir.) F.N. Williams	Caryophyllaceae	H
<i>Saccharum spontaneum</i> L.	Gramineae	G,HH
<i>Salsola longifolia</i> Forssk.	Chenopodiaceae	Ch
<i>Salsola tetragona</i> Delile.	Chenopodiaceae	Ch
<i>Salsola tetrandra</i> Forssk.	Chenopodiaceae	Ch
<i>Salsola vermiculata</i> L.	Chenopodiaceae	Ch
<i>Salvia aegyptiaca</i> L.	Labiatae	H
<i>Salvia lanigera</i> Poir.	Labiatae	H

<i>Salvia verbenaca</i> L.	Labiatae	H
<i>Sarcocorinia fruticosa</i> (L.) A.J. Scott	Chenopodiaceae	Ch
<i>Scorzonera undulata</i> Vahl	Compositae	G
<i>Silene succulenta</i> Forssk.	Caryophyllaceae	H
<i>Silybium marianum</i>	Compositae	H
<i>Sproboldus pungens</i> (Schreb.) Kunth	Gramineae	G
<i>Stipa capensis</i> Thunb.	Gramineae	H
<i>Stipa lagascae</i> Roem. & Schult.	Gramineae	H
<i>Stipagrostis ciliata</i> (Desf.) de Winter	Gramineae	H
<i>Stipagrostis plumosa</i> (L.) Munro ex T. Anderson	Gramineae	H
<i>Suaeda aegyptiaca</i> (Hasselq.) Zohary	Chenopodiaceae	Ch
<i>Suaeda pruinosa</i> Lange	Chenopodiaceae	Ch
<i>Suaeda vera</i> Forssk. ex J.F. Gmel.	Chenopodiaceae	Ch
<i>Tamarix nilotica</i> (Ehrenb.) Bunge	Tamaricaceae	Th
<i>Teurcrium polium</i> L.	Labiatae	H
<i>Thymelaea hirsuta</i> (L.) Endl.	Thymelaeaceae	Ph
<i>Thymus capitatus</i> (L.) Link.	Labiatae	Ch
<i>Traganum nudatum</i> Delile	Chenopodiaceae	Ch
<i>Varthemia candicans</i> (Delile) Boiss.	Compositae	H
<i>Typha domingensis</i> (Pers.) Steud.	Typhaceae	G
<i>Urginea undulata</i> (Desf.) Steinh.	Liliaceae	G
<i>Verbasum letourneuxii</i> Asch. & Schweinf.	Scrophulariaceae	H
<i>Zilla spinosa</i> (L.) Prantl	Cruciferae	Th
<i>Zygophyllum album</i> L. f.	Zygophyllaceae	Ch
<i>Zygophyllum aegyptium</i> Hosni *	Zygophyllaceae	Ch
ANNUALS		
<i>Adonis dentata</i> Delile	Ranunculaceae	Th
<i>Aegilops bicornis</i> (Forssk.) Jaub. & Spach	Gramineae	Th
<i>Aegilops kotschyii</i> Biess.	Gramineae	Th
<i>Ajuga iva</i> (L.) Schreber	Labiatae	Th
<i>Ammochloa palaestina</i> Boiss	Gramineae	Th
<i>Ammi visnaga</i> L.	Umbelliferae	Th
<i>Anacyclus alexandrinus</i> Wild.	Compositae	Th
<i>Anagallis arvensis</i> L.	Primulaceae	Th
<i>Anchusa aegyptiaca</i> (L.) A. DC.	Boraginaceae	Th
<i>Anchusa hispida</i> Forssk.	Boraginaceae	Th
<i>Anchusa milleri</i> Wild.	Boraginaceae	Th
<i>Anthemis microsperma</i> Boiss. & Kotschy	Compositae	Th
<i>Arnebia decumbens</i> (Vent.) Coss. & Kralik	Boraginaceae	Th

<i>Astragalus annularis</i> Forssk.	Leguminosae	Th
<i>Astragalus asterias</i> subsp. <i>radiatus</i> (Batt.) Greuter	Leguminosae	Th
<i>Astragalus boeoticus</i> L.	Leguminosae	Th
<i>Astragalus peregrinus</i> Vahl	Leguminosae	Th
<i>Atractylis cancellata</i> L.	Compositae	Th
<i>Avena barbata</i> Pott. ex Link	Gramineae	Th
<i>Avena fatua</i> L.	Gramineae	Th
<i>Bassia muricata</i> (L.) Asch.	Gramineae	Th
<i>Brachypodium distachyum</i> (L.) P. Beauv.	Gramineae	Th
<i>Brassica tournefortii</i> Gouan	Cruciferae	Th
<i>Bromus rubens</i> L.	Gramineae	Th
<i>Bupleurum lancifolium</i> Hornem.	Umbelliferae	Th
<i>Bupleurum nanum</i> Poir	Umbelliferae	Th
<i>Bupleurum nodiflorum</i> Sm.	Umbelliferae	Th
<i>Bupleurum semicompositum</i> L.	Umbelliferae	Th
<i>Cakile maritima</i> Scop.	Cruciferae	Th
<i>Calendula arvensis</i> L.	Compositae	Th
<i>Caspella bursa-pastoris</i> (L.) Medik	Cruciferae	Th
<i>Carduus getulus</i> Pomel	Compositae	Th
<i>Carrichtera annua</i> (L.) DC.	Cruciferae	Th
<i>Carthamus glaucus</i> M. Bieb.	Compositae	Th
<i>Carthamus lanatus</i> L.	Compositae	Th
<i>Centaurea glomerata</i> Vahl	Compositae	Th
<i>Chenopodium murale</i> L.	Chenopodiaceae	Th
<i>Chrysanthemum coronarium</i> L.	Compositae	Th
<i>Convolvulus althaeoides</i> L.	Convolvulaceae	Th
<i>Cichorium endivia</i> subsp. <i>pumilum</i> (Jacq.) Cout.	Compositae	Th
<i>Conzya bonariensis</i> (L.) Cronquist	Compositae	Th
<i>Crucianella aegyptiaca</i> L.	Rubiaceae	Th
<i>Cuscuta planiflora</i> Ten.	Cuscutaceae	P
<i>Cutandia dichotoma</i> (Forssk.) Trab.	Gramineae	Th
<i>Cutandia memphetica</i> (Spreng.) K. Richt.	Gramineae	Th
<i>Daucus syrticus</i> Murb.	Umbelliferae	Th
<i>Emex spinosa</i> L. Campbd.	Polygonaceae	Th
<i>Erodium crassifolium</i> L.	Geraniaceae	Th
<i>Erodium laciniatum</i> (Cav.) Wild.	Geraniaceae	Th
<i>Erodium neuradifolium</i> Delile	Geraniaceae	Th
<i>Eruca sativa</i> Mill.	Cruciferae	Th
<i>Erucaria pinnata</i> (Viv.) Täckh. & Boulos	Cruciferae	Th

<i>Euphorbia granulata</i> Forssk.	Euphorbiaceae	Th
<i>Euphorbia helioscopia</i> L.	Euphorbiaceae	Th
<i>Euphorbia peplus</i> L.	Euphorbiaceae	Th
<i>Filago desertorum</i> Pomel	Compositae	Th
<i>Fumaria densiflora</i> DC.	Fumariaceae	Th
<i>Herniaria hirsuta</i> L.	Caryophyllaceae	Th
<i>Hippocrepis areolata</i> Desv.	Leguminosae	Th
<i>Hippocrepis cyclocarpa</i> Murb.	Leguminosae	Th
<i>Hordeum murinum</i> subsp. <i>leporinum</i> (Link.) Arcang.	Gramineae	Th
<i>Hyoseris scabra</i> L.	Compositae	Th
<i>Ifigia spicata</i> (Forssk.) Sch. Bip.	Compositae	Th
<i>Kochia indica</i> Wight	Chenopodiaceae	Th
<i>Lactuca serriola</i> L.	Compositae	H
<i>Lathyrus marmoratus</i> Boiss. & Blanche	Leguminosae	Th
<i>Launaea capitata</i> (Spreng.) Dandy	Compositae	Th
<i>Launaea resedifolia</i> (L.) Kuntze	Compositae	Th
<i>Launaea tenuiloba</i> (Boiss.) Kuntze	Compositae	Th
<i>Linaria albifrons</i> (Sm.) Spreng.	Scrophulariaceae	Th
<i>Linaria haelava</i> (Forssk.) Delile	Scrophulariaceae	Th
<i>Lobularia arabica</i> (Boiss.) Muschler	Cruciferae	Th
<i>Lobularia libyca</i> (Viv.) C.F.W. Meissn.	Cruciferae	Th
<i>Lolium multiflorum</i> Lam.	Gramineae	Th
<i>Lolium perenne</i> L.	Gramineae	Th
<i>Lotus arabicus</i> L.	Leguminosae	Th
<i>Lotus halophilus</i> Boiss. & Spruner	Leguminosae	Th
<i>Malva parviflora</i> L.	Malvaceae	Th
<i>Matthiola longipetala</i> subsp. <i>hirta</i> (Conti) Greuter & Burdet	Cruciferae	Th
<i>Matthiola longipetala</i> subsp. <i>livida</i> (Delile) Maire	Cruciferae	Th
<i>Medicago intertexta</i> (L.) Mill.	Leguminosae	Th
<i>Medicago laciniata</i> (L.) Mill.	Leguminosae	Th
<i>Medicago minima</i> L.	Leguminosae	Th
<i>Medicago polymorpha</i> L.	Leguminosae	Th
<i>Medicago truncatula</i> Gaertn.	Leguminosae	Th
<i>Melilotus indica</i>	Leguminosae	Th
<i>Mesembryanthemum crystallinum</i> L.	Aizoaceae	Th
<i>Mesembryanthemum nodiflorum</i> L.	Aizoaceae	Th
<i>Neurada procumbens</i> L.	Neuradaceae	Th
<i>Ononis reclinata</i> L.	Leguminosae	Th
<i>Ononis serrata</i> Forssk.	Leguminosae	Th
<i>Onopordum alexandrinum</i> Boiss.	Compositae	Th

<i>Orobanche crenata</i> Forssk.	Orobanchaceae	Th
<i>Papaver rhoeas</i> L.	Papaveraceae	Th
<i>Parapholis marginata</i> Runemark	Gramineae	Th
<i>Paronychia arabica</i> (L.) DC.	Caryophyllaceae	Th
<i>Phalaris minor</i> Retz.	Gramineae	Th
<i>Picris asplenioides</i> L.	Compositae	Th
<i>Plantago crypsoides</i> Boiss	Plantaginaceae	Th
<i>Plantago notata</i> Lag	Plantaginaceae	Th
<i>Plantago ovata</i> Forssk.	Plantaginaceae	Th
<i>Polycarpon succulentum</i> (Delile) J. Gay	Caryophyllaceae	Th
<i>Polycarpon tetraphyllum</i> (L.) L.	Caryophyllaceae	Th
<i>Polypogon monspeliensis</i> (L.) Desf.	Gramineae	Th
<i>Pseudorhiza pumila</i> (L.) Grande	Umbelliferae	Th
<i>Pulicaria arabica</i> (L.) Cass.	Compositae	Th
<i>Reichardia tingitara</i> (L.) Roth	Compositae	Th
<i>Reseda alba</i> L.	Resedaceae	Th
<i>Reseda decursiva</i> Forssk.	Resedaceae	Th
<i>Rostraria cristata</i> (L.) Tzvelev	Gramineae	Th
<i>Rumex pictus</i> Forssk.	Polygonaceae	Th
<i>Rumex vesicarius</i> L.	Polygonaceae	Th
<i>Salsola kali</i> L.	Chenopodiaceae	Th
<i>Scabiosa eremophila</i> Boiss.	Dipsacaceae	Th
<i>Schismus barbatus</i> (L.) Thell.	Gramineae	Th
<i>Senecio glaucus</i> subsp. <i>coronopifolius</i> (Maire)C. Alexander	Compositae	Th
<i>Sielne colorata</i> var. <i>oliveriana</i> (Oth) Muschler	Caryophyllaceae	Th
<i>Sielne villosa</i> Forssk.	Caryophyllaceae	Th
<i>Sielne vivianii</i> subsp. <i>vivianii</i> Steud.	Caryophyllaceae	Th
<i>Solanum nigrum</i> L.	Solanaceae	Th
<i>Sonchus oleraceus</i> L.	Compositae	Th
<i>Spergularia diandra</i> (Guss.) Boiss.	Caryophyllaceae	Th
<i>Spergularia marina</i> (L.) Griseb.	Caryophyllaceae	Th
<i>Sphenopus divaricatus</i> (Gouan) Rehb.	Gramineae	Th
<i>Sporobolus spicatus</i> (Vahl) Kunth	Gramineae	Th
<i>Tribulus terrestris</i> L.	Zygophyllaceae	Ch
<i>Trifolium resupinatum</i> L.	Leguminosae	Th
<i>Trigonella laciniata</i> L.	Leguminosae	Th
<i>Trigonella stellata</i> Forssk.	Leguminosae	Th
<i>Umbilicus horizontalis</i> (Guss.) DC.	Crassulaceae	H
<i>Urtica urens</i> L.	Urticaceae	Th

<i>Vaccaria hispanica</i> subsp. <i>hispanica</i> (mill.) Rauschert	Caryophyllaceae	Th
<i>Verbasum letourneuxii</i> Asch. & Schweinf.	Scrophulariaceae	Th
<i>Vicia monantha</i> Retz.	Leguminosae	Th
<i>Vicia sativa</i> L.	Leguminosae	Th
<i>Xanthium spinosum</i> L.	Compositae	Th

ANNEX 2

Systematic listing of invertebrate fauna recorded from Omayed Protected Area. * = endangered species.

1. PHYLUM: MOLLUSCA

Eremina desertorum Forsk. (desert snail)

1 PHYLUM: ARTHROPODA

2.1 Class: Crustacea

1 Family: Oniscoidea: *Agabiformes lentus* (B.L.), *Hemilepistus reauveri* Aubouin, *Porcellio albinus* B.L.

2.2 Class: Insecta (insects)

1. Order Coleoptera:

1.1 Family: Carabidae:

1.2 <i>Broscus laevigatus</i> Dej.
1.3 <i>Graphopterus serrata</i> F.
1.4 <i>Harpalus tenebrosus</i> Dej.
<i>Sphodrus leucophthalmus</i> L.
<i>Cymindis setifensis</i>
<i>Cymindis suturalis</i>
<i>Scaritis evrytus</i>
<i>Scarites buparis</i>

1.5 Family: Chrysomelidae: *Chrysomela bicolor* F., *Arthrochlamys* sp.

1.6 Family: Coccinellidae:

1.7 <i>Chilomenes vicina</i> var. <i>nilotica</i> Cr.
1.8 <i>Coccinella undecimpunctata</i> L.
<i>Coccinella septempunctata</i> L.
<i>Exochomus flavipes</i> (Thunb.) var. <i>nigripennis</i> Er.
<i>Schymnus interruptus</i> Gaeze.

1.9 Family: Curculionidae:

1.10 <i>Larinus onopordi</i> (Fabr.)
1.11 <i>Otiorhynchus hellenicus</i> Stierl.
1.12 <i>Philopendon meridionalis</i> (Jacq. Du Val.)
<i>Brachycerus spinicollis</i> Bedel*
<i>Apion</i> sp.

1.5 Family: Histeridae:

<i>Saprinus aegyptiacus</i> Mars.
<i>Saprinus gilvicornis</i> Er.
<i>Saprinus semistriatus</i> Sc.
<i>Saprinus pharao</i> Mars
<i>Saprinus blanchei</i> Mars
<i>Saprinus semipunctatus</i> F.
<i>Saprinus moyses</i> Mars
<i>Saprinus ornatus</i> Er.
<i>Saprinus pulcherrimus</i> Web.

1.6 Family: Melyridae: *Colotis cinctus* Mots.

1.7 Family: Scarabaeidae:

<i>Aegialia</i> sp.
<i>Aphodius cognatus</i> Fairm
<i>Aphodius klugi</i> Schm.
<i>Aphodius granuliformis</i> Fairm.
<i>Aphodius arabicus</i> Mars
<i>Aphodius lividus</i> Olivier
<i>Aphodius vitellinus</i> Klug
<i>Aphodius castaneus</i> Ill.
<i>Aphodius nitidulus</i> F.
<i>Aphodius hydrochoeris</i> F.
<i>Aphodius hieroglyphicus</i> Klug
<i>Oxythyrea abigail</i> Rche.
<i>Tropinata squalida</i> Scop.
<i>Scarabaeus sacer</i>
<i>Scarabaeus multidentatum</i>
<i>Pharaonus fasciculatus</i>
<i>Onthophagus nebulosus</i> Rche.

1.8 Family: Tenebrionidae:

<i>Catomus consentaneus</i> (Küster)
<i>Cylindronotus pallidus</i> (Curtis)
<i>Ochrea sparsispina</i> Bohm
<i>Pimelia theveneti</i> Sen.
<i>Pimelia letriella</i> Sol.
<i>Pimelia bohmi</i>
<i>Scaurus</i> sp.
<i>Erodus gibbus</i>
<i>Psammoica</i> sp.
<i>Tentyrina bohmi</i> Rott.
<i>Ammobius rufus</i> Lucas

1.9 Family: Buprestidae: *Julodis aequinoctialis* Lucas

1.10 Family: Pyralidae:

<i>Denticera divisella</i> Dup.
<i>Staudingeria vinospersella</i> Turati
<i>Mecyna polygonalis</i> Hb.

1.11 Family: Pterophoridae: *Apdistis statics* (Mill.)1.12 Family: Phycitidae: *Ephestia* sp.

1.13 Family: Dermestidae:

<i>Dermestes maculatus</i> De Geer
<i>Dermestes frischii</i> Klugel
<i>Attaginus scalariea</i> Pic

1.14 Family: Meloidae: unidentified larva

2. Order: Diptera

2.1 Family: Calliphoridae

<i>Musca</i> sp.
<i>Lucilia seicata</i> (Meigen)
<i>Lucilia illustris</i> (Meigen)
<i>Agriella setosa</i> Sal.
<i>Calliphora vicina</i> Desvoidy
<i>Pollenia</i> sp.

2.2 Family: Chironomidae: *Chironomus* sp.

2.3 Family: Sarcophagidae:

<i>Helicobia destructor</i>
<i>Sarcophaga</i> sp.
<i>Wohlfahrtia nuba</i> (Wiedemann)
<i>Wohlfahrtia indignis</i> Villeneuve

2.4 Family: Sphaeroceridae: *Leptocera* sp.

2.5 Family: Syrphidae:

<i>Syrphus corollae</i> F.
<i>Emerus compertus</i>
<i>Syrpitta</i> sp.

2.6 Family: Tabanidae: *Atylotus* cf. *agrestis* (Wied.)

2.7 Family: Tephritidae:

<i>Acanthophilus helianthi</i> (Rossi.)
<i>Dacus oleae</i> (Gmel)

2.8 Family: Muscidae: *Muscina stabulans* Fallén,

2.9 Family: Asilidae:

<i>Asitus</i> sp.
<i>Philonicus</i> sp.

2.10 Family: Cesidomyiidae: unidentified parasite on a Pseudococcid species,

2.11 Family: Agromyzidae: unidentified larva,

parasitoids:

<i>Gonia capitata</i> De Geer
<i>Paederus alfieri</i> Koch
<i>Trachina</i> sp.
<i>Leucapsis raccae</i>
<i>Hemiperlisia lataniae</i> (Signoret)
<i>Aounediella aurantii</i> Mask

3. Order: Hemiptera3.1 Family: Anthocoridae: *Orius* sp.3.2 Family: Dictyophoridae: *Tachorga* sp.3.3 Family: Tingidae: *Athias* sp., *Corythuca* sp.3.4 Family: Miridae: *Capsodes cingulatus* (Fabricius),**4. Order Hymenoptera**4.1 Family: Anthophoridae: *Anthophora* cf. *candida* Sm.

4.2 Family: Braconidae:

<i>Apanteles</i> sp.
<i>Bracon hebetor</i> Say.
<i>Microbracon kirkpatricki</i> Wilk
<i>Rogas</i> sp.

<i>Hypomicrogaster</i> sp.
<i>Raconotus</i> cf. <i>sudanensis</i> Wilkn.
<i>Rogas</i> sp.
4.3 Family: Chalcididae:
<i>Brachymeria podagrica</i>
<i>Brachymeria aegyptiaca</i> Masi
<i>Haltichela</i> sp.
<i>Euchalcis</i> sp.
4.4 Family: Eulophidae:
<i>Pronotalia</i> sp.
<i>Tetrastichus</i> sp.
4.5 Family: Formicidae:
<i>Camponotus maculatus</i>
<i>Messor semirufus</i>
<i>Plagiolepis</i> sp.
<i>Crematogaster</i> sp.
<i>Cataglyphis bombycina</i>
4.6 Family: Pompilidae:
<i>Evagetes</i> sp.
<i>Schistmyx brevicornis</i> Presner
<i>Trachyagetes friesei</i> Saunders
4.7 Family: Halictidae: <i>Evyllaenus</i> p.
4.8 Family: Pteromalidae:
<i>Nasonia vitripennis</i> (Walker)
<i>Pteromalus puparum</i> L.
<i>Euchalcida</i> sp.
4.9 Family: Scolidae:
<i>Scolvia hortorum meedndica</i> Klug.
<i>Trielis</i> sp.
4.10 Family: Sphecidae:
<i>Mesocophus</i> cf. <i>rothneyi</i> Singham
<i>Bembix</i> sp.
4.11 Family: Tpyrmyidae: <i>Antistrophoplex conthernatus</i> (Masi)
4.12 Family: Eurytomidae
<i>Brachophagus ononis</i> Mayer
<i>Eurytoma</i> sp.
4.13 Family: Encyrtidae: unidentified parasite on <i>Phenacoccus limoniastris</i>
4.14 Family: Eupelmidae: <i>Eupelmella</i> sp.,
4.15 Family: Ichneumonidae: <i>Venturia canescens</i> (Gry.),
5. Order Orthoptera
5.1 Family: Acrididae:
<i>Acridia</i> sp.
<i>Calliptamus italicus</i> (L.)
<i>Orchamus zebratus</i> Br.
<i>Thisoicertus littoralis</i> Remb.
5.2 Family: Mantidae: <i>Blepharopsis</i> sp.,
5.3 Family: Tetrigidae:
<i>Pyrgomorpha cognata</i> Krauss
<i>Heterogamia syriaca</i> (sand roach)
6. Order Neuroptera
6.1 Family: Myrmeleonidae:
<i>Nophis tailhardi</i> Nav.
<i>Nohoveus venalis</i> Nav.
<i>Klugina aristata</i>
7. Order: Odonata
7.1 Family: Aeschnidae: <i>Crocothemis erythraea</i> Brulle
7.2 Family: Coenagrionidae: <i>Ischnura senegalensis</i> (Ramb.)
8. Order: Lepidoptera
8.1 Family: Pieridae:
<i>Pieris rapae</i> L.
<i>Colias electo</i> F.
8.2 Family: Lycaenidae: <i>Cosmolyce baeticus</i>
8.3 Family: Noctuidae:
<i>Autographa gamma</i>
<i>Eublemma velox</i> Hubn.
<i>Agrotis pierreti</i> Bugn
<i>Heliothis peltigera</i>
8.4 Family: Sphingidae: <i>Celerio lineata livronica</i> Esp.,
8.5 Family: Pyralidae: <i>Hastula heyrana</i> Mill.,
8.6 Family: Geometridae: <i>Gymnosceles pumilata</i> Hubn.,
8.7 Family: Tortricidae:
<i>Cydia pharaonana</i> K.
<i>Lobesia botrana</i> D & S.
8.8 Family: Gelechiidae:
<i>Oecocercis guyonella</i> Quene*
<i>Pectinophora gossypiella</i> Saund.
8.9 Family: Psychidae: <i>Amicta quadrangularis</i> ,

8.10 Family: Pterophoridae:

<i>Agdistis halodelta</i> Meyr.
<i>Palpita unionalis</i> Hb.
<i>Prays olleelus</i> F.
<i>Microplitis rufiventris</i> Kok.
<i>Chelonus inanitus</i> (L.)
<i>Zelee chlorophthalma</i>
<i>Zelee</i> sp.
<i>Branchymeria</i> sp.
9. Order: Homoptera
9.1 Family: Coccidae:
<i>Ceroplastis rusci</i> Schn.
<i>Saissetia hemisphaerica</i> Targ.
9.2 Family: Miridae: <i>Capsodes cingulatus</i> Fab.,
9.3 Family: Pseudococcidae:
<i>Pseudococcus alhagi</i>
<i>Phenacoccus limoniastri</i> Preis. et Hosny
9.4 Family: Cicadidae:
<i>Cicada</i> sp.
<i>Adeniana mairei</i> (Bergevin)
<i>Adeniana longiceps</i> (Puton)
9.5 Family: Cicadellidae:
<i>Anaceratogallia</i> sp.
<i>Celanocephalus</i> sp.
9.6 Family: Issidae: <i>Hysteropterum</i> sp.
9.7 Family: Diaspididae:
<i>Aspidiotus latania</i> (Sign.)
<i>Leucapsis riccae</i> Targ.
<i>Asterolecanium pustulans</i> (Cockerell)
10. Order: Heteroptera:
<i>Tropidothorax pandurus</i>
<i>Scanthius aegyptius</i>

2.3 Class: Myriapoda**1. Order: Scolopendromorpha**1.1 Family: Scolopendridae: *Scolopendra cingularis* Latr.**2. Order: Scutigleromorpha**

2.1 Family: Scutigleridae: unidentified specimens

3. Order: Geophilomorpha3.1 Family: Geophilidae: *Geophilus* sp.**2.4 Class: Arachnida****1. Order: Scorpionida (Scorpions)**1.1 Family: Buthidae: *Androctonus amoreuxi*, *Androctonus australis*, *Buthaculeptochelys*, *Leiurus suinquestriatus*, *Orthocirus innesi*, *Buthus occitanus* Am., *Buthus australis* L., *Scorpio maurus* L.**2. Order: Araneae (Spiders)**2.1 Family: Dysderidae: *Dysdera crocata*, *Dysdera cf. flavitarsus*,

2.2 Family: Filistatidae: unidentified

2.3 Family: Gnaphosidae: *Pterotricha*, *Mecaria*, *Nomisia*, *Zelotes*, *Gnaphosa* and several other unidentified specimens2.4 Family: Lycosidae: *Lycosa radiata*?, *Lycosa* sp.,2.5 Family: Salticidae: *Menemerus animatus*, *Mogrus* sp.,

2.6 Family: Theidiidae: unidentified

2.7 Family: Agelenidae: *Agelena lepida*

2.8 Family: Liocranidae: unidentified

2.9 Family: Oecobiidae: *Oecobius*2.10 Family: Oxyptidae: *Oxyopes*2.11 Family: Philodromidae: *Thanatus*, *Philodromus* sp.,2.12 Family: Sicariidae: *Loxosceles*,2.13 Family: Thomisidae: *Thomisus* sp., *Xysticus* sp., *Oxyptila* sp.,

2.14 Family: Zodariidae: unidentified

2.15 Family: Eresidae: *Eresus* sp., *Stegodyshus lineatus*,2.16 Family: Araneidae: *Argyope lobata*,2.17 Family: Theridiidae: *Steatoda bipunctata*, *Steatoda grossa*,2.18 Family: Sparassidae: *Eusparassus* sp., *Heteropoda variegata*, *Heteropoda* sp.,**3. Order: Pseudoscorpionida (false scorpions)**

3.1 Suborder: Solifugae

1.1 Family: Galeodidae: unidentified species

1.2 Family: Solifugidae Subfamily: Karschiinae: unidentified species

3.2 Suborder: Olpionae

2.1 Family: Olpiidae: *Olpium kochi**, *Phalangium savignyi*.**2.5 Class: Acarina****1. Order: Parasitiformes**

1.1 Suborder: Gamacida (Mesostigmata):

1.1.1 Family: Phytoseiidae: *Phytoseius pulmifer*, *Amblyseius* sp.,

1.1.2 Family: Laelaptoidea: unidentified species.

2. Order: Acariformes

2.1 Sub-order: Oribatida (Cryptostigmata):

Pseudotritia ardua, *Oribatula tadrosi*, *Oribatula* sp., *Epilohmannia cylindrica*, *Lohmannia paradoxa*, *Eulohmannia* sp., *Oppia stricta*, *Plakoribates multicuspoidus*, *Passolozetes africanus*, *Protoribates* spp., *Microzetes auxiliaries*, *Allogalumna exigua*.

2.2 Suborder Actinidida (Prostigmata): *Eutetranychus* sp., *Tydeid* spp.

3. Order: Ixodoidea

3.1 Family: Ixodoidea: *Hyalomma dromedarii* Koch, *Rhipicephalus evertsi mieticus* Donitz

ANNEX 3

Herpetofauna of Omayed Protected Area. 1 = low risk (least concern); 2 = vulnerable; 3 = endangered; 4 = near threatened.

CLASS: AMPHIBIA Order: Anura			
Family	Scientific name	Common name	Status
Bufoinae	<i>Bufo viridis viridis</i> Laurenti, 1768	Green Toad	1
CLASS: REPTILIA 1. Order: Squamata 1.1 Sub-order: Saurea			
Agamidae	<i>Laudakia stellio stellio</i> (Linnaeus, 1758)	Starred Agama	2
	<i>Tapelus mutabilis</i> Merrem, 1820	Changeable Agama	4
Gekkonidae	<i>Hemidactylus turcicus</i> (Linnaeus, 1758)	Turkish Gecko	1
	<i>Stenodactylus grandiceps</i> Haas, 1952		
	<i>Stenodactylus petrii</i> Anderson, 1896	Petrie's Gecko	4
	<i>Stenodactylus sthenodactylus sthenodactylus</i> (Lichtenstein, 1823)	Elegant Gecko	4
	<i>Tarentola mauritanica mauritanica</i> Linnaeus, 1758	Moorish Gecko	4
	<i>Tropicolotes tripolitanus</i> (Peters, 1880)	Tripoli Gecko	1
Lacertidae	<i>Acanthodactylus boskianus asper</i> (Daudin, 1802)	Bosc's Lizard	1
	<i>Acanthodactylus longipes</i> Boulenger, 1918	Long-footed lizard	1
	<i>Acanthodactylus scutellatus scutellatus</i> (Audouin, 1829)	Nidua Lizard	1
	<i>Acanthodactylus pardalis</i>	Lizard	1
	<i>Acanthodactylus</i> sp.		
Scincidae	<i>Mesalina olivieri</i> (Audouin, 1829)	Oliver's Lizard	2
	<i>Chalcides ocellatus ocellatus</i> (Forsk., 1775)	Eyed Skink, Ocellated Skink	1
	<i>Eumeces schneiderii</i> (Daudin, 1802)	Golden Skink, Orange-tailed Sk.	2
	<i>Scincus scincus scincus</i> (Linnaeus, 1758)	Sandfish	1
	<i>Sphenops sepsoides</i> (Audouin, 1827)	Audouin's Sand Skink	1
Varanidae	<i>Varanus griseus griseus</i> (Daudin, 1803)	Desert Monitor	2
Chamaeleontidae	<i>Chamaeleo chamaeleon chamaeleon</i> Linnaeus, 1758	Common Chamaeleon	1
1 Order: Squamata 1.2 Sub-order: Serpents			
Boidae	<i>Eryx jaculus jaculus</i> Linnaeus, 1758	Javelin Sand-Boa	3
Coluberidae	<i>Coluber rogersi</i> (Anderson, 1898)	Rpger's Snake	1
	<i>Lytorhynchus diadema</i> (Dumeril, Bibron and Dumeril, 1854)	Diademed Sand Snake	1
	<i>Macroprotodon cucullatus</i> (Geoffroy, 1827)	Mediterranean Hooded Snake	2
	<i>Malpolon moilensis</i> (Reuss, 1834)	Moila Snake	1
	<i>Malpolon monspessulanus insignita</i> (Geoffroy St. Hilaire, 1809)	Montpelier Snake	1
	<i>Psammophis schokari schokari</i> (Forsk., 1775)	Schokari Sand Snake	1
	<i>Spalerosophis diadema cliffordii</i> (Schlegel, 1837)	Clifford's Royal Snake	1
Viperidae	<i>Cerastes vipera</i> Laurenti, 1768	Lesser Cerastes Viper	1
2 Order: Testudines			
Testudinidae	<i>Testudo kleinmanni</i> Loret, 1883	Egyptian tortoise, Leith's Tortoise	3
	<i>Caretta caretta</i> (Linnaeus, 1758)	Loggerhead Turtle	3

ANNEX4

Birds of Omayed Protected Area.

Family	Scientific name	Common name	Status
Order: Ciconiiformes			
Ardeidae	<i>Nycticorax nycticorax nycticorax</i> Linnaeus, 1758	Night Heron	ScP
	<i>Egretta garzetta garzetta</i> Linnaeus, 1766	Little Egret	CP,WV
	<i>Ardea cineria cinerea</i> Linnaeus, 1758	Grey Heron	CWV
Order: Anseriformes			
Anatidae	<i>Anas querquedula</i> Linnaeus, 1758	Garganey	RAuP
	<i>Circus cyaneus cyaneus</i> (Linnaeus, 1766)	Hen Harrier	RP,WV
	<i>Circus aeruginosus aeruginosus</i> (Linnaeus, 1758)	Marsh Harrier	ScP,WV
	<i>Buteo rufinus cirtensis</i> (Levaillant, 1850)	Long-legged Buzzard	RRe,Sc,P,WV
Order: Falconiformes			
Falconidae	<i>Falco tinnanculus tinnanculus</i> (Linnaeus, 1758)	Kestrel	RP
Order: Galliformes			
Phasianidae	<i>Coturnix coturnix coturnix</i> (Linnaeus, 1758)	Common Quail	ScP
Order: Gruiformes			
Rallidae	<i>Crex crex</i> (Linnaeus, 1758)	Corncrake	ScP **
Order: Charadriiformes			
Charadriidae	<i>Charadrius alexandrinus alexandrinus</i> (Linnaeus, 1758)	Kentish Plover	RRe
	<i>Hoplopterus spinosus</i> Linnaeus, 1758	Spur-winged Plover	RRe
Scolopacidae	<i>Calidris alpina alpina</i> (Linnaeus, 1758)	Dunlin	RWV
	<i>Tringa tetanus tetanus</i> (Linnaeus, 1758)	Redshank	UWV
	<i>Tringa nebularia</i> (Gunnerus, 1767)	Greenshank	CP, ScWV, RsuV
Laridae	<i>Larus fuscus fuscus</i> Linnaeus, 1758	Lesser Black-backed gull	RP
	<i>Chlidonias niger niger</i> (Linnaeus, 1758)	Black Tern	RP
Order: Columbiformes			
Columbidae	<i>Streptopelia turtur turtur</i> (Linnaeus, 1758)	Turtle Dove	CB
	<i>Streptopelia senegalensis aegyptiaca</i> (Latham, 1790)	Palm Dove	CRe *
	<i>Streptopelia roseogrisea arabica</i> (Neumann, 1904)	Rock Dove	CRe *
Order: Coraciiformes			
Upupidae	<i>Upupa epops epops</i> (Linnaeus, 1758)	Hoopoe (European form)	RP
Order: Passeriformes			
Hirundinidae	<i>Hirundo rustica rustica</i> (Linnaeus, 1758)	Swallow	CRe
Alaudidae	<i>Alauda arvensis cantarella</i> Bonaparte, 1850	Sky Lark	
	<i>Alaemon alaudipes alaudipes</i> (Desfontaines, 1789)	Bifaciated Lark, Hoopoe Lark	CRe
Motacillidae	<i>Galerida cristata nigricans</i> (Brehm, 1855)	Crested Lark	CRe *
	<i>Motacilla flava flavissima</i> (Blyth, 1834)	Yellow Wagtail	
	<i>Motacilla flava pygmaea</i> (Brehm, 1854)	Egyptian Wagtail	RRe *
Laniidae	<i>Motacilla alba alba</i> Linnaeus, 1758	Pied Wagtail	
	<i>Lanius exubitor elegans</i> (Swainson, 1831)	Great Grey Shrike	RWV
Sylviidae	<i>Sylvia borin borin</i> (Boddaert, 1783)	Garden Warbler	RP
	<i>Sylvia conspicillata conspicillata</i> (Temminck, 1820)	Spectacled Warbler	
	<i>Phylloscopus trochilus trochilus</i> (Linnaeus, 1758)	Willow Warbler	ScP
	<i>Phylloscopus collybita collybita</i> (Vieillot, 1817)	Chiffchaff	
Muscicapidae	<i>Muscicapa striata striata</i> (Pallas, 1764)	Spotted flycatcher	RP,UWV
	<i>Phoenicurus phoenicurus samamisisicus</i> (Hablizl, 1783)	Redstart	UWV
Turdidae	<i>Phoenicurus ochruros</i>	Black Redstart	
	<i>Oenanthe hispanica melanoleuca</i> (Güldenstadt, 1775)	Black-eared Wheatear	RP
	<i>Oenanthe deserti deserti</i> (Temminck, 1825)	Desert Wheatear	
	<i>Oenanthe isabellina</i> (Temminck, 1829)	Isabelline Chat	
	<i>Saxicola torquata</i>	Stone Chat	
	<i>Turdus philomelos philomelos</i> (Brehm, 1831)	Song Thrush	
	<i>Turdus merula merula</i> (Linnaeus, 1758)	Blackbird	
Fringillidae	<i>Carduelis chloris aurantiiventris</i> (Cabanis, 1851)	Green Finch	CWV

* = endemic to Egypt; ** = globally endangered;

C = Common; R = Rare; Sc = Scarce; U = Uncommon

B = Breeder; P = Passer; Re = Resident; WV = Winter Visitor; SuV = Summer Visitor;

ORDER: INSECTIVORA		
Scientific names	Common name	Status
<i>Hemiechinus auritus libicus</i> (Ehrenberg, 1833)	Long-eared Hedgehog	
ORDER: RODENTIA		
<i>Spalax ehrenbergi aegyptiacus</i> (Nehring, 1898)	Egyptian Mole-Rat	Rare, threatened
<i>Gerbillus gerbillus gerbillus</i> (Olivier, 1801)	Lesser Egyptian Gerbil	
<i>Gerbillus andersoni inflatus</i> (Ranck, 1968)	Anderson's Gerbil	
<i>Gerbillus perpallidus</i> Setzer, 1958	Pallid Gerbil	Endemic
<i>Dipodillus amoenus amoenus</i> De Winton, 1902	Charming Dipodil	
<i>Psammomys obesus obesus</i> Cretschmar, 1828	Fat Sand-Rat	
<i>Jaculus jaculus flavillus</i> Setzer, 1955	Lesser Egyptian Jerboa	
<i>Jaculus orientalis orientalis</i> Erxleben, 1777	Greater Egyptian Jerboa	Near threatened
<i>Lepus capensis rothschildi</i> (De Winton, 1902)	Hare	Abundant
<i>Vulpes vulpes aegyptiaca</i> (Sonnini, 1816)	Red Fox, Nile Fox	

Alien Invasive Species in Egypt

List of Alien Invasive Species in Egypt

This Listed on the 100 of the World's Worst Invasive Species

S	Common name	Species	Source
Aquatic plant			
1	Water hyacinth	<i>Eichhornia crassipes</i>	Barrett 1989. (1), (2), (3)
Land plant			
2	Brazilian pepper tree	<i>Schinus terebenthifolius</i>	(1), (2), (3)
3	Cogon grass	<i>Imperata cylindrica</i>	(1), (2), (3)
4	Giant reed	<i>Arundo donax</i>	(1), (2), (3)
5	Mimosa	<i>Mimosa pigra</i>	(1), (2), (3)
6	Mesquite	<i>Prosopis glandulosa</i>	(1), (2), (3)
7	Lantana	<i>Lantana camara</i>	(1), (2), (3)
8	Leucaena	<i>Leucaena leucocephala</i>	(1), (2)
9	Lemon guava- Guava	<i>Psidium Guajava</i>	
10	Reed Canary grass	<i>Phalaris arundinacea</i>	
11	Redstem filaree- Pin weed	<i>Erodium cicutarium</i>	
Aquatic invertebrate			
12	Green crab	<i>Carcinus maenas</i>	(1), (2), (3)
Land invertebrate			
13	Khapra beetle	<i>Trogoderma granarium</i>	EPPO, 2004. (1), (2), (3)
14	Sweet potato whitefly	<i>Bemista tabaci</i>	(1), (2), (3)
Fish			
15	Carp	<i>Cyprinus carpio</i>	Welcomme, R.L., 1988, in Fishbase, 2003. (1), (2), (3)
16	Nile perch	<i>Lates niloticus</i>	Snoeks, Dr. J. (1), (2), (3)
17	Western mosquito fish	<i>Gambusia affinis</i>	Welcomme, R.L., 1988. In Fishbase, 2003. UN FAO. (1), (2), (3)
18	Mozambique tilapia	<i>Oreochromis mossambicus</i>	ASID. (1), (2), (3)
19	Large mouth bass	<i>Micropterus salmoides</i>	Welcomme, R.L., 1988, in Fishbase, 2003. (1), (2)
Mammal			
20	Mouse	<i>Mus musculus</i>	(1), (2), (3)
21	Ship rat	<i>Rattus rattus</i>	(1), (2), (3)
22	Red fox	<i>Vulpes vulpes</i>	(1), (2), (3)
23	House shrew Asian musk shrew	<i>Suncus murinus</i>	
Reptile			
24	Red- eared slider	<i>Trachemys scripta</i>	(1), (2), (3)
Amphibian			
25	Cane toad	<i>Bufo marinus</i>	Lever, 2001. (1), (2)
Micro- organism			
26	Banana bunchy top virus	<i>Banana bunchy top virus</i>	(1), (2), (3)
27	Rinderpest virus	<i>Rinderpest virus</i>	(1), (2), (3)

Footnote:

(1) Listed on the Global Invasive Species Database (Recorded in Egypt).

(2) Listed on The 100 World's Worst Invasive Species list.

(3) National Biodiversity Department Database (Recorded in Egypt).

1	Red Swamp crawfish	<i>Procambarus clarkia</i>	أستاكوزا المياه العذبة
2	White River Crawfish	<i>Procambarus zonongulus</i>	
3	Common Carp		المبروك العادي
4	Silver Carp		المبروك الفضي

5	Grass Carp		مبروك الحشائش
6	Bighead Carp		المبروك كبير الرأس
7	Black or Snail Carp		المبروك الأسود
8	Mozambique Tilapia		بلطي موزمبيقي
9		<i>Oreochromis spilurus</i>	بلطي سبيلورس
10	Red Tilapia		البلطي الأحمر
11	Mosquito Fish		الجامبوزيا
12		<i>Helisoma duri</i>	قوقع هليسوما ديوراي
13		<i>Biomphalaria glabrata</i>	قوقع بيومفلاريا جلابراتا
14		<i>Biomphalaria alexandrina</i>	قوقع بيومفلاريا الكسندريا
15		<i>Bulinus truncates</i>	
16	Rat-lung Nematode		دودة رئة الجرذ الخيطية
17	Crown of thorn starfish		نجم البحر الشوكي

FORMAT FOR THE PRESENTATION OF THE NATIONAL REPORT
ON THE APPLICATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY
IN THE MEDITERRANEAN⁴

VIII. General information

1. Country *SPAIN*
2. Period covered by the report
1st June 2003 to 1st March 2005.
3. National body responsible for drawing up the report.
*Deputy Directorate-General of Wildlife. Directorate-General for Biodiversity. Ministry of Environment.
Gran Vía de San Francisco, 4. E-28005-Madrid (Spain).
Author of the Report: Javier Pantoja. Spanish Focal Point for Specially Protected Areas.*
4. National body and other organisations and/or institutions that provided data for the establishment of the report.
 - i. Govern de les Illes Balears. Conselleria de Medio Ambiente. Dirección General de Caza, Protección de Especies y Educación Ambiental. Servicio de Protección de Especies.
 - ii. Generalitat de Catalunya. Departamento de Medio Ambiente y Vivienda. Dirección General del Medio Natural. Servicio de Parques.
 - iii. Junta de Andalucía. Consejería de Medio Ambiente. Dirección General de la Red de Espacios Naturales Protegidos y Servicios Ambientales.
 - iv. Generalitat Valenciana. Conselleria de Territorio y Vivienda. Dirección General de Gestión del Medio. Servicio de Protección de Especies.

IX. Legal and/or administrative measures taken under the terms of the Protocol⁵

36. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3)

During the period covered by this report, the Spanish Ministry of Environment still provides financial support for the Mediterranean Database for Cetacean Strandings (MEDACES), developed and co-ordinated by the University of Valencia. This Project was adopted in the XII Conference of the Parties, and it was established in the framework of the RAC/SPA. At the request of Spain, this Database was adopted also as a Database for the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS).

A report for the outputs of a research project has been published in 2004. The Research Project deals with the Identification of Specially Protected Areas for Cetaceans in the Spanish Mediterranean, and was running for three years, being its develop executed by the University of Barcelona, University of Valencia and Autonomous University of Madrid, with the technical and financial support of the Ministry of Environment.

In addition, in 2004 several experiments have been carried out in Formentera (Balearic Islands), with the aim of analyse the effectiveness of the Turtle Excluder Device (TED) in trawling fishing gears.

LIFE SEC Project: The Ministry of Environment is co-funding the Project on "Conservation of cetaceans and sea turtles in Andalucía and Murcia", as well as the Andalucía and Murcia Regional Governments. The Project was presented by the Spanish Cetacean Society as a proposal to LIFE-Nature EU Funds, being approved its accomplishment for a period of 3 years (2002-2005). In particular, the Directorate-General for Biodiversity is financing the study of interactions between dolphins and fisheries. It is desirable with this action to determine the diets of harbour porpoises, common dolphins and bottlenosed dolphins, identifying any type of competition between these cetaceans and fishermen due to the trophic resources. By other hand, it has considered also the areas with more fishing effort and those which are grounds areas for the cetaceans, and the possible presence of overlapping between the areas mentioned. With these results, it could identify the level of competition due to the resources between cetaceans and fisheries, and the effect of the

⁴ This new format is in conformity with the reporting system set up within the framework of the Barcelona Convention and adopted by the Contracting Parties during their 13th meeting (Catania, November 2003)

- The information requested should be presented synthetically and the report should not exceed 6 pages (approximately 3000 words)
- The reports should be drafted in English or in French and be sent in electronic form to car-asp@rac-spa.org.tn by the deadline of 1st March 2005.

⁵ In the case of legal measures, it is requested tHst a copy of the enacted law be attached to this report or Hsnded in during the meeting of National Focal Points.

overlapping using the resources could be the origin of current conflicts or even potential ones. This product could permit the adequate management in those areas, taking into account the need of measures of conservation for the species, and the socioeconomics aspects of the concerned human communities.

LIFE SEO/Birdlife Project: The Ministry of Environment is also co-funding the Project on "Identification of Important Marine Areas for Birds in the Spanish territorial waters". The Spanish Ornithological Society has presented the Project as a proposal to LIFE-Nature, being approved its elaboration for a period of 4 years (2004-2008).

Currently the following species, sub-species and populations are including in the National Catalogue on Threatened Species:

IN DANGER OF EXTINCTION

INVERTEBRATES: *Patella candei candei*, *Panulirus echinatus*, *Patella ferruginea*, *Munidopsis polymorpha*, *Speleonectes ondinae*

VERTEBRATES:

Fish: *Petromyzon marinus* (Guadiana River, Guadalquivir River, Southern Basin, Ebro River), *Acipenser sturio*

Mammals: *Monachus monachus*, *Eubalaena glacialis*

SENSIBLE TO THE HABITAT DEGRADATION

FLORA: *Zostera noltii* (Canary Islands)

INVERTEBRATES: *Asterina pancerii*

VERTEBRATES:

Mammals: *Megaptera novaeangliae* (peninsular Atlantic Sea, Mediterranean Sea)

VULNERABLE

INVERTEBRATES: *Pinna nobilis*, *Charonia lampas lampas*, *Dendropoma petraeum*, *Astroides calycularis*

VERTEBRATES:

Fish: *Chilomycterus atringa*

Mammals: *Globicephala macrorhynchus* (Canary Islands), *Balaenoptera physalus*, *Balaenoptera musculus*, *Balaenoptera borealis*, *Balaenoptera acutorostrata*, *Physeter macrocephalus*, *Tursiops truncatus*, *Delphinus delphis* (Mediterranean Sea), *Phocoena phocoena*

OF SPECIAL INTEREST

INVERTEBRATES: *Centrostephanus longispinus*

VERTEBRATES:

Reptiles: *Dermochelys coriacea*, *Caretta caretta*, *Chelonia mydas*, *Eretmochelys imbricata*

Mammals: *Globicephala macrorhynchus* (peninsular Atlantic Sea, Mediterranean Sea), *Megaptera novaeangliae* (Canary Islands), *Kogia breviceps*, *Orcinus orca*, *Globicephala melas*, *Grampus griseus*, *Delphinus delphis* (Atlantic Sea), *Stenella coeruleoalba*

Since 1982 the Ministry of Agriculture, Fisheries and Food and the Regional Governments have been established in Spain 20 Marine Reserves for Fisheries, 15 are located in the Mediterranean. These Marine Reserves are not considered Marine Protected Areas because of the legal basis is the legislation on fisheries. During the period covered by this report it have been established two new Marine Reserves for Fisheries, these are Illa del Toro Marine Reserve and Illes Malgrats Marine Reserve, both are located in the Balearic Islands.

At regional level, every Regional Government supports research studies on cetaceans and other marine species in the field of their competence, and also it is in charge of the maintenance of the Rescue Centres Network of threatened marine species, where the stranded sea turtles and cetaceans are relocated for their recovery and later release in the sea.

The following projects are ongoing during the period covered for this report, with the financial support of the LIFE-Nature European Fund:

<i>Name of the Project</i>	<i>Region</i>	<i>Project Develop Period</i>	<i>Total Amount</i>	<i>Percent age EU Financial Support</i>
<i>Conservation of Aphanis iberus genetic stocks</i>	<i>Murcia Region</i>	<i>01/01/200</i> <i>5- 31/12/2008</i>	<i>1,148,6</i> <i>68 €</i>	<i>574,334 €</i>
<i>Recovery of the Littoral Sand Dunes with Juniperus spp in Valencia</i>	<i>Valencia Region</i>	<i>01/10/200</i> <i>4- 31/12/2008</i>	<i>3,278,2</i> <i>16 €</i>	<i>1,639,1</i> <i>08 €</i>

Recovery of a Priority Habitat in l'Albufera Natural Park	Valencia Region	31/10/200	1,061,9	
		4-30/09/2008	72 €	796,479 €
Important Bird Areas for Seabirds (Marine IBAs) in Spain	The whole riparian Regions (SEO/Birdlife)	01/10/200	1,091,9	
		4-01/10/2008	10 €	779,910 €
Conservation of Larus audouinii in Spain (Isla Grosa, Murcia)	Murcia Region	01/01/200		
		4- 31/12/2007	942,824 €	707,118 €

In a joint action, the Ministry of Environment and the Regional Governments are formulated the Strategy for the conservation of the shearwater (*Puffinus* spss.)

Balearic Islands: In 2004 it has been approved the Decree 65/2004, of 2 of July 2004, for the establishment of the Shearwater Recovery Plan. Currently the Audouin's Gull (*Larus audouinii*) and the Shag (*Phalacrocorax aristotelis*) Recovery Plans are being made.

37. To establish marine and coastal specially protected areas (article 5);

During the period covered for this report, it has been declared the following areas as protected areas within the basis of the environmental legislation at national and regional level:

ANDALOUSIA

<u>Name of Protected Area</u>	<u>Category of protection</u>	<u>Date of declaration</u>
Alborán	Natural Site	25/06/2003
Dunas de Artola o Cabopino	Natural Monument	09/09/2003
Isla de San Andrés	Natural Monument	09/09/2003

BALEARIC ISLANDS

<u>Name of Protected Area</u>	<u>Category of protection</u>	<u>Date of declaration</u>
Illa den Colom	Natural Reserve	10/06/2003

38. To provide protection (article 6) :

Indicate what legal and/or administrative measures have been taken during the period under review to apply the provisions of article 6 of the protocol within the specially protected areas, and in particular the measures concerning:

- a) Strengthening the application of the other Protocols to the Convention and of other relevant treaties to which they are Parties (article 6 a);

In general terms, those human activities which could affect any Protected Area are regulated, and it is subject to the Declaration Rules.

- b) Prohibiting the dumping or discharge of wastes liable to harm the protected areas (article 6 b);

It is applied the sectorial regulation on dumping and discharge of wastes. In general terms, those human activities which could affect any Protected Area are regulated, and it is subject to the Declaration Rules.

- c) Regulating the passage of ships (article 6 c);

In general terms, those human activities which could affect any Protected Area because of shipping and other human activities are regulated, and it is subject to the Declaration Rules.

- d) Regulating the introduction of species (article 6 d) ;

Currently it is regulated or prohibited the introduction of non-indigenous and genetically modified species in any Protected Area, as it has been stated in the national, regional and specific Regulations.

- e) Regulating activities (article 6 e), 6 h) ;

In general terms, those human activities which could affect any Protected Area are regulated, and it is subject to the Declaration Rules.

- f) Regulating scientific research activities (article 6 f) ;

In general terms, those human activities which could affect any Protected Area because of scientific research are regulated, and it is subject to the Declaration Rules. It is necessary the request of a special administrative permission from the authorities concerned.

- g) Regulating fishing, hunting, the taking of animals, and the harvesting of plants as well as the trade in animals or parts of animals, of plants or parts of plants coming from the protected areas.

In general terms, those human activities which could affect any Protected Area are regulated, and it is subject to the Declaration Rules. Fishing and hunting should have specific temporary permission.

39. Concerning planning, management supervision and monitoring of the specially protected areas (article 7);

In the Management and Advisory bodies are included representatives from the all stakeholder groups.

Protected Areas financial support is a Regional Governments competence, except to Cabrera Archipelago National Park, which is under the jurisdiction of the Ministry of Environment. In some cases, certain research projects or management projects in the Protected Areas are possible thanks to the availability of LIFE-Nature to finance the accomplishment of the projects.

During the period covered for this report the following Management Plans have been elaborated:

Catalonia: The Special Protection Plan on Natural Environment and Landscape of the Cabo de Creus SPAMI was initially approved through the Resolution MAB/173/2003, of 15 January 2003, stated in the Catalonia Regional Government. Initial approval means that the Resolution is subject to the last stage of proceedings. On the other hand, the Islas Medes SPAMI Management Plan was approved on the 28th July 2004 by the Advisor Council of Islas Medes Protected Area.

40. For the protection and conservation of species (article 11);

Instrument of Ratification, December 2003, of the Agreement on Conservation of Albatrosses and Petrels ratified in Canberra (Australia) in 2002.

Second Meeting of the Parties Agreement on the Conservation of Cetacean of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) hosted by the Spanish Government in Palma de Mallorca, November 2004.

An Inventory and Monitoring Project for Patella ferruginea is ongoing. A Strategy on the Conservation of Patella ferruginea will be accomplished within two years.

A Monitoring, Surveillance and Control Network for Posidonia oceanica meadows has carried out. The Network includes research stations for taking periodical samples. During the period covered by this report, the network and the research stations have been established in the Balearic Islands.

Andalouslyia: *It has been established the Act 8/2003, of 28 October 2003, on wild flora and fauna.*

Balearic Islands: *The Recovery Plan for the species Puffinus mauretanicus deals with the regulation of some aspects related to captures due to scientific purposes, and some aspects on the protection of populations. Currently it is accomplished a Decree for the Balearic Catalogue of Threatened and of Special Interest Species.*

41. To regulate the introduction of non-indigenous or genetically modified species (article 13);

Act 4/1989, of 27 May 1989, on the conservation of protected areas and wild fauna and flora, regulates and prohibits the introduction of non-indigenous species.

As a member of the EU, and according to the regulation on international trade of wild species (Recommendation 338/97), it could apply limitations to the introduction of specimens if is likely to have a harmful effect on the conservation status of the natural species.

Andalouslyia: *It has been established the Andalussian Plan for the control of exotic and introduction species.*

Valencia Region: *It have been accomplished several explorations in the littoral in order to implement a Monitoring Program for the distribution of Caulerpa racemosa.*

42. To grant exemptions from protection measures (articles 12,18)

According to the adopted conservation measures, traditional activities of the indigenous human population are subject to a permission submitted by the regional and national competent authorities.

X. Technical application of the protocol

43. List the specially protected areas established under the terms of article 5.

44.

- Protected Areas List based on national or regional legislation:

ANDALOUSIA

NAME	CATEGORY OF PROTECTION	MARITIME-TERRESTRIAL AREA (Hs)
Albufera de Adra	Natural Reserve	65
Punta Entinas-Sabinar	Natural Reserve	785
Cabo de Gata-Níjar	Natural Park	45.663
Punta Entinas-Sabinar	Natural Site	1.960
Estuario del río Guadiaro	Natural Site	27
Marismas del río Palmones	Natural Site	58
Playa de Los Lances	Natural Site	226
Acantilados de Maro-Cerro Gordo	Natural Site	695
Desembocadura del Guadalhorce	Natural Site	67
Arrecife-barrera de <i>Posidonia</i>	Natural Monument	1.080,01
Isla de Terreros e Isla Negra	Natural Monument	1,72
Peñones de San Cristóbal	Natural Monument	
Estrecho	Natural Park	18.931
Alborán (*)	Natural Site	26.456,7

NAME	CATEGORY OF PROTECTION	MARITIME-TERRESTRIAL AREA (Hs)
Dunas de Artola o Cabopino (*)	Natural Monument	0,7
Isla de San Andrés (*)	Natural Monument	7,03

MURCIA REGION

NAME	CATEGORY OF PROTECTION	MARITIME-TERRESTRIAL AREA (Hs)
Cabo Cope-Puntas de Calnegre	<i>Regional Park</i>	2.936
Calblanque, Monte de las Cenizas y Peña del Águila	Regional Park	2.453
Cuatro Calas	Protected Landscape	240
Espacios Abiertos e Islas del Mar Menor	Protected Landscape	1.153,8
Salinas y Arenales de San Pedro del Pinatar	Regional Park	856
Las Moreras	Protected Landscape	1.960
Islas e islotes del litoral Mediterráneo	Protected Area with non-categor of protection assigned	
Sierra de La Muela y Cabo Tífosos	Protected Area with non-category of protection assigned	

VALENCIA REGION

NAME	CATEGORY OF PROTECTION	MARITIME-TERRESTRIAL AREA (Hs)
Cabo de San Antonio	Natural Reserve	
Isla de Tabarca	Natural Reserve	60
Islas Columbretes	Natural Reserve	2.500
Penyal d'Ifac	Natural Park	35
Montgó	Natural Park	2.200
L'Albufera	Natural Park	21.000
Salinas de Santa Pola	Natural Park	2.496,7
Prat de Cabanes-Torreblanca	Natural Park	812
Clot de la Mare de Dèu	Municipal Natural Site	-
Sierra de Irta	Natural Park	12.000
Irta	Marine Natural Reserve	-

CATALONIA

NAME	CATEGORY OF PROTECTION	MARITIME-TERRESTRIAL AREA (Hs)
Estación Biológica El Canal Vell	Wild Fauna Natural Reserve	
Punta del Fangar	Wild Fauna Natural Reserve	
Isla de Sant Antoni	Wild Fauna Natural Reserve	170
Delta del Ebre	Natural Park	7.736
Illa de Sapinya	Partial Natural Reserve	
Punta de la Banya	Partial Natural Reserve	
Aiguamolls de l'Empordà	Natural Park	4.866
Els Estanys	Integral Natural Reserve	
Illa de Caramany	Integral Natural Reserve	
Illa de Caramany (ribera)	Partial Natural Reserve	
Les Llaunes	Integral Natural Reserve	
Illes Medes	Marine Reserve	418
Remolar-Filipines (Delta del Llobregat)	Partial Natural Reserve	
Ricarda-Ca l'Arana (Delta del Llobregat)	Partial Natural Reserve	288
Llacuna de Tancada	Wild Fauna Natural Reserve	312
Illa de Buda y lagunas de Els Calaixos	Wild Fauna Natural Reserve	897
Delta del río Gaia	Wild Fauna Natural Reserve	
Cap de Creus	Natural Park	13.886

NAME	CATEGORY OF PROTECTION	MARITIME-TERRESTRIAL AREA (Hs)
Cap Norfeu	Integral Natural Reserve	
Cap Gros-Cap de Creus	Natural Site of National Interest	
Punta Falconera- Cap Norfeu	Natural Site of National Interest	

BALEARIC ISLANDS

NAME	CATEGORY OF PROTECTION	MARITIME-TERRESTRIAL AREA (Hs)
S'Albufera de Mallorca	Natural Park	1.708
Archipelago de Cabrera	Natural Park	10.021
Mondragó	Natural Park	785
Sa Dragonera	Natural Park	288
S'Albufera des Grau, Illa d'en Colom i Cap Favàritx	Natural Park	1.790
S'Albufereta	Natural Reserve	506,6
Cap des Freu	Natural Reserve	
Cap Farrutx	Natural Reserve	
Península de Levant	Natural Park	
Estany Pudent y otros	Natural Reserve	836
Ses Salines de Eivissa y Formentera	Natural Park	1.076
Cala d'Hort, Cap Llentrisca y Sa Talaia	Natural Park	2.773,31
Es Vedrà y Es Vedranell	Natural Reserve	79,39
Islotes de Ponent	Natural Reserve	154,94
Illas den Colom (*)	Natural Reserve	55,21

Note: Declared Protected Areas during the period covered for the current report are noted with an asterisk (*).

- Proposals of Sites of Community Importance (SCIs), Council Directive 92/43/CEE:

ANDALOUSIA

CODE	NAME	MARITIME-TERRESTRIAL AREA (Hs)
ES0000046	Cabo de Gata-Níjar	49.547,1
ES0000048	Punta Entinas-Sabinar	1.746,3
ES6110001	Albufera de Adra	135,3
ES6110005	Sierra de Cabrera-Bédar	33.578,6
ES6110009	Fondos marinos de Punta Entinas - Sabinar	1.946,4
ES6110010	Fondos marinos del Levante Almeriense	6.313,5
ES6110012	Sierras Almagrera, de los Pinos y El Aguilón	5.885,9
ES6110015	Isla de Alborán	26.456,6
ES6110019	Arrecifes de Roquetas de Mar	204,5
ES6110020	Islote de San Andrés	35,4
ES6120003	Estuario del río Guadiaro	35,5
ES6120006	Marismas del río Palmones	57,5
ES6120007	Playa de los Lances	234,2
ES6120012	Frente litoral del estrecho de Gibraltar	26.097,8
ES6140013	Fondos marinos Tesorillo - Salobreña	1.013,0
ES6140014	Fondos marinos Calahonda – Castell de Ferro	868,8
ES6140016	Fondos marinos de la Punta de la Mona	109,7
ES6170002	Acantilados de Maro - Cerro Gordo	1.789,6
ES6170030	Calahonda	483,8
ES6170036	Fondos marinos de la bahía de Estepona	552,6

BALEARIC ISLANDS

CODE	NAME	MARITIME-TERRESTRIAL AREA (Hs)
ES0000037	Es Trenc - Salobrar de Campos	1.451,9
ES0000038	S'albufera	2.217,4
ES0000073	Costa Brava de Mallorca	8.121,0
ES0000074	Cap de Cala Figuera	797,6
ES0000078	Es Vedar - Es Vedranell	637,4
ES0000079	La Victoria	1.002,7
ES0000080	Cap Vermell	78,0
ES0000081	Cap Enderrocat - Cap Blanc	6.059,9
ES0000082	Tagomago	556,2
ES0000083	Arxipélag de Cabrera	20.664,6
ES0000084	Ses Salines d'Eivissa i Formentera	16.487,0
ES0000145	Mondragó	754,5
ES0000221	Sa Dragonera	1.278,5
ES0000222	La Trapa	433,7
ES0000225	Sa Costera	788,6
ES0000226	L'Albufereta	445,8
ES0000227	Muntanyes d'Artá	14.811,5
ES0000228	Cap de Ses Salines	3.751,4
ES0000229	Costa Nord de Ciutadella	688,6
ES0000230	La Vall	3.145,7
ES0000231	Dels Alocs a Fornells	2.705,3
ES0000232	La Mola i s'Albufera de Fornells	1.528,2
ES0000233	D'Addaia a s'Albufera	2.834,8
ES0000234	S'Albufera des Grau	2.561,0
ES0000235	De s'Albufera a Sa Mola	2.004,1
ES0000236	Illas de l'Aire	31,2
ES0000237	Des Canutells a Lluçarni	1.823,3
ES0000238	Son Bou i Barranc de Sa Vall 1.	207,9
ES0000239	De Binigaus a Cala Mitjana	915,0
ES0000240	Costa Sud de Ciutadella	1.134,3
ES0000241	Costa dels Amunts	695,3

UNEP(DEC)/MED WG.268/4

Page 140

ES0000242	Illots de Santa Eularia, Rodona i Es Cana	70,4	
ES5310005	Badies de Pollença i Alcudia	30.955,6	
ES5310023	Illots de Ponent d'Eivissa	2.543,6	
ES5310024	La Mola	2.191,0	
ES5310025	Cap de Barbaria	2.484,2	
ES5310029	Na Borges	4.022,1	
ES5310030	Costa de Llevant	1.849,5	
ES5310031	Purroig		118,3
ES5310032	Cap Llentrisca - Sa Talaia	3.125,8	
ES5310033	Xarraca	775,1	
ES5310035	Area marina del Nord de Menorca	5.152,8	
ES5310036	Area marina del Sud de Menorca	2.253,4	
ES5310053	Cova del Dimoni	0,2	
ES5310065	Cova del Drac de Cala Santanyí	0,2	

CATALONIA

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES5110013	Serres del Litoral Central		9.906,5
ES5120006	Aiguamolls del Baix Empordà		232,6
ES5120007	Cap de Creus		12.575,2

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES5120013	Massis de Cadiretes		8.603,4
ES5120015	Muntanyes de Begur		2.084,8
ES5120016	El Montgri - Illes Medes		5.140,1
ES5120019	Aiguamolls de l'Alt Empordà		4.760,5
ES5140001	Cap de Santes Creus		216,9
ES5140007	Litoral tarragoni		1.189,1
ES5140013	Delta de l'Ebre		10.869,6

CEUTA

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES6310001	Calamocarro – Benzú		601,8
ES6310002	Zona marítimo terrestre del Monte Hacho		864,9

MELILLA

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES6320001	Zona marítimo terrestre de los Acanilados de Aguadú		56,1
ES6320002	Barranco del Nano		35,5

MURCIA REGION

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES0000175	Salinas y arenales de San Pedro del Pinatar		840,1
ES6200001	Calblanque, Monte de las Cenizas y Peña del Águila		2.822,2
ES6200006	Espacios abiertos e islas del Mar Menor		891,5
ES6200007	Islas e islotes del litoral mediterráneo		42,2
ES6200010	Cuatro Calas		173,2
ES6200012	Calnegre		836,6
ES6200015	La Muela y Cabo Tiñoso		7.776,5
ES6200024	Cabezo de Roldán		1.233,2
ES6200025	Sierra de la Fausilla		791,4
ES6200029	Franja litoral sumergida de la Región de Murcia		12.738,5
ES6200030	Mar Menor		13.466,7
ES6200031	Cabo Cope		256,4
ES6200048	Medio marino		154.632,2

VALENCIA REGION

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES0000023	L'Albufera		27.538,2
ES0000060	El Prat de Cabanes i Torreblanca		1.940,0
ES0000061	Les illes Columbretes		12.306,0
ES0000120	Les Salines de Santa Pola		2.504,1
ES0000147	La Marjal dels Moros		619,5
ES5211007	El Montgó		2.985,9
ES5211009	Ifac		993,6
ES5212005	L'Almadrava		2.239,5
ES5213018	Penyasegats de la Marina		3.262,1
ES5213021	Serra Gelada i litoral de la Marina Baixa		5.552,9
ES5213024	L'Illa de Tabarca		14.556,1
ES5213025	Dunes de Guardamar		726,2
ES5213032	Cap de l'Horta		4.253,2
ES5213033	Cabo Roig		4.686,5
ES5222003	Desembocadura del Millars		345,8

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES5222005	La Marjal de Nules		644,4
ES5222007	Alguers de Borriana – Nules - Moncofa		4.082,0
ES5223007	La Marjal d'Almenara		1.498,0
ES5223036	Serra d'Irta		9.797,5
ES5223037	Costa d'Orpesa i Benicàssim		1.326,0
ES5232010	Cap de Cullera		0,2

ES5233030 La Marjal de la Safor 3.734,6 E
S5233038 Dunes de la Safor 85,9

- Special Protection Areas for Birds SPAs, Council Directive 79/409:

ANDALOUSIA

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)	
ES0000046	Cabo de Gata - Nijar		49.547,1	
ES0000048	Punta Entinas - Sabinar		1.944,76	
ES0000336	Isla de Alborán			7,88
ES0000337	Estrecho		19.176,57	
ES6110001	Albufera de Adra		135,27	
ES6120003	Estuario del río Guadiaro		35,54	
ES6120006	Marismas del río Palmones		57,48	

BALEARIC ISLANDS

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)	
ES0000037	Es Trenc - Salobrar de Campos		1.442,3	
ES0000038	S'Albufera de Mallorca			2.388
ES0000073	Costa Brava de Mallorca		8.052,9	
ES0000074	Cap de Cala Figuera		777,1	
ES0000078	Es Vedar - Vedranell		636	
ES0000079	La Victòria		2.500	
ES0000080	Cap Vermell			72,27
ES0000081	Cap Enderrocat - Cap Blanc		6.025,8	
ES0000082	Tagomago			554,2
ES0000083	Arxipèlag de Cabrera		20.540,2	
ES0000084	Ses Salines d'Eivissa i Formentera		16.434,8	
ES0000145	Mondragó		741	
ES0000221	Sa Dragonera			1.272,1
ES0000222	La Trapa		431,4	
ES0000223	Sa Foradada			108,7
ES0000224	Muleta			163
ES0000225	Sa Costera			783,9
ES0000226	L'Albufereta			506
ES0000227	Muntanyes d'Artà		14.698	
ES0000228	Cap de Ses Salines		3.716,9	
ES0000229	Costa Nord de Ciutadella		682,8	
ES0000230	La Vall			3.119,1
ES0000231	Dels Alocs a Fornells		2.655,7	
ES0000232	La Mola i s'Albufera de Fornells		1.516,1	
ES0000233	D'Addaia a s'Albufera		2.809,1	
ES0000234	S'Albufera des Grau		3.541,7	
ES0000235	De s'Albufera a Sa Mola		1.974,6	
ES0000236	Illa de l'Aire			24,71
ES0000237	Des Canutells a Llucalari		1.812,8	
ES0000238	Son Bou i barranc de Sa Vall		1.212,3	
ES0000239	De Binigaus a Cala Mitjana		1.839,2	
ES0000240	Costa Sud de Ciutadella		1.124,6	
ES0000241	Costa dels Amunts		693,21	
ES0000242	Illots de Santa Eularia, Rodona i Es Cana	76,18		
ES5310023	Illots de Ponent d'Eivissa		2.537	
ES5310024	La Mola		2.183	
ES5310025	Cap de Barbaria		2.476,6	

CATALONIA

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)	
ES0000146	Delta del Llobregat		584,6	
ES0000019	Aiguamolls de l'Alt Empordà		4.730,9	
ES0000020	Delta de l'Ebre			7.811,2

CEUTA

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES6310001	Calamocarro – Benzú		601,8
ES0000197	Acantilados del Monte Hscho		32,61

MELILLA

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES0000036	Islas Chafarinas		50

MURCIA REGION

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES0000175	Salinas y arenales de San Pedro del Pinatar		841
ES0000199	Sierra de la Fausilla		791
ES0000200	Isla Grosa		18
ES0000256	Islas Hormigas		154
ES0000260	Mar Menor		14.413,6
ES0000261	Sierra de Almenara, Moreras y Cabo Cope		22.350
ES0000264	Sierra de la Muela y Cabo Tiñoso		10.925
ES0000270	Isla Cueva Lobos		28,27
ES0000271	Isla de las Palomas		28,27

VALENCIA REGION

CODE	NAME	MARITIME-TERRESTRIAL	AREA (Hs)
ES0000120	Salinas de Santa Pola		2.503
ES0000121	Islotes de Benidorm		7
ES0000214	Islotes de Tabarca		1
ES0000060	Prat de Cabanes - Torreblanca		868
ES0000061	Illes Columbretes		12.306
ES0000211	Desembocadura del Mijares		352
ES0000023	L'Albufera		21.120
ES0000148	Marjal dels Moros		567

Wetlands of International Importance in the Mediterranean Sea (Ramsar Convention):

ANDALOUSIA

NAME	COASTAL AREA (Hs)
Salinas de Cabo de Gata	300
Albufera de Adra 75	

BALEARIC ISLANDS

NAME	COASTAL AREA (Hs)
Salinas de Ibiza y Formentera	1.640
S'Albufera de Mallorca 1.700	

CATALONIA

NAME	COASTAL AREA (Hs)
Aiguamolls de l'Empordà	4.784
Delta del Ebro	7.736

MURCIA REGION

NAME	COASTAL AREA (Hs)
Mar Menor	14.933

VALENCIA REGION

NAME	COASTAL AREA (Hs)
Salinas de Santa Pola 2.496	
Prat de Cabanes-Torreblanca	812
Albufera de Valencia 21.000	
Lagunas de La Mata y Torrevieja	3.693

- UNESCO – MAB Coastal Biosphere Reserves in the Mediterranean Sea:

BALEARIC ISLANDS

NAME	AREA (Hs)
Menorca	70.200

ANDALOUSIA

NAME	AREA (Hs)
Cabo de Gata-Níjar	49.624

- UNESCO's Coastal Natural World Heritage Sites in the Mediterranean Sea:

BALEARIC ISLANDS

NAME	AREA (Hs)
Ibiza, biodiversidad y cultura	8.564

- Marine Reserves and other Areas for Fisheries:

ANDALOUSIA

NAME	DATE OF DECLARATION	AREA (Hs)
Cabo de Gata - Níjar	1.995	12.200
Isla de Alborán	1.997	429

MURCIA REGION

NAME	DATE OF DECLARATION	AREA (Hs)
Cabo de Palos – Islas Hormigas	1.995	1.898

VALENCIA REGION

NAME	DATE OF DECLARATION	AREA (Hs)
Isla de Tabarca	1.986	1.400
Islas Columbretes	1.990	4.400
Cabo de San Antonio	1.993	250

CATALONIA

NAME	DATE OF DECLARATION	AREA (Hs)
Islas Medas	1.990	533
Cap Negre – Pa de Pessic	1.993	15
Masia Blanca	1.999	43,5

BALEARIC ISLANDS

NAME	DATE OF DECLARATION	AREA (Hs)
Freus de Eivissa i Formentera	1.999	13.617
Norte de Menorca	1.999	5.119
S'Arenal - Cabo Regana	1.999	2.394
Migjorn de Mallorca	2.002	22.332
Illa del Toro (*)	2.004	150
Illes Malgrats (*)	2.004	100

Note: Declared Protected Areas during the period covered for the current report are noted with an asterisk (*).

45. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9 a)

- a) Date of the proposal/s
- b) Areas proposed (list attached)

NAME	REGION	PROPOSED DATE	DECLARATION DATE
Archipiélago de Cabrera	Balearic Islands	12/06/2003	14/11/2003
Acantilados de Maro-Cerro Gordo	Andalucía	12/06/2003	14/11/2003

Islas Chafarinas	-	12/06/2003	Non-approval
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46. SPAMI list :

- a) Status and state of the areas under national jurisdiction included on the SPAMI list (article 23a)
- b) Any modification in the delimitation or the legal status of the SPAMI (article 23 b).

NAME	REGION	CATEGORY OF PROTECTION	DECLARATION DATE
Isla de Alborán	Andalucía	Natural Site	17/11/2001
Cabo de Gata-Níjar	Andalucía	Natural Park / Marine Reserve	17/11/2001
Fondos marinos del Levante almeriense	Andalucía	pSCIs / 2 Natural Monuments	17/11/2001
Cabo de Creus	Catalonia	Natural Park / Several Natural Reserves	17/11/2001
Islas Medes	Catalonia	Protected Area	17/11/2001
Islas Columbretes	Valencia Region	Natural Reserve / Marine Reserve	17/11/2001
NAME	REGION	CATEGORY OF PROTECTION	DECLARATION DATE
Mar Menor y zona oriental mediterránea de la costa de la Región de Murcia	Murcia Region	Several Protected Areas	17/11/2001
Archipiélago de Cabrera	Balearic Islands	National Park	14/11/2003
Acantilados de Maro-Cerro Gordo	Andalucía	Natural Site	14/11/2003

During the period covered for this report, no changes in the limits of the areas have been occurred, although it should be notice that in June 2003 Isla de Alborán has been declared as Natural Site under the regional legislation.

In 2004 a leaflet on the existing Spanish SPAMIs has been published, which was widely submitted to the public administrative bodies, other institutions and performance reporting in general to the public sector.

47. Any modification to the legal status of protected species.

With regard to the marine species conservation, the following species are included in the National Catalogue of Threatened Species: 1 phanerogam, 11 invertebrates, 3 fish, 4 reptiles and 17 mammals. 9 of these species are included in the category of protection of "in danger of extinction". All cetaceans are included in the Annexes of the Directive 92/43/CEE, and some cetaceans are also included in the National Catalogue of Threatened Species. The fact of being listing in the National Catalogue do imply the obligation of elaborating Action Plans for the species for analyzing and later implementation of conservation measures in order to avoid populations decrease.

Balearic Islands: Decree 65/2004, of 2 July 2004, approval of the Recovery Plan for the species *Puffinus mauretanicus*, Balearic shearwater.

48. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

The following taxa have been identified in the Spanish Mediterranean Sea, except those which are noted with an asterisk (*).

Asterisks represent the taxa present in the whole Mediterranean:

TAXA (MOLLUSCS)	SOURCE
<i>Crepidula aculeata</i>	American Atlantic
<i>Haminoea callidegenita</i>	Boreal Pacific, American Atlantic
<i>Aeolidiella indica</i>	Circumtropical
<i>Crassostrea gigas</i>	Boreal Pacific
<i>Chlamys lischkei</i>	American Atlantic
<i>Petricola pholadiformis</i>	American Atlantic
TAXA (DECAPODS)	SOURCE
<i>Merhippolyte ancistrola</i>	Tropical Atlantic
<i>Processa macrodactyla</i>	Tropical Atlantic
<i>Panulirus regius</i>	Tropical Atlantic
TAXA (DECAPODS)	SOURCE
<i>Scyllarus posteli</i>	Tropical Atlantic
<i>Eriocheir sinensis</i>	Boreal Atlantic
<i>ercnon gibbesi</i>	American Atlantic, Tropical Atlantic, Eastern Pacific
TAXA (FISH)	SOURCE
<i>Carcharhinus altimus</i>	Tropical Atlantic
<i>Carcharhinus falciformis</i>	Tropical Atlantic
<i>Galeocerdo cuvier</i>	Tropical Atlantic
<i>Fistularia petimba</i>	Tropical Atlantic
<i>Syngnathus rostellatus</i>	Boreal Atlantic
<i>Scorpaena stephnsica</i>	Tropical Atlantic
<i>Trachyscorpia cristulata echinata</i>	Tropical Atlantic
<i>Seriola fasciata</i>	Tropical Atlantic
<i>Pseudupeneus prayensis</i>	Tropical Atlantic
<i>Diplodus bellottii</i>	Tropical Atlantic
<i>Pagellus bellottii</i>	Tropical Atlantic
<i>Gymnammodytes semisquamatus</i>	Boreal Atlantic
<i>Psenes pellucidus</i>	Tropical Atlantic
<i>Acanthurus monroviae</i>	Tropical Atlantic
<i>Microchirus (Zevaia) hexophthalmus</i>	Tropical Atlantic
<i>Solea senegalensis</i>	Tropical Atlantic
<i>Synaptura lusitanica</i>	Tropical Atlantic
<i>Sphoeroides pachygaster</i>	Tropical Atlantic
<i>Siganus rivulatus</i>	Indo-Pacific
TAXA (MARINE ALGAE & PHANEROGAMS)	TYPE
<i>Acrothamnion preissii</i>	Invasive
<i>Caulerpa taxifolia</i>	Invasive
<i>Caulerpa racemosa</i>	Invasive
<i>Womersleyella setacea</i>	Caribbean Invasive
<i>Styopodium schimperi</i>	Invasive
<i>Asparagopsis armata</i>	Invasive

<i>Lophocladia lallemandii</i>	Invasive
<i>Sargassum muticum</i>	Invasive
<i>Hslophila stipulacea</i>	Invasive
<i>Asparagopsis taxiformis</i>	Invasive
<i>Codium fragile</i>	Invasive
<i>Laminaria japonica</i>	Introduced
<i>Undaria pinnafida</i>	Introduced
<i>Chrysymenia whrightii</i>	Introduced
<i>Caulerpa mexicana</i>	Invasive / Lessepsian migrant
<i>Caulerpa escarpelliforme</i>	Invasive / Lessepsian migrant
<i>Padina boergeresii</i>	Invasive / Lessepsian migrant
<i>Acanthophora najadiformes</i>	Invasive / Lessepsian migrant
<i>Hypnea nidifica</i>	Invasive / Lessepsian migrant
<i>Colpomenia peregrina</i>	Atlantic Invasive

Andalusia: In addition to the former list, it have been detected the following coastal exotic and introduced species: *Penisetum setaceum*, *Carpobrotus edulis*, *Opuntia dillenii* and *Agave siselana*.
Valencia Region: Surveillance Network for the species *Caulerpa taxifolia* and *C. racemosa*. It has been detected the species *Oculina patagonica* associated to *Dendropoma petraeum*.

49. Inventories of the components of biological diversity (article 15).
- a) Date of establishment or updating of the inventory of areas containing rare or fragile ecosystems;
An inventory on the natural habitats distribution from Annex I of the Directive 92/43/CEE has been elaborated in order to be subject to the application of such Directive. During the period covered for this report, it has been reviewed the inventory to modify some mistakes detected once the Directive has been applied.
In addition, in 2004 it has been presented the publication of a report with the conclusions of a research Project on the Identification of Special Protected Areas of Special Interests for Cetaceans in the Spanish Mediterranean (reference: Section 1.1).
In 2004, it has been established the basis for developing the Spanish Inventory of Marine Habitats and Taxa during 2005 in order to fulfil the obligations issued in the EU Habitat Directive and the Barcelona and OSPAR Conventions.
- b) Date of establishment or updating of the inventory of endangered or threatened species of flora and/or fauna;
In 2004, it has been published a Guide of Marine Invertebrates and Fish Protected under the national and international legislation in collaboration with the National Natural Sciences Museum.
The following projects have been included in the Spanish Inventory of Marine Habitats and Taxa:
- *Continental Fish Atlas and Red Book of Spain (2000).*
 - *Amphibia and Reptiles Atlas and Red Book of Spain (2002).*
 - *Breeding Birds Atlas and Red Book of Spain (2002).*
 - *Terrestrial Mammals Atlas of Spain (2002).*
 - *Natural and Seminatural Habitat Atlas of Spain (2002).*
 - *Threatened Flora Atlas of Iberian Peninsula, Balearic Islands and Canary Islands (2003).*
- Balearic Islands: *In 2004, it has been started the "BIOATLAS" Project. The aim was to consider a database structure for storing information on insular species. Database is combined with a Geographical Information System in UTM coordinates. It has been included more than 22.000 data, and it is considered many species listing in the Annexes of the Protocol. Nevertheless it has got significant data for few species. Thus it is expected to have more consistent data during 2005.*
In relation to cetaceans, a full register contains 26 strandings occurred in 2004. In the case of sea turtles, it has been registered 60 strandings of dead individuals and 12 alive, 4 of them have been released and 8 individuals are in recovery.
- Valencia Region: *It have been reported several research studies on priorities species for conservation, through the co-ordinating bodies the University of Alicante and the University of Valencia.*
The projects are as follows: Assesment of Pinna nobilis current situation and proposal on the conservation for priority species in Sierra Gelada SCI and Littoral of Marina Baixa SCI, University of Alicante (2003); applied research on the conservation of Pinna nobilis in Valencia, Alicante and Castellón, University of Valencia (2003); assessment of the populations of vermetids and their influence on the marine biological diversity in SCIs located in Valencia, Alicante and Castellón, University of Alicante (2004).
- c) Attach the inventory/s unless they have already been submitted in a special report.
- d) Inventory using the standard data format (SDF)
50. Exemptions granted to protection measures articles 12,18,23 c).
No available data are related to this section.
51. Implementation of the action plans adopted within the framework of MAP:
All the Action Plans approved in the framework of MAP (monk seal, cetaceans, sea turtles, marine vegetation, bird species listed in Annex 2 of the Protocol, cartilaginous fish, introduction of species and invasive species) have been endorsed and developed a set of research and conservation measures as it has stated in sections 6, 7, 10, 11, 14, 16, 17 and 18 of this report.
- *Action plan for the conservation of cetaceans in the Mediterranean sea*
Every Regional Government provides a financial support to the Recovery Centres.
 - *Action plan for the management of the monk seal in the Mediterranean*
 - *Action plan for the conservation of sea turtles in the Mediterranean*
Every Regional Government provides a financial support to the Recovery Centres.
 - *tion plan for the conservation of marine vegetation.*
Recovery of seagrasses in Andalusia: Restauration of Posidonia oceanica meadows in Almería and the SPAMI Maro-Cerro Gordo Cliffs.
Action plan for the conservation of birds species listed in Annex 2 of the Protocol
Andalusia: *Monitoring Program on seabirds.*
Valencia Region: *In the context of a EU LIFE-Nature Project, it is developing a Program in several fields which deal with monitoring, research and conservation for the following species: Shearwater(Puffinus mauritanicus); Cory's*

shearwater (Calonectris diomedea); Storm petrel (Hydrobates pelagicus); Audouin's Gull (Larus audouinii), Shag (Phalacrocorax aristotelis); Eleonora's Falcon (Falco eleonora).

- Action plan for the conservation of cartilaginous fish (condrichthyans) in the Mediterranean sea
 - Action plan concerning the introduction of species and invasive species in the Mediterranean sea
- Andalusia: According to the Andalusian Plan of Exotic and Introduced Species, it has been applied a Control Program of Exotic Species in Alborán.*

52. Implementation of other recommendations pertinent to the Contracting Parties

XI. Brief description of all problems or constraints encountered in the application of the Protocol

Application du Protocole relatif aux aires spécialement protégées et à la diversité biologique en Méditerranée

1. Mesures juridiques et/ou administratives prises aux termes du Protocole

1.1 Pour protéger, préserver et gérer les espaces marins et côtiers ayant une valeur naturelle ou culturelle particulière, et pour protéger, préserver et gérer les espèces de la faune et de la flore marines et côtières qui sont en danger ou menacées (article 3)

ESPACES

S'il n'existe généralement pas de mesure spécifique de protection des espaces marins tout au moins au titre de la protection de la nature, les différentes procédures de protection réglementaires telles que les parcs nationaux, les réserves naturelles, les arrêtés de protection de biotope, les sites classés s'appliquent y compris sur le domaine marin.

Tous ces outils n'ont pas la même valeur juridique et n'offrent pas les mêmes leviers d'actions mais ils concourent tous à protéger préserver et gérer les espaces marins et côtiers ayant une valeur particulière.

Les parcs nationaux sont notamment régis par les articles L. 331-1 à 331 – 25 et R. 241-1 à R. 241-71 du code de l'environnement . Le statut de parc naturel est le plus poussé car outre le fait qu'il concerne des aires d'une taille significative, il déroge notablement au droit commun non seulement par les mesures de protection mais aussi par les pouvoirs de gestion qu'il donne au directeur de parc. De ce fait c'est une mesure assez rare et en France il existe un seul parc national concernant largement le milieu marin il s'agit du parc national de Port Cros en Méditerranée.

Les réserves naturelles sont régies par les articles L. 332 – 1 à L.332- 27 et R. 242-1 à R. 242-1 à 49 du code de l'environnement, avec des dispositions spécifiques récentes pour la Corse (loi du 27 février 2002). Le statut de réserve naturelle offre également une très forte protection mais concerne des aires plus restreintes. Les réserves ont une valeur d'exemple et ne sont donc pas appelées à être multipliées sans fin

Les **arrêtés de protection de biotope** permettent d'assurer la conservation des milieux abritant des espèces protégées par l'interdiction de certaines activités. Les dispositions législatives et réglementaires qui s'appliquent sont les articles L.411-1 à L. 411-3 et R. 211-12 et 14 du code de l'environnement

La procédure de **classement au titre des sites** relève de l' article L. 341 du code de l'environnement. Ce classement vise à la conservation d'un espace naturel ou bâti. Il garantit l'intégrité du site vis à vis de travaux ou d'aménagement. Initialement non conçu pour les milieux marins il a cependant un effet sur eux car tout classement d'un site littoral emporte une protection dans un rayon de 500 mètres y compris en mer.

Les **Parc naturel régionaux** sont régis par l'article L. 333-1 à 4 du code de l'environnement. Ce classement permet d'assurer par l'application d'une charte passée entre l'État et les collectivités territoriales, le développement d'un territoire fondé sur la préservation du patrimoine naturel et culturel. Cette procédure n'est applicable qu'au domaine terrestre mais elle est mentionnée ici en ce qu'elle peut s'appliquer aux zones terrestres littorales considérées au titre du présent protocole.

Toujours en ce qui concerne les zones terrestres côtières il convient de citer les actions relevant d'une politique foncière telles que les acquisitions du Conservatoire du littoral et des rivages lacustres :

Le Conservatoire de l'espace littoral et des rivages lacustres est un établissement public de l'Etat, créé en 1975, qui a pour mission d'acheter des terrains situés dans les cantons littoraux et dans les communes riveraines de lacs de plus de 1000 hectares. Le Conservatoire du littoral travaille en partenariat avec les collectivités qui sont très généralement gestionnaires des sites acquis. Le Conservatoire du littoral établit le plan de gestion de ses sites et en suit la réalisation.

Au titre de la Méditerranée, le Conservatoire a la responsabilité d'une centaine de sites significatifs (liste jointe en annexe 1) qui participent à la préservation de ce littoral. Les acquisitions successives sont réalisées en vue de constituer des unités d'une surface permettant d'assurer la fonctionnalité d'entité biologique. Ce travail d'acquisition doit permettre à terme de participer à la préservation du tiers sauvage.

Les zones spéciales de conservation et les zones de protection spéciales font partie de nos engagements communautaires au titre de la directive habitat, faune, flore et de la directive oiseaux. Un certain nombre d'entre elles concernent le milieu côtier terrestre mais aussi le domaine marin (voir liste jointe en annexe 2).

ESPECES

Pour protéger, préserver et gérer les espèces animales et végétales menacées, la France dispose de mesures législatives et réglementaires rassemblées dans le code de l'environnement (articles L.411-1 et 2) qui permet, à partir de l'élaboration de listes d'espèces protégées, soit à l'échelon régional ou le plus souvent national, divers degrés de protection en fonction de l'état biologique de l'espèce concernée. Sont ainsi interdites les activités pouvant nuire à la conservation de l'espèce : capture ou destruction d'individus et de l'habitat de l'espèce, commerce, transport, naturalisation, etc.

C'est ainsi que toutes les espèces d'oiseaux, mammifères (baleines et petits cétacés), reptiles (tortues marines) listées en annexe II de la convention de Barcelone sont intégralement protégées. De même un poisson : l'esturgeon d'Europe.

Durant la période considérée, la France a prolongé l'interdiction de pêche sous marine du mérrou avec extension à la pêche à l'hameçon.

En ce qui concerne les invertébrés, la Grande Cigale de mer (*Scillarides lattus*), l'Oursin rouge à longs piquants (*Centrostephanus longispinus*), la Datte de mer (*Lithophaga lithophaga*), la Patelle (*Patella ferruginea*), le Jambonneau hérissé (*Pinna nobilis*), la Pinne géante (*Pinna nobilis*) sont également intégralement protégés.

Dans le domaine de la flore, les espèces suivantes sont intégralement protégées sur tout le territoire national : Cymodocée (*Cymodocea nodosa*), Pelote de mer (*Posidonia oceanica*). Les deux espèces de zostères ne font l'objet de mesures de protection intégrale qu'en région Provence-Alpes-Côte d'Azur.

A coté des mesures juridiques de protection et de gestion des espèces animales et végétales, un certain nombre d'actions de conservation ont été conduites sous l'égide de plans de restauration pour les espèces les plus menacées, surtout terrestres mais également marines. Pendant la période considérée a été lancé un plan de restauration pour le *balbuzard pêcheur*, un autre est en cours d'élaboration pour le *goéland d'Audouin*.

Bien que ne concernant pas directement des espèces menacées et il existe diverses mesures de régulation et gestion des pêches, essentiellement dans le cadre de la politique commune des pêches. Ainsi en ce qui concerne le thon rouge, un permis de pêche spéciale "thonaille" a été créé par l'arrêté du 1^{er} août 2003 avec un *numerus clausus*.

Les thoniers senneurs sont eux assujettis à la détention d'une licence de pêche et sont limités en nombre fixé à 43 licences. Ils doivent respecter un arrêt biologique (règlement CE n°973/2001 du 14 mai 2001) du 16 juillet au 15 août.

1.2 Pour créer des aires spécialement protégées marines et côtières (article 5)

Liste établie d'ouest en est, et du nord au sud :

- 1) Réserve naturelle de Cerbères Banyuls (64) arrêté du 5 mars 1974, puis nouveau classement prononcé par décret n° 90-790 du 6 septembre 1990. S'étend de l'île Grosse (Banyuls sur Mer) au Cap Peyrefite (Cerbère) en couvrant 650 ha sur 6,5 km de rivage, et jusqu'à 1,5 mille nautique vers le large. Autour du Cap Rédéris, 65 ha constituent une zone de protection renforcée.,
- 2) Réserve naturelle de l'Estagnol (Hérault) ; arrêté du 19 novembre 1975 (78 hectares)
- 3) Réserve naturelle de l'étang du Bagnas (Hérault) ; décret n° 83-1002 du 22 novembre 1983 (561 hectares, zone humide littorale)
- 4) Parc Naturel Régional de Camargue (13) zone humide littorale : concerne l'ensemble de l'île de Camargue; créé par décret du 29 septembre 1970, dont le classement a été renouvelé par décret 98-97 du 18 février 1998. Il est géré par un syndicat mixte depuis le 1^{er} décembre 2004.
- 5) Réserve naturelle de Camargue arrêté du 24 avril 1975: elle couvre 13 117 ha sur l'étang de Vaccarès et les terres environnantes. Elle s'est dotée d'un plan de gestion approuvé en 1991.
- 6) Réserve départementale des Impériaux date: elle concerne 2 777 ha sur les étangs de l'Impérial et du Malagroy.
- 7) Domaine de la Palissade (acquis en 1977, 702 ha) géré par un syndicat mixte pour la gestion du domaine de la Palissade créé en 1981.
- 8) Réserve volontaire de la Tour du Valat (2 juillet 1984): elle couvre 1 071 hectares propriété de la Fondation Sansouire et dispose également d'un plan de gestion.
- 9) Réserve naturelle de l'archipel de Riou (13) Décret 22 août 2003 (partie terrestre) n°199, JO du 29/08/03. Partie marine en cours de réflexion.

- 10) Accord intergouvernemental pour la création d'un sanctuaire pour les mammifères marins en Méditerranée, Pélagos, signé à Rome le 25 novembre 1999 par l'Italie, Monaco et la France et entré en vigueur le 21 février 2002. Cet accord prévoit le maintien ou la restauration d'un état de conservation favorable pour tous les mammifères marins par la coordination des trois Etats en matière de suivi et de limitation de l'impact des activités humaines
- 11) Classement du Parc National de Port-Cros (décret n° 63-1235 du 14 décembre 1963).
Le Parc national couvre une superficie de 675 hectares terrestres et de 1 800 hectares maritimes.
- 12) Réserve naturelle de Scandola (Corse),(décret no 75-1128 du 9 décembre 1975)
- 13) Réserve naturelle des îles Finocchiarola (Haute-Corse, décret n° 87-494 du 29 juin 1987)
- 14) Réserve naturelle de l'étang de Biguglia (Haute Corse, décret du 9 août 1994)1790 ha, communication avec la Méditerranée par le grau)
- 15) Réserve naturelle des Tre Padule de Suartone (Corse du Sud ; décret du 11 décembre 2000) terrestre, sur la commune de Bonifacio
- 16) Un statut de réserve naturelle protège les 3 sites qui composent la partie française du projet de Parc Marin International dans les Bouches de Bonifacio :
- a) décret no 81-205 du 3 mars 1981 portant création de la Réserve Naturelle des Iles Cerbicales
- b) décret du 23 septembre 1999 portant création de la Réserve Naturelle des Bouches de Bonifacio (Corse du Sud)
- c) décret du 11 décembre 2000 portant création de la Réserve Naturelle des Tre Padule de Suartone
- 17) La liste des sites classés situés pour tout ou partie sur le domaine public maritime est jointe en annexe 3.
- 18) La liste des sites acquis par le Conservatoire du littoral est jointe en annexe 1.
- 19) La liste des arrêtés de protection de biotope est jointe en annexe 4 .
- 20) Les propositions de sites d'importance communautaire et zones de protection spéciale (Natura 2000) sont jointes en annexe 2.

1.3 Pour assurer la protection conformément à l'article 6, en particulier

a) le renforcement de l'application des autres Protocoles de la Convention et d'autres traités (article 6 a)

b) l'interdiction de rejeter ou de déverser des déchets portant atteinte à des aires protégées (article 6 b)

La création d'aires spécialement protégées et la préservation de la biodiversité s'inscrivent dans un cadre global qui leur est indispensable. La lutte contre les pollutions d'origine tellurique, ou d'origine accidentelle en mer, la lutte contre l'immersion des déchets...font partie de cet ensemble, (voir à ce sujet les rapports établis par la France au titre des divers protocoles du PAM)

En outre tous les textes de création de parcs ou réserves comportent un article interdisant le rejet ou le dépôt de tous produits de nature à nuire à la qualité des eaux, de l'air, du sol ou du site.

Le schéma d'aménagement et de gestion des eaux Rhône Méditerranée Corse (SDAGE RMC), dont son volet littoral (découpage en zones homogènes de gestion et orientations générales et particulières par zones), concourt à la préservation des aires spécialement protégées.

Toujours à titre d'illustration on peut citer l'interdiction faite en Corse la vie à bord des navires non équipés de cuves de rétention en zone de mouillages organisés.

c) la réglementation du passage des navires (article 6 c)

Les mesures prises ont essentiellement concerné :

- les îles d'Hyères, notamment Porquerolles (englobée depuis dans un site Natura 2000) où une zone de mouillage propre (ZMP) élargie a été instituée à l'été 2002, réservant le mouillage dans les eaux littorales (500 mètres) du tiers central de la côte nord aux navires effectivement équipés de caisses de rétention des eaux grises.

- et surtout la circulation maritime dans le détroit international des Bouches de Bonifacio, où ont été créés une réserve naturelle marine, côté français (en 1999), et le « Parc National de l'archipel de La Maddalena », côté italien (en 1994) - l'ensemble ayant vocation à devenir le « Parc Marin International des Bouches de Bonifacio » - a continué à être surveillée par les stations côtières - dont le sémaphore de Pertusato - conformément aux résolutions et circulaires de l'Organisation Maritime Internationale. Pour mémoire, le gouvernement de la République française et le gouvernement de la République italienne ont signé le 5 février 2001 un protocole relatif aux modalités pratiques d'accès dans les eaux territoriales nationales des moyens navals de la République française et de la République italienne affecté à la surveillance maritime dans les Bouches de Bonifacio.

d) la réglementation de l'introduction d'espèces (article 6 d))

Parc national de Port-Cros : introduction d'espèces animales ou végétales interdites (sauf activités agricoles)

Tous les textes de création de réserves comportent un article réglementant (généralement interdisant, le cas échéant sous réserve d'activités agricoles ou pastorales) l'introduction d'espèces animales ou végétales.

Voir également infra point 1.6

e) la réglementation d'activités (article 6 e), 6 h))

Parc national de Port-Cros : Certaines activités sont réglementées par le décret , d'autres activités sont soumises à l'autorisation du directeur du parc national.

- chasse interdite,
- camping, feux, dépôt de déchets etc., interdits
- interdiction de porter atteinte aux animaux ou aux végétaux (sauf autorisation du directeur)
- activités agricoles, et pastorales autorisées dans leur forme actuelle. Le directeur doit être informé, et peut s'opposer à toute modification des pratiques.

Défrichement autorisé seulement s'il est nécessaire à l'aménagement du parc.

Interdiction par les autorités françaises d'une course de navires à moteur rapide dans le cadre d'un championnat du monde offshore et prévue de se dérouler les 20 et 21 septembre 2003 dans le Golfe de Saint-Florent (Haute-Corse), à l'intérieur du périmètre du Sanctuaire *Pelagos*.

Réserve Naturelle des Bouches de Bonifacio

- Arrêté préfectoral n° 11/2002 réglementant la plongée sous-marine à l'intérieur de la Réserve Naturelle des Bouches de Bonifacio.
- Arrêté inter préfectoral n° 04-0285 en date du 20 février 2004 portant occupation temporaire pour une zone de mouillage et d'équipements légers dans l'archipel des Lavezzi, sur le territoire de la commune de Bonifacio.
- Dispositions prévues par la convention de gestion relative à la réglementation des activités, usages et utilisation du sol sur les terrains du Conservatoire de l'Espace Littoral et des Rivages lacustres
- Dispositions prévues par la Charte liant les établissements de plongée subaquatiques et la Réserve Naturelle des Bouches de Bonifacio (2002).

Réserve Naturelle de Scandola

- Pêche et plongée interdites, mouillage interdit de nuit dans le périmètre de la réserve
- Pêche et plongée interdites, mouillage interdit de jour et de nuit dans le périmètre de la réserve intégrale

f) la réglementation des activités de recherche scientifique (article 6 f))

Tous les textes de création de réserves comportent des articles interdisant de porter atteinte aux animaux ou aux végétaux, sous réserve d'autorisation délivrée à des fins scientifiques.

Autres exemples en Corse :

Décision n° 25/2003/DRAM autorisant des personnels scientifiques à pratiquer des échantillonnages dans les eaux autour de la Corse (STARES)

Décision n° 62/2202/DRAM autorisant l'IFREMER (station de Sète) à effectuer du 29 mai au 9 juin 2002 avec le Navire « Europe » à effectuer une campagne halieutique dans les eaux territoriales, le long de la côte orientale de la Corse.

Décision n° 21/2002/DRAM autorisant des personnels scientifiques à pratiquer des échantillonnages dans les eaux autour de la Corse (STARESO)

Pour les espèces protégées au titre du code de l'environnement, l'interdiction est de portée générale, des autorisations pouvant être délivrées à des fins scientifiques.

g) la réglementation de la pêche, de la chasse, de la capture d'animaux et de la récolte de végétaux ainsi que du commerce d'animaux ou de parties d'animaux, de végétaux ou de parties de végétaux provenant d'aires protégées (article 6 g))**I - Mesures d'ordre général**

En matière de pêches maritimes il existe au niveau communautaire et national des normes relatives aux tailles minimales des poissons, aux caractéristiques des engins de pêche , aux saisons de pêche de certaines espèces...

Chaque texte de création de réserve comporte une réglementation, pouvant aller jusqu'à l'interdiction, de la chasse, de la pêche ou de la chasse sous-marine, de la cueillette des végétaux....

II - Mesures particulières

Dans la Réserve Naturelle des Bouches de Bonifacio :

arrêté préfectoral n° 87/2001 portant modalités d'application de l'article 30 al. 2 du décret du 23 septembre 1999 portant création de la Réserve Naturelle des Bouches de Bonifacio (pêche au calmar à la Turlutte).

arrêté préfectoral n° 01/2002 organisant à titre expérimental la pêche professionnelle sous-marine des oursins dans certaines zones de la Réserve Naturelle des Bouches de Bonifacio.

arrêté préfectoral n° 196/2004 portant réglementation de la pêche sous-marine à l'intérieur du périmètre de la Réserve Naturelle des Bouches de Bonifacio.

Parc National de Port Cros, décret de 1963 modifié interdit arts traïnants et pêche sous marine

III - Mesures non spécifiques aux aires marines protégées

Arrêté n° 140/2002/DRAM portant réglementation particulière de la pêche sous marine dans les eaux territoriales autour de la Corse.

Cet arrêté complète l'arrêté préfectoral 10/2000/DRAM du 9 mars 2000 portant réglementation particulière de la pêche sous marine dans les eaux territoriales autour de la Corse en ajoutant les espèces suivantes à l'interdiction de pêche : *Luria lurida* (Porcelaine), *Hippocampus hippocampus* et *Hippocampus ramulosus* (hippocampe à long bec).

Arrêté 110/2003/DRAM portant réglementation complémentaire de la pêche sous marine dans les eaux territoriales autour de la Corse. Cet arrêté interdit dans un rayon de 150 mètres autour des zones où est pratiquée la baignade et ses activités connexes. Il interdit également l'usage de véhicules sous marins ou de dispositifs de traction sous marine aux pêcheurs sous marins. La pose de cordages en surface ou sous l'eau destinés à rabattre le poisson à proximité des pêcheurs sous marins est également interdite.

1.4 Concernant la planification et la gestion des aires spécialement protégées (article 7)

Dès lors qu'il s'agit de préserver un espace, ou a fortiori une espèce, des actes de planification et gestion s'imposent et c'est le sens général des divers dispositifs français.

Ainsi qu'indiqué supra le directeur d'un parc national dispose d'importants pouvoirs permettant des actes de gestion, il peut aussi sur les matières où compétence ne lui a pas été déléguée, solliciter l'autorité administrative compétente.

Pour chaque réserve naturelle, l'État, (le préfet) désigne un organisme gestionnaire, de nature juridique variée. Outre sa mission de « police de la nature » (faire respecter la réglementation), cet organisme est chargé d'élaborer un plan de gestion de l'espace dont il est chargé. Ce plan est soumis à validation, notamment par le CNPN pour ce qui concerne le premier plan. Il définit, à partir d'une évaluation scientifique du patrimoine naturel, des objectifs pour en assurer la conservation et les actions nécessaires pour atteindre ces objectifs.

A titre d'exemple et en ce qui concerne la réserve de Cerbères Banyuls, le Conseil général des Pyrénées-Orientales, qui gère cet espace depuis l'origine, a significativement renforcé l'équipe de la réserve en 2000 et 2001 ; La réserve dispose depuis 2001 d'un plan de gestion écologique ambitieux. Dans le respect de l'objectif premier d'une réserve naturelle, qui est la protection des milieux naturels, le gestionnaire de la réserve s'attache au quotidien à concilier la protection de la nature avec l'utilisation de l'espace.

Les parcs naturels régionaux intègrent les objectifs de gestion dans des chartes ; on peut citer à titre d'exemple le Parc naturel régional de Camargue dont la charte a été approuvée en 1996 et la démarche de contrat de delta démarrée au cours du biennium (2005 : révision de charte à initier).

Pour mémoire le conservatoire du littoral contrôle le cadre de gestion des sites qu'il a acquis.

En ce qui concerne les sites dits « Natura 2000 », au titre de la préservation des espèces ou des habitats, chaque site fera l'objet d'un document d'objectif (DOCOB) définissant non seulement des objectifs mais aussi les moyens de les atteindre.

Le sanctuaire pour les mammifères marins de Méditerranée aura bien entendu un plan de gestion, qui a été validé par les Parties fin 2004.

1.5 Pour la protection et la conservation des espèces (article 11)

Voir réponse au I-1-1 du rapport d'application du protocole

1.6 Pour réglementer l'introduction d'espèces non indigènes ou génétiquement modifiées (article 13)

Le code de l'environnement prévoit en son article L.411-3 que sont interdites les introductions dans le milieu naturel d'espèces animales ou végétales non indigènes au territoire d'introduction. Des décrets d'application devaient préciser les conditions d'application de cette mesure. Des difficultés dans l'application pratique de ce texte ont conduit l'administration à envisager une réécriture plus opérationnelle de celui-ci. La réflexion devra intégrer, au-delà des mesures juridiques un politique de prévention des introductions par la mise en place d'observatoires, des actions d'informations des administrations, professionnels, grand public mais également des

opérations d'éradication lorsque cela est encore possible, de confinement ou de préservation des espaces sensibles.

Certains espaces protégés tels que les parcs nationaux ou les réserves naturelles interdisent dans leur propre réglementation l'introduction d'espèces non indigènes sur leur territoire.

Caulerpe :

Apparue au début des années 90 dans la partie orientale des côtes française cette algue envahissante a rapidement colonisé de nombreux espaces côtiers souvent au détriment d'espèces indigènes.

Dans ce contexte a été constitué l'Observatoire national sur l'expansion des Caulerpes (*taxifolia* et *racemosa*) avec mise sous système d'information géographique (SIG) et internet (www.caulerpa.org) des éléments cartographiques actualisés

La présence de l'algue *Caulerpa taxifolia* dans les eaux du Parc national de Port-Cros, est jugée comme un risque important pour le maintien de la biodiversité marine. Au titre du principe de précaution et selon les directives de Comité interministériel de pilotage, assorti des recommandations des organisations scientifiques internationales (PAM / PNE Héraklion, 1998, Séminaire international de Lerici, 1999), la nécessité de conserver aux eaux de Port-Cros, leur caractère de référence biologique et de sanctuaire de la biodiversité marine, est confirmée.

Une stratégie de recherche systématique et annuelle de l'algue permet de déceler sa présence dès son apparition dans les eaux du parc, en particulier dans les zones de mouillage autorisé. L'éradication localisée est donc possible rapidement, évitant alors son développement incontrôlable.

C'est ainsi que depuis 1994, en collaboration avec les plongeurs partenaires du parc national et avec les biologistes marins du Comité scientifique du parc, une prospection systématique a lieu dans toutes les zones de mouillage de Port-Cros, soit environ 120 ha. La présence de l'algue est alors chaque année décelée, sur une faible surface, puis éradiquée localement.

1.7 Pour accorder des dérogations aux mesures de protection (articles 12,18)

Les mesures juridiques de protection des espèces animales ou végétales mentionnées au I-1-1 prévoient un mécanisme dérogatoire aux interdictions de capture ou de prélèvement à des fins scientifiques

Pour chacune des deux années 2002-2003, il a été accordé 35 autorisations de capture de tortues marines. Il s'agit en fait d'autorisations accordées au réseau d'échouage pour la capture et les soins d'animaux échoués vivants mais plus généralement morts.

Une autorisation de capture éventuelle de tout mammifère marin est accordée chaque année au centre de recherche sur les mammifères marins qui organise la récupération des animaux échoués, vivants ou morts à des fins de soins ou d'études scientifiques.

Plus spécifiquement, en application du décret de 1963 modifié, le directeur du parc national de Port-Cros peut accorder des dérogations à certaines mesures. Un droit d'usage est considéré comme acquis pour les quelques habitants permanents de Port-cros qui bénéficient de souplesse dans l'application des règles en dehors de la saison estivale (de octobre à mai : ramassage possible des champignons pour une consommation familiale, possibilité d'accéder aux rochers en dehors des sentiers du littoral, chiens en dehors du village mais tenus en laisse).

2. Brève description de tous problèmes ou contraintes rencontrés dans l'application du Protocole

Nécessité de tenir compte des habitants permanents dans les aires spécialement protégées, d'où les dérogations citées supra.

Rapport national sur l'application technique du Protocole «aires spécialement protégées»

1. Pays **FRANCE**

2. **Période couverte par le rapport**

1er janvier 2002 au 31 décembre 2003. (Plus période antérieure s'agissant du premier rapport)

3. **Organisation nationale chargée de l'établissement du rapport**

Ministère de l'écologie et du développement durable, direction de la nature et des paysages et direction générale de l'administration, des finances et des affaires internationales

4. **Organisations nationales ayant communiqué des données en vue de l'établissement du rapport**

DIREN Languedoc Roussillon 58, avenue Marie de Montpellier CS7903434965 Montpellier Cédex FRANCE

DIREN PACA, B.P. 120 allée Louis Philibert13603 Aix en Provence Cédex FRANCE

DIREN Corse 19 cours Napoléon, Bat D, 20 000 Ajaccio FRANCE

Parc National de Port Cros Castel Sainte Claire 83418 Hyères Cédex France

Préfecture maritime de la Méditerranée 83000 Toulon FRANCE

5. **Assistance reçue du PAM/PNUÉ en vue de l'établissement du présent rapport**

Néant

6. **Liste des aires spécialement protégées créées en application de l'article 5 du protocole**

La liste des aires spécialement protégées figure dans le rapport d'application du protocole (réponse à la question 1-1-2)

7. **Propositions faites pour l'inscription d'aires relevant de la juridiction nationale ou comprenant de la haute-mer sur la liste des ASPIM (Article 9 a)**

a) Date de la ou des propositions

b) Aires proposées (liste jointe)

Parc national de Port Cros en novembre 2001

Sanctuaire pour les mammifères marins de Méditerranée, Pélagos en novembre 2001

8. **Liste des ASPIM**

a) **statut et état des aires sous juridiction nationale inscrites sur la liste des ASPIM (article 23(a))**

- Parc national de Port Cros : Aire protégée depuis 1963, très bon état écologique
- Sanctuaire pour les mammifères marins de Méditerranée, Pélagos Couvrant une superficie de mer de 87 500 km², situé essentiellement en haute mer et concerné largement par la zone de protection écologique (ZPE) française, il concerne aussi les eaux territoriales de l'Italie, Monaco et la France et pour l'essentiel de la haute-mer. Le sanctuaire a été créé dans le cadre d'un accord international en date du 25 novembre 1999, entré en vigueur le 2002. Ce secteur a été retenu du fait de la diversité et de la densité de mammifères marins. Le biennium 2002 2003 a été marqué par d'intenses travaux de préparation du plan de gestion (adopté par les parties en 2004). Pour la partie française l'animation a été confiée au Parc national de Port-Cros.

b) toute modification de la délimitation ou du régime juridique des ASPIM (article 23 b))

Néant

9. **Toute modification dans la délimitation ou le régime juridique des espèces protégées**

Néant

10. **Nouvelles données concernant des espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages (article 13.2)**

.**Caulerpe** : Apparue au début des années 90 dans la partie orientale des côtes française cette algue envahissante a rapidement colonisé de nombreux espaces côtiers souvent au détriment d'espèces indigènes.

Dans ce contexte a été constitué l'Observatoire national sur l'expansion des Caulerpes (taxifolia et racemosa) avec mise sous système d'information géographique (SIG) et internet (www.caulerpa.org) des éléments cartographiques actualisés

La présence de l'algue *Caulerpa taxifolia* dans les eaux du Parc national de Port-Cros, est jugée comme un risque important pour le maintien de la biodiversité marine. Au titre du principe de précaution et selon les directives de Comité interministériel de pilotage, assorti des recommandations des organisations scientifiques internationales (PAM / PNUE Héraklion, 1998, Séminaire international de Lerici, 1999), la nécessité de conserver aux eaux de Port-Cros, leur caractère de référence biologique et de sanctuaire de la biodiversité marine, est confirmée.

Une stratégie de recherche systématique et annuelle de l'algue permet de déceler sa présence dès son apparition dans les eaux du parc, en particulier dans les zones de mouillage autorisé. L'éradication localisée est donc possible rapidement, évitant alors son développement incontrôlable.

C'est ainsi que depuis 1994, en collaboration avec les plongeurs partenaires du parc national et avec les biologistes marins du Comité scientifique du parc, une prospection systématique a lieu dans toutes les zones de mouillage de Port-Cros, soit environ 120 ha. La présence de l'algue est alors chaque année décelée, sur une faible surface, puis éradiquée localement.

Dans le contexte mondial de préservation de la biodiversité et de lutte contre les espèces envahissantes, la France ratifiera prochainement la convention sur la gestion des eaux de ballast dans le cadre de l'OMI (fait le 30/12/04)

11. Inventaires des éléments de la diversité biologique (article 15)

- a) **Date d'établissement ou d'actualisation de l'inventaire des aires contenant des écosystèmes rares ou fragiles**
- b) **Date d'établissement ou d'actualisation de l'inventaire des espèces de flore et/ou de faune en danger ou menacées**
- c) **joindre le ou les inventaires, à moins qu'ils n'aient déjà été soumis dans un rapport spécial**

Dans le cadre communautaire la France a entrepris depuis une vingtaine d'années un inventaire des zones d'intérêt écologique et faunistique (ZNIEFF).

Une ZNIEFF est un secteur du territoire particulièrement intéressant sur le plan écologique, participant au maintien des grands équilibres naturels ou constituant le milieu de vie d'espèces animales et végétales rares, caractéristiques du patrimoine naturel régional.

L'inventaire ZNIEFF est un document national établi à l'initiative et sous le contrôle du Ministère chargé de l'environnement. Il est mis en œuvre dans chaque région par les Directions Régionales de l'Environnement. Il constitue un outil de connaissance du patrimoine national de la France. L'inventaire identifie, localise et décrit les territoires d'intérêt patrimonial pour les espèces vivantes et les habitats. Il organise le recueil et la gestion de nombreuses données sur les milieux naturels, la faune et la flore. La validation scientifique des travaux est confiée au Conseil Scientifique Régional du Patrimoine Naturel et au Muséum National d'Histoire Naturelle.

Par exemple en Provence Alpes Côte d'Azur (PACA), le milieu marin a fait partie du champ de l'inventaire dès la première génération. Les résultats, édités en 1988, ont permis de définir 107 zones marines pour une surface de 241 517 ha. Sur l'ensemble des trois départements littoraux (Bouches du Rhône, Var et Alpes Maritimes) 309 zones couvrant 700 000 ha ont été identifiées et décrites.

L'actualisation de cet inventaire est en voie d'achèvement. La liste des zones est disponible sur demande.

Outre les ZNIEFF il existe d'autres démarches de connaissance des sites et espèces :

- Inventaire des zones d'importance communautaire pour les oiseaux (ZICO) réalisé dans les années 1990

- Guide cartographique de l'herbier de Posidonie rédigé sur la base de 2 zones de démonstration (Côte Bleue et St Cyr sur Mer) – Ifremer, 2002-2003.

Enfin chaque gestionnaire peut avoir sa propre démarche locale, par exemple le Parc Marin de la Côte Bleue a un programme de suivi des peuplements ichtyologiques de la réserve marine R.Fouque du Cap Couronne (– *rapport final bilan 1995-2001 – janv.2002*)

On peut aussi citer à titre d'illustration l'Observatoire marin du SIVOM du littoral des Maures créé en 1999

12. Dérogations accordées aux mesures de protection (articles 12, 18, 23c))

Voir réponse 12 dans l'application du protocole

13. Mise en œuvre des plans d'action pour des espèces menacées adoptés dans le cadre du PAM

Tortues marines

Il n'existe pas sur les côtes françaises de Méditerranée de plage de ponte de tortues marines. Le seul suivi réalisé concerne les échouages pour lequel la France dispose depuis 1996 d'un réseau d'observateurs dûment formés aux observations et aux éventuels prélèvements en Méditerranée.

Ce réseau a pour mission de rassembler les informations concernant les tortues marines sur les côtes françaises et d'exploiter les données d'échouage.

Dans le cas d'individus échoués vivants, un relâcher est effectué après marquage et ou soins.

Cétacés

La France dispose d'un réseau de suivi des échouages sur ses côtes métropolitaines depuis 1972. Un tel réseau fonctionne donc en Méditerranée

Par ailleurs, dans le cadre de Pelagos, se sont développées des actions sur les cétacés, notamment :

- le développement d'un programme de recherches et d'études sur les cétacés en Méditerranée occidentale à partir de priorités scientifiques essentiellement basées sur une meilleure connaissance des populations de baleines et dauphins fréquentant la zone et sur l'impact des activités humaines,

- la recherche de la limitation de ces activités, notamment celles qui concerne les captures accidentelles par les engins de pêche, la circulation maritime, les activités de whale-watching et autres activités touristiques.

- des actions ont été prises pendant la période considérée :

l'élaboration d'un code de conduite pour la pratique du whale-watching, l'interdiction de compétitions off-shore, la mise en place d'une réglementation de la pêche à la thonaille comportant des dispositions spécifiques au sanctuaire.

Un plan de gestion tri-partite reprenant ces thèmes de travail a été élaboré en 2003 et finalisé en 2004.

14. Mise en œuvre des autres recommandations pertinentes des Parties contractantes s'il n'en a pas déjà été fait mention dans le rapport national biennal sur l'application de la Convention et des Protocoles

La création d'aires spécialement protégées et la préservation de la biodiversité s'inscrivent dans un cadre global qui leur est indispensable. La lutte contre les pollutions d'origine tellurique, ou d'origine accidentelle en mer, la lutte contre l'immersion des déchets....font partie de cet ensemble (voir à ce sujet les rapports établis par la France au titre des divers protocoles du PAM).

Annexe au rapport national sur l'application technique du Protocole «aires spécialement protégées»

Rapport sur les aires spécialement protégées d'importance méditerranéenne (ASPIM) relevant de la juridiction de deux ou plusieurs pays

1. Pays

Italie, Monaco, France

2. Période couverte par le rapport

Exercice biennal du 1er janvier 2002 au 31 décembre 2003.

3. Organisations nationales chargées de l'établissement du rapport

Ministère de l'écologie et du développement durable, direction de la nature et des paysages, madame Martine Bigan.

4. Organisations nationales ayant communiqué des données en vue de l'établissement du rapport

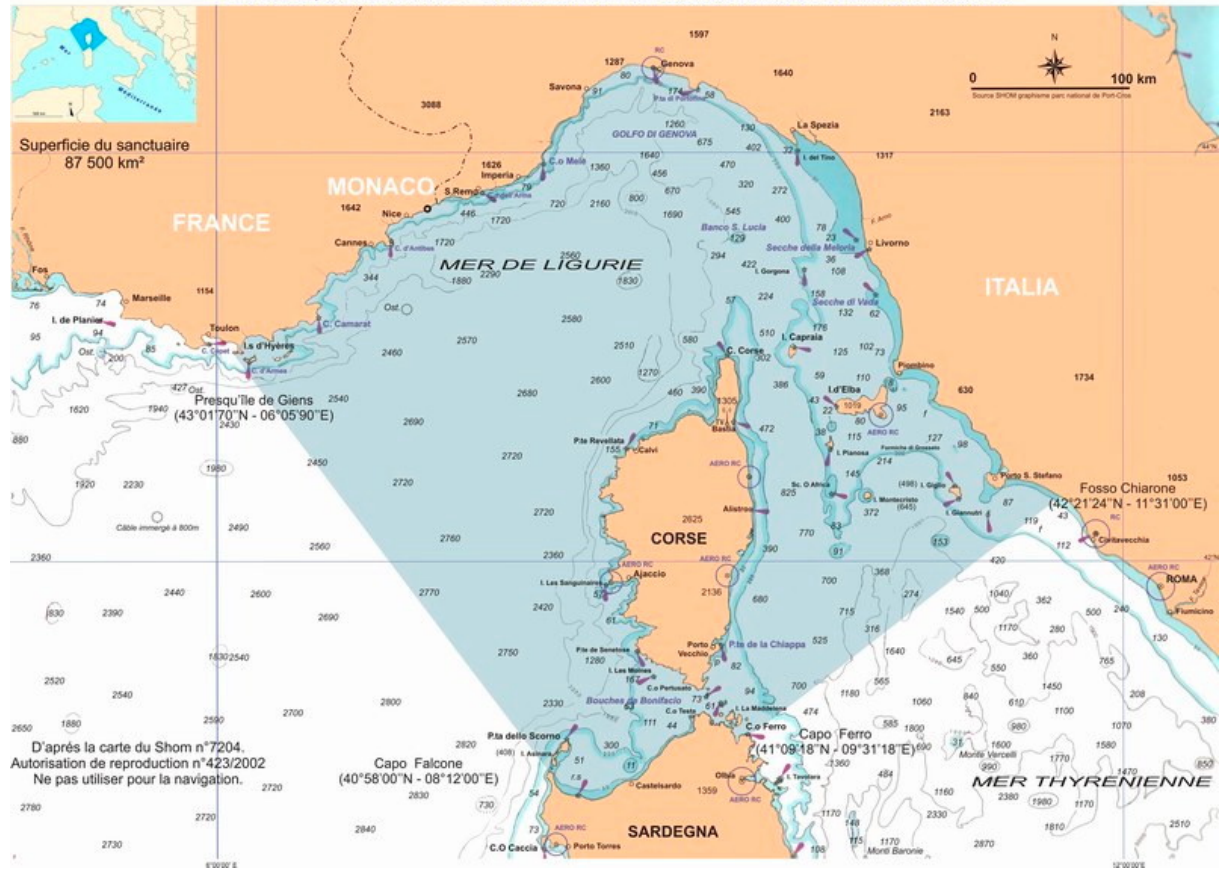
Parc national de Port Cros

5. Propositions faites pour l'inscription sur la liste des ASPIM d'aires situées en tout ou en partie en haute mer (article 9 b))

Sanctuaire pour les mammifères marins de Méditerranée, Pelagos, novembre 2001.

Pays concernés par chaque aire : Italie, Monaco, France

PELAGOS, SANCTUAIRE POUR LES MAMMIFERES MARINS EN MEDITERRANEE



6. Propositions faites pour l'inscription sur la liste des ASPIM d'aires dont les limites de souveraineté ou juridiction nationale ne sont pas encore définies (article 9 c)
 - a) Date de la ou des propositions
 - b) Aires proposées (liste jointe)
 - c) Pays concernés par chaque aire

Néant

7. Liste des ASPIM
 - a) statut et état des aires énumérées aux paragraphes 5 et 6 ci-dessus inscrites sur la liste des ASPIM (article 23 a)
 - b) toute modification de la délimitation ou de la situation juridique des ASPIM

Le sanctuaire pour les mammifères marins est régi par un accord international tripartite fait à Rome le 25 novembre 1999.
 Cet accord a été intégré au droit interne français par le décret n° 2002-1016 du 18 juillet 2002.
 Il n'y a eu aucune modification de la délimitation ou de la situation juridique depuis la création du sanctuaire.

REGION	NOM	SITES	surface des terrains relevant du Conservatoire (m²)	
Languedoc-Roussillon	PYRENEES-ORIENTALES	CAP DE L'ABEILLE	70849	
		ARMEN	6015	
		ANSE DE PAULILLES	322922	
		CAP BEAR	13454	
		PLA DE LES FORQUES	114712	
		MOULIN D'ENSOURD	295492	
		MAS LARRIEU	1169263	
		LE LIDO	10313243	
	AUDE		PLAGE DE STE-MARIE	16865
			LA RIBERE	513147
			MAS DE L'ISLE	474113
			PLATEAU DE LA FRANQUI	82972
			LA CARAMOUN	74547
			RIVES DE FITOU	2960
			LES COUSSOULES	11164
			RIVES DE L'ETANG DE LA PALME	10001
			FRESCATI	832134
			RIVES DE L'AUTE	687987
			ILE STE LUCIE	2270527
			ILE DE L'AUTE	397177
			ILE DE PLANASSE	190898
			BERGES DE L'ETANG DE PEYRIAC	18695
			ETANG DU DOUL	1805145
			SALINE D'ESTARAC	19725
			TOURNEBELLE LE NEUF	300208
			LE GRAND CASTELOU	1570923
			LABRADOR	2679553
			BAJOLE	52713
			ANSE DES GALERES	49580
			GRAND MANDIRAC	328970
	LES AUZILS	7088562		
	L'OUSTALET - RIVIERE LE BAS	5104060		
PISSEVACHE	1344497			
HERAULT		PLAGE DE VENDRES	1302087	
		ETANG DE VENDRES	2135220	
		LES ORPELLIERES	1537289	
		LA GRANDE MAIRE	640516	
		ROQUE HAUTE - ANCIEN GRAU DU LIBRON	53508	
		LA GRANDE COSSE	14702	
		LE CLOT	135692	
		NOTRE DAME DE L'AGENOUILLADE	35328	
LE BAGNAS	6781478			
PRE DE BAUGE	593985			

		LIDO DE SETE	1371283
		ETANG DES MOUETTES	411676
		SALINS DE FRONTIGNAN	2396501
		LES ARESQUIERS	1378042
		ETANG DE VIC	13927885
		SALINES DE VILLENEUVE	2001014
		ETANG DE MEJEAN-ETANG DU GREC	1384686
		LE PETIT TRAVERS	1573611
		LE GRAND TRAVERS	2056474
		ETANG DE L'OR - LA CAPOULIERE	15972
		ETANG DE L'OR - COTE DE PLAGNOL	883992
		ETANG DE L'OR - TARTUGUIERES	3475448
		LE PETIT COGUL	706500
	GARD	BOIS DU BOUCANET	1908051
		CAMARGUE GARDOISE	148888
		MARAIIS DU MAS DES SABLONS	481640
		ETANG DE LA VILLE	8008
		LA JANINE	1419810
		POINTE DE L ESPIGUETTE-TERRE NEUVE	2077158
		DOMAINE DE CAPELUDE	1864513
Provence-Alpes-Côte-d'azur	BOUCHES-DU-RHONE	MAS DE LA CURE	2874382
		VACCARES	3277823
		BOIS DE TOURTOULEN	438473
		MARAIIS DU VIGUEIRAT	10289271
		LA CRAU-NEGREIRON-COUCOU MARAIS	10924729
		LA PALISSADE	7023813
		LE MAZET	1008065
		THEY DU LEVANT	490740
		CITIS POURRA	17510
		RANQUET	861493
		LA CLAPIERE	1137787
		CADERAOU	1758670
		FIGUEROLLES	1213106
		LA PETITE CAMARGUE - LES PALOUS	2031677
		ETANG DE BOLMON	7095285
		LA COTE BLEUE	32778211
		ARCHIPEL DE RIOU	1575375
		MURAILLE DE CHINE	1723613
		DOMAINE DE VAUFREGES	2542019
		LA FONTASSE	2434613
		PORT MIOU - PLAINE DU RIS	1786795
		CAP CANAILLE	118310
	VAR	POINTE GRENIER	146219
		LA MADRAGUE	568033
		LE DEFFEND	246684

		PORT D'ALON	310026
		LA GALERE	302701
		ILE DU GRAND ROUVEAU	50343
		CAP SICIE - LES GABRIELLES	101547
		CAP BRUN	17313
		BOIS DE COURBEBASSE	55596
		LA COLLE NOIRE	1522653
		CAP GARONNE	161098
		FONT BRUN	291977
		LES SALINS DES PESQUIERS	8995377
		ETANG DE L'ESTAGNET	100000
		ESCAMPO-BARIOU	449787
		PRESQU'ILE DE GIENS	523000
		ILE DE PORT-CROS et PORQUEROLLES	2708199
		L'OUSTAOU DE DIOU	119375
		DOMAINE DU BASTIDON	185864
		CAP BENAT	523412
		DOMAINE DU RAYOL	186524
		CORNICHE DES MAURES	1120432
		VALLEE DE LA MOLE - LA PATRONNE	920487
		CAP MIMOSA	1138150
		CAP LARDIER	1991995
		BRIANDE	113395
		LE CAP TAILLAT	326096
		L'ESCALET	459249
		CAP CAMARAT	490101
		BATTERIE DE CAPON	23326
		LA MOUTTE	37711
		LA GAILLARDE	2740989
		LES PETITES MAURES	2385551
		ETANGS DE VILLEPEY	2505310
		PLAINE DES MAURES	9111848
	ALPES MARITIMES	MASSIF DE L'ESTEREL	6243672
		GOLFE DE CANNES MANDELIEU	200
		LA CROIX DES GARDES	530923
		BOIS DE LA GAROUPE	90355
		FORT CARRE	38835
		MONT ALBAN	100431
		LE MONT VINAIGRIER	249245
		LE CORBUSIER	11787
		LES SERRES DE LA MADONE	84033
Corse	CORSE-DU-SUD	SCANDOLA	4930830
		GIROLATA	42216
		GOLFE DE PORTO	1257131
		CAPO ROSSO	760915

	POINTE D'ORCHINO	316851
	POINTE D'OMIGNIA	760696
	POINTE DE CARGESE	314532
	SPELUNCA	87735
	POINTE DE MOLENDINO	285631
	CAPIZZOLU-PORTO MONAGHI	334224
	POINTE DE TRIO	203965
	CAPO DI MURO	2020292
	DUNES DE BARACI	66425
	PLAGE DE PORTIGLIO	61370
	POINTE DE L'ALIVA	152083
	POINTE DE L'UOMO	495020
	MIGINI	887460
	ECCICA	12974743
	SENETOSA	8874480
	POINTE DE ZIVIA	1104078
	CALA BARBARIA	875632
	ROCCAPINA	5041513
	POINTE DE MUCCHIO BIANCO	507981
	POINTE DE CANISCIONE	100
	ARBITRU	695353
	POINTE DE BRUZZI	976644
	ETANG DE CHEVANU	146925
	ETANG SAINT JEAN	109343
	GOLFE DE VENTILEGNE	25863348
	FALAISES DE BONIFACIO	2182681
	POINTE DE CAPICCIOLU	301378
	SARPESTE	2757114
	RONDINARA	163381
	SANTA GIULIA	2431972
	TAMARICCIO	97630
	PALOMBAGGIA	182246
	ILES CERBICALES	133960
	ETANG D'ARASU	356468
	PINEDE DE PINARELLU	103111
	ILE DE PINARELLO	185654
	MISSER' ANTON LAVU SANTU	376630
HAUTE-CORSE	ETANGS DE GRADUGINE ET DE PALU	3046850
	PINIA	3627780
	ETANG DEL SALE	2803267
	TERRENZANA	1270037
	MUCCHIATANA	751005
	RIVES DE L'ETANG DE BIGUGLIA	3693164
	BANDA BIANCA	145000
	CAP CORSE	5492276

		MOULIN DE CALBELLE - MOULIN MATTEI	17925
		ILE DE CAPENSE	22972
		AGRIATE-POINTE DE CEPPON-ETANG DU LOTO	5204627
		AGRIATE - POINTE DE CURZA	1075040
		AGRIATE	48766981
		PERCEPINA	184264
		POINTE DE VARCALE	71536
		POINTE DE SPANO	653913
		PUNTA DI A REVELLATA	450465
		BAIE DE CROVANI	252494
		VALLEE DU FANGO	1172428
total			390757404

Annexe 2 :

Propositions de sites d'intérêts communautaires (pSIC) et zones de protection spéciale (ZPS)

pSIC OU ZPS	SITECODE pSIC ou ZPS	NOM pSIC ou ZPS (SITENAME) existant ou à consulter	DEPT pSIC ou ZPS	SUPERFICIE pSIC ou ZPS TRANSMIS au MEDD à ce jour (en ha) (source SIG)	Date de (re)Transmission/ Notification à la Commission Européenne
pSIC	FR9301568	CORNICHES DE LA RIVIERA	06	1 607 ha	16 février 2004
pSIC	FR9301573	BAIE ET CAP D'ANTIBES – ILES DE LERINS	06	6 130 ha	20 octobre 2003
pSIC	FR9101 440	COMPLEXE LAGUNAIRE DE BAGES SIGEAN	11	9 501 ha	avril 2002
pSIC	FR9101 435	BASSES PLAINES DE L'AUDE	11	-	décembre 1998
pSIC	FR9101 441	COMPLEXE LAGUNAIRE DE LAPALME	11	1 829 ha	février 2001
pSIC	FR9301590	LE RHONE – DE DONZERE-MONDRAGON A LA MEDITERRANEE	13-84-LR-RA	925 ha	1 décembre 1998
pSIC	FR9301592	DELTA DE CAMARGUE	13	24 667 ha	20 octobre 2003
pSIC	FR9301601	COTE BLEUE – CHAINE DE L'ESTAQUE	13	5 817 ha	20 octobre 2003
pSIC	FR9301602	CALANQUES ET ILES MARSEILLAISES – CAP CANAILLE ET MASSIF DU GRAND CAUNET	13	14 164 ha	20 octobre 2003
ZPS	FR9310019	CAMARGUE	13	22 550 ha	16 février 2004
ZPS	FR9312007	ILES MARSEILLAISES	13	2 215 ha	31 octobre 2002
pSIC	FR9101406	CAMARGUE GARDOISE	30	30 580 ha	avril 2002
pSIC	FR9101413	POSIDONIES DE LA COTE PALAVASIENNE	34	10 780 ha	février 2001
pSIC	FR9101414	POSIDONIES DU CAP D'AGDE	34	2 329 ha	mars 2002
pSIC	FR9101408	ETANG DE MAUGUIO	34	7 381 ha	décembre 1998
pSIC	FR9101410	ETANGS PALAVASIENS	34	6 515 ha	février 2001
pSIC	FR9101412	ETANGS DU BAGNAS	34	607 ha	avril 2002
pSIC	FR9101482	POSIDONIES DE LA COTE DES ALBERES	66	4 229 ha	décembre 1998
pSIC	FR9101493	EMBOUCHURE DU TECH ET GRAU DE LA MASSANE	66	956 ha	décembre 1998
pSIC	FR 9101465	COMPLEXE LAGUNAIRE DE CANET	66	1 864 ha	décembre 1998
pSIC	FR9101463	COMPLEXE LAGUNAIRE DE SALSSESZ	66	7 749ha	décembre 1998
pSIC	FR9301609	LA POINTE FAUCONNIERE	83	764 ha	20 octobre 2003
pSIC	FR9301610	CAP SICIE – SIX FOURS	83	1 332 ha	20 octobre 2003
pSIC	FR9301613	LA COTE D'HYERES ET SON ARCHIPEL	83	7 614 ha	16 février 2004
pSIC	FR9301622	LA PLAINE ET LE MASSIF DES MAURES	83	33 774 ha	1 décembre 1998
pSIC	FR9301624	CAP TAILLAT – CAP LARDIER – CAP CAMARAT	83	1 240b ha	20 octobre 2003
pSIC OU ZPS	SITECODE pSIC ou ZPS	NOM pSIC ou ZPS (SITENAME) existant ou à consulter	DEPT pSIC ou ZPS	SUPERFICIE pSIC ou ZPS TRANSMIS au MEDD à ce jour (en ha) (source SIG)	Date de (re)Transmission/ Notification à la Commission Européenne
pSIC	FR9301627	EMBOUCHURE DE L'ARGENS – MARAIS DE FREJUS – ETANGS DE VILLEPEY	83	1 224 ha	1 décembre 1997
pSIC	FR9301628	L'ESTEREL ET LES ABORDS DE FREJUS	83	5 839 ha	1 décembre 1998
pSIC	FR9302001	LAGUNE DU BRUSC	83	504 ha	25 mars 2003
ZPS	FR9310020	ILES D'HYERES	83	6 656 ha	31 octobre 2002
pSIC	FR9400570	AGRIATES	2B	18 718 ha	En cours, extension proposée
pSIC	FR9400574	PORTO/SCANDOLA/CALVI/REVELLATA	2A/2B	50 227 ha	En cours
pSIC	FR9400586	EMBOUCHURE DU STABIACCIU, DPM, BAIE ET ILOT DE ZIGLIONE	2A	197 ha	En cours
pSIC	FR9400587	ILES CERBICALES (SL)	2A	3 697 ha	En cours
pSIC	FR9400591	PLATEAU DE BONIFACIO, ILES LAVEZZI ET CASAMATE DE	2A	6 053 ha	En cours
pSIC	FR9400609	BRUZZI-CHEVANU-ARBITRU	2A	359 ha	En cours
pSIC	FR9402010	BAIE DE STAGNOLU, GOLFU DI SOGNO	2A	120 ha	En cours
pSIC	FR9410021	ILES LAVEZZI	2A	5 787 ha	10 octobre 2004 (JO 10/11/04)
pSIC	FR9410022	ILES CERBICALES	2A	4 996 ha	Pas encore signé
pSIC	FR9410096	ILES SANGUINAIRES	2A	43 ha	10 octobre 2004 (JO 10/11/04)
pSIC	FR9410097	ILES FINOCHIAROLA ET COTES NORD	2B	933 ha	Pas encore signé
ZPS	FR9412001	COLONIE DE GOELANDS D'AUDOUIN D'ASPETTO, AJACCIO	2A	2 ha	12 septembre 2003 (JO du 7/10/03)
pSIC	FR9410023	GOLFE DE PORTO ET PRESQU'ILE DE SCANDOLA	2A/2B	25 586 ha	10 octobre 2004 (JO 10/11/04)

Annexe 3 : SITES CLASSES SITUES EN TOUT OU PARTIE SUR LE DOMAINE PUBLIC MARITIME

A jour au 31 décembre 2004

Région	n° département	commune	nom DNP	nom Diren	critère de classement (TC tous critères)	document de protection A arrêté D décret	date du document	superficie	date du J.O
Corse	2A	Ajaccio	Extension du site classé de l'ensemble formé par les îles des Sanguinaires et la pointe de la Parata sur le territoire de la commune d'Ajaccio (+ DPM)		P	A	11 septembre 1995	43,5	
Corse	2A	Bonifacio	L'ensemble avec son domaine public maritime formé sur la commune de Bonifacio par l'archipel des Lavezzi excepté les îles de Cavallo et de Camaro Canto	Archipel des Lavezzi et DPM, excepté les îles de Cavallo et de Camaro	TC	A	26 janvier 1974	1251	
Corse	2A	Bonifacio	Le domaine public maritime entre le port de Stagnolu et la pointe de la Fiumara sur la commune de Bonifacio	DPM	P	A	1 avril 1997	550	
Corse	2A	Osani, Ota, Partinello, Piana, Serriera, Galeria	L'ensemble constitué par les golfes de Girolata et Porto sur les communes de Galeria, Osani, Partinello, Serriera, Ota et Piana, y compris l'île de Gargalo, ainsi que le domaine public maritime leur correspondant	Golfes de Porto et Girolata, y compris l'île de Gargalo et DPM	TC	D	4 décembre 1974	13151	
Corse	2A	Sartène	Le site de Roccapina sur la commune de Sartène ainsi que le DPM au droit des parties terrestres	Site de Roccapina et DPM	LP	D	14 mars 1990	738	20-mar-90
Corse	2B	Palasca	Le site de l'embouchure de l'Ostriconi, étendu aux lieudits Calcajo et colline de la Guardiola			D		536, 63	8 juin 1988 modifié 22/10/03
Corse	2B	Aléria, Tallone	L'ensemble formé par l'étang de Diana et ses abords	Etang de Diana et ses abords	SP	D	15 octobre 2002	1648 dont 120 DPM	22-oct-02
Corse	2B	Ersa, Rogliano	L'ensemble formé par le secteur nord du cap Corse sur les communes d'Ersa et de Rogliano ainsi que des trois îles de Finocchiarola et l'île de Giraglia et du domaine public maritime correspondant	Cap Corse (secteur nord), îles de Finocchiarola et de Giraglia et DPM	P	D	7 mars 1975	2470	14-mar-75
Corse	2B	Nonza, Ogliaastro, Olcani	L'ensemble des sites formé sur les communes de Nonza, Ogliaastro et Olcani ainsi que le domaine public maritime correspondant	Ensemble de sites et DPM (Nonza, Olcani et Ogliaastro)	P	D	21 novembre 1975	823	
Languedoc-Roussillon	30	Grau-du-Roi (Le)	L'ensemble formé par la pointe de l'Espiguette et le Rhône de Saint-Roman sur la commune du Grau-du-Roi (plus le DPM au droit des parties terrestres).	la pointe de l'Espiguette et le Rhône de Saint-Roman	P	D	10 décembre 1998	3172,17 dont 400 DPM	18-déc-98
Languedoc-Roussillon	66	Argelès-sur-Mer	Le site des Rochers du Racou à Argelès-sur-Mer ainsi que le domaine public maritime correspondant au site littoral des rochers sur 500 m en direction du large	Les Rochers du Racou et le DPM correspondant	P	D	24 mars 1980	43,64	02-avr-80
Languedoc-Roussillon	66	Banyuls-sur-Mer, Port-Vendres	L'ensemble constitué par le domaine public maritime incluant les divers rochers ou écueils sur une profondeur de 500 mètres en direction du large	DPM du Cap Oullestreil	TC	A	20 mai 1980	134,4	31-jul-80
Languedoc-Roussillon	66	Cerbère	L'ensemble formé par le domaine public maritime correspondant au site de l'anse de Terrimbo	DPM de l'anse de Terrimbo	P	A	23 janvier 1981	21,3	02-mar-81
Provence-Alpes-Côte-d'Azur	6	Antibes	L'ensemble formé sur la commune d'Antibes par le domaine public maritime constituant la côte du cap d'Antibes, depuis le carrefour des boulevards du Cap et James Wyllie jusqu'à la Fontaine du Pin	DPM constituant la côte du cap d'Antibes	P	A	30 octobre 1958	46,88	

Provence-Alpes-Côte-d'Azur	6	Beaulieu-sur-Mer, Roquebrune-Cap-Martin, Saint-Jean-Cap-Ferrat, Villefranche-sur-Mer	Les parties du domaine public et privé maritime de l'Etat, sur une largeur de 500 m. depuis la limite terrestre, délimitées sur les communes de Beaulieu-sur-Mer, Villefranche-sur-Mer, Saint-Jean-Cap-Ferrat et Roquebrune - Cap-Martin	Domaine public maritime (DPM)	P	A	30 juin 1972	955,29	
Provence-Alpes-Côte-d'Azur	6	Cannes	Parties du Domaine public maritime, telles qu'elles sont délimitées sur le plan annexé à l'arrêté et où sont aménagées les installations annexes, les jardins et les parkings du second port de plaisance de Cannes,	DPM (parties)	P	A	4 juin 1964	0	
Provence-Alpes-Côte-d'Azur	6	Eze	L'ensemble constitué par le domaine public maritime correspondant au site classé des falaises d'Eze sur une profondeur de 500 mètres en direction du large à partir de la limite terrestre	DPM correspondant au site classé des falaises	P	A	6 novembre 1984	111,61	
Provence-Alpes-Côte-d'Azur	6	Mandelieu-la-Napoule, Théoule-sur-Mer	Le massif de l'Estérel oriental sur les communes de Mandelieu-la-Napoule et de Théoule-sur-Mer (Alpes-Maritimes) et des Adrets-de-l'Estérel, de Fréjus, de Saint-Raphaël et de Tanneron (Var)	Massif de l'Estérel oriental	P	D	3 janvier 1996	14300 DPM 700	
Provence-Alpes-Côte-d'Azur	6	Nice, Villefranche-sur-Mer	L'ensemble formé par le Mont-Alban et le Mont-Boron sur les communes de Nice et Villefranche-sur-Mer ainsi que le domaine maritime correspondant	Mont Alban, mont Boron et domaine public maritime (DPM)	HP	D	28 octobre 1993	207,52	
Provence-Alpes-Côte-d'Azur	13	Cassis, la Ciotat	L'ensemble formé par le site du Cap Canaille, du Bec de l'Aigle et de leurs abords ainsi que le domaine public maritime correspondant sur les communes de Cassis et de la Ciotat	Cap Canaille et Bec de l'Aigle, abords et DPM	P	D	4 avril 1989	2 022,83	
Provence-Alpes-Côte-d'Azur	13	Cassis, Marseille	L'ensemble constitué par le domaine public maritime correspondant au site du massif des Calanques sur les communes de Marseille et de Cassis sur une distance de 500 mètres à partir de la limite des hautes eaux	Massif des calanques, Domaine public maritime (DPM)	TC	A	27 décembre 1976	2 324,99	
Provence-Alpes-Côte-d'Azur	13	Marseille	Promenade de la Corniche : Les parcelles de terrain de la Promenade de la Corniche, à Marseille, comprises entre la promenade et le domaine public maritime (parcelles (...))	Parcelle entre la corniche et le DPM	TC	A	22 juillet 1924	0,47	
Provence-Alpes-Côte-d'Azur	13	Marseille	Promenade de la Corniche : domaine public maritime, depuis les Bains des Catalans jusqu'à ceux du Roucas-Blancs	Promenade de la Corniche entre Catalans et Roucas		A	3 janvier 1925	52,58	
Provence-Alpes-Côte-d'Azur	13	Marseille	Presqu'île de la Pointe Rouge : parcelles de terrain faisant partie du domaine public maritime, depuis la traverse Foch jusqu'au droit du boulevard Raspail	Presqu'île de la Pointe Rouge, parcelle du DPM		A	3 janvier 1925	13,63	
Provence-Alpes-Côte-d'Azur	83	Adrets-de-l'Estérel (Les), Fréjus, Saint-Raphaël, Tanneron	Le massif de l'Estérel oriental sur les communes de Mandelieu-la-Napoule et de Théoule-sur-Mer (Alpes-Maritimes) et des Adrets-de-l'Estérel, de Fréjus, de Saint-Raphaël et de Tanneron (Var)	Le massif de l'Estérel oriental	P	D	3 janvier 1996	14300 DPM 700	
Provence-Alpes-Côte-d'Azur	83	Bandol, Saint-Cyr-sur-Mer	Le domaine public maritime au droit du site terrestre classé	DPM	p	A	1 avril 1997	394	
Provence-Alpes-Côte-d'Azur	83	Bormes-les-Mimosas, la Londe-les-Maures	Le Cap Bénat sur les communes de Bormes-les-Mimosas et de la Londe-les-Maures ainsi que le domaine public maritime correspondant	Cap Bénat et DPM correspondant	P	D	23 juillet 1975	2 238,81	

Provence-Alpes-Côte-d'Azur	83	La Croix-Valmer, Ramatuelle	L'ensemble formé par les trois caps méridionaux de la presqu'île de Saint-Tropez: Cap Lardier, Cap Taillat ou Cartaya et Cap Camarat, ainsi que leur arrière-pays sur les communes de La Croix-Valmer et Ramatuelle ainsi que le DPM correspondant	Les trois caps méridionaux (Lardier, Taillat, ou Cartaya, Camarat), DPM et arrière pays	P	D	6 mai 1995	2 076,42	
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P Pittoresque
 TC Tous critères
 L Légendaire
 S Scientifique
 H Historique
 A Artistique

**Annexe 4 : liste des arrêtés de biotope concernant
le littoral méditerranéen français**

Février 2005

Languedoc Roussillon

Marais de la Castillonne sur la commune de Mauguio (34) créé par arrêtés préfectoral des 17 et 23 janvier 1984

Etang du Grec, commune de Palavas (34) créé par arrêté préfectoral du 28/07/90, complété par arrêté du 23/03/99

Corse

Basse vallée de l'ORTOLO, à SARTENE arrêté préfectoral du 29 octobre 1990

Etang de Cannuta (commune de PALASCA) arrêté préfectoral du 29 avril 1992

Etang de Foce et des dunes de l'Ostriconi (commune de PALASCA) arrêté préfectoral du 29 avril 1992

Ile de la Giraglia sur la commune d'ERSA arrêté préfectoral du 09 septembre 1993

Ile de Capense sise sur la commune de CENTURI arrêté préfectoral du 06 octobre 1994

Landes à genets de Salzman de Campo dell'Oro AJACCIO arrêté préfectoral du 10 septembre 1997

Ile de Piana à Coti-Chiavari arrêté préfectoral du 03 novembre 1997.

Domaine public maritime à SAINT FLORENT arrêté préfectoral du 7 mai 1998

*

Ilot de Cornuta sis sur la commune de ZONZA1 arrêté préfectoral du 5 juin 1998

Cordon dunaire de Solaro et du marais de Leccia arrêté préfectoral du 30 juin 1998

Cordon dunaire d'Urbino arrêté préfectoral du juin 01 septembre 1998

Ilots de Stagnolu (800 mètres carrés) et Ziglione (2350mètres carrés) à PORTO-VECCHIO arrêté préfectoral du 2 octobre 2000

Domaine public maritime grotte marine de Témuli Sagone à Coggia PORTO VECCHIO (Corse-du-Sud) arrêté préfectoral du 2 octobre 2000

Ilot de Roscana, à ZONZA (Corse-du-Sud) arrêté préfectoral du 2 octobre 2000

FORMAT FOR THE PRESENTATION OF THE NATIONAL REPORT
ON THE APPLICATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN THE
MEDITERRANEAN⁶

XII. General information

1. Country Israel
2. Period covered by the report 02 / 2003 – 03 / 2005
3. National body responsible for drawing up the report.
Israel Ministry of Environment
Division of International Relations
5 Kanfey Nesharim St., Jerusalem, Israel
4. National body and other organisations and/or institutions that provided data for the establishment of the report.
Israel Nature and Parks Authority
3 Am VeOlamo St., Jerusalem, Israel

XIII. Legal and/or administrative measures taken under the terms of the Protocol⁷

53. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

During the period under review, efforts were made to pass the proposed Law for the Protection for the Coastal Environment, that promotes coordinated, integrated management of the coastal area. The law was eventually passed in August 2004 and came into force in November 2004.

The law emphasises Israel's recognition of the coastal environment and its assets as a unique resource that must be protected. It strengthens an integrated approach to coastal zone management by encompassing existing protective measures and obligating all authorities responsible for granting permits or licenses for coastal activities to assimilate the aims of the law into their authorizations.

The law delineates the coastal environment as consisting of both land and sea – extending from Israel's territorial waters to 300 meters landward. Its major aims are:

- To protect the coastal environment, its natural assets and cultural heritage assets, to restore and conserve them as a resource of unique value, and to prevent and reduce as far as possible any damage to them
- To preserve the coastal environment and the coastal sand for the benefit and enjoyment of the public, for this and future generations;
- To establish principles and limitations of sustainable management for the development and use of the coastal environment

The National Parks, Nature Reserves, National Sites and Memorial Sites Law, 1998 ("National Parks Law") is the other main piece of local legislation that acts as a basis for the protection of natural assets, and the preservation and management of specially protected areas.

54. To establish marine and coastal specially protected areas (article 5);
No such measures were implemented.

55. To provide protection (article 6) :

Regarding the following sections, there is little to report as no specially protected areas in Israel have been declared under the new Protocol. Israel's local protected areas are governed by the National Parks Law for which the Israel Nature and Parks Authority (INPA) is the responsible implementing body. The law protects these areas from changes and makes any activity with potential impacts subject to a permit from the INPA. In these areas, the law thus prevents any dumping or discharge, passage of ships, introduction of non-indigenous species, hunting and harvesting, or any activity likely to impair the natural or cultural characteristics of the site. Plans for scientific

⁶ This new format is in conformity with the reporting system set up within the framework of the Barcelona Convention and adopted by the Contracting Parties during their 13th meeting (Catania, November 2003)

- The information requested should be presented synthetically and the report should not exceed 6 pages (approximately 3000 words)
- The reports should be drafted in English or in French and be sent in electronic form to car-asp@rac-spa.org.tn by the deadline of 1st March 2005.

⁷ In the case of legal measures, it is requested that a copy of the enacted law be attached to this report or handed in during the meeting of National Focal Points.

research with the potential to bring about detrimental impacts to the site must receive prior approval via an INPA permit.

56. Concerning planning and management of the specially protected areas (article 7);
Under the National Parks Law, the INPA is charged with developing and implementing management plans for every protected area.
57. For the protection and conservation of species (article 11);
Under the National Parks Law, all "natural assets" (defined as "any thing or class of things in nature, whether animal, vegetable or mineral, whose preservation, in the opinion of the Minister of Agriculture, is of value")
58. To regulate the introduction of non-indigenous or genetically modified species (article 13);
Committees convened by the Ministry of Agriculture aim to prevent the introduction of any new species to the wild that pose a risk of ecological problems. The focus is on prevention rather than eradication of harmful species.
59. To grant exemptions from protection measures (articles 12,18)
No exemptions were granted.

XIV. Technical application of the protocol

60. List the specially protected areas established under the terms of article 5.
No specially protected areas as under the protocol were declared in the reporting period.
61. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9a)
 - a) Date of the proposal/s
 - b) Areas proposed (list attached)*No proposals yet.*
62. SPAMI list :
 - a) Status and state of the areas under national jurisdiction included on the SPAMI list (article 23a)
 - b) Any modification in the delimitation or the legal status of the SPAMI (article 23 b).
Not applicable
63. Any modification to the legal status of protected species.
*All CITES species became protected under the nature protection law of Israel.
A revision of the list of protected species that are protected was made.*
64. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).
No new data.
65. Inventories of the components of biological diversity (article 15).
 - a) Date of establishment or updating of the inventory of areas containing rare or fragile ecosystems;
 - b) Date of establishment or updating of the inventory of endangered or threatened species of flora and/or fauna ;
 - c) Attach the inventory/s unless they have already been submitted in a special report.
 - d) Inventory using the standard data format (SDF)*No new inventories were made within the reporting period.*
66. Exemptions granted to protection measures articles 12,18,23 c).
No exemptions were granted in the reporting period.
67. Implementation of the action plans adopted within the framework of MAP:
 - Action plan for the conservation of cetaceans in the Mediterranean sea
 - Action plan for the management of the monk seal in the Mediterranean
 - Action plan for the conservation of sea turtles in the Mediterranean
 - Action plan for the conservation of marine vegetation.
 - Action plan for the conservation of cartilaginous fish (condrichthyans) in the Mediterranean sea
 - Action plan concerning the introduction of species and invasive species in the Mediterranean sea*The main developments are in the action plans concerning sea turtles, and that of cartilaginous fish.
For the first, participation in the Cyprus training courses continues regularly, and a rehabilitation center was established.
For the second, all elasmobranchs fishes are now protected by regulations.*
68. Implementation of other recommendations pertinent to the Contracting Parties
Not applicable.

XV. Brief description of all problems or constraints encountered in the application of the Protocol

The responsibilities related to the sea and marine life are divided between the INPA and the Ministry of Agriculture, the former controlling protected areas and the latter working in all other marine areas. There is a certain conflict of

interest over the protection and exploitation of fish reserves between these areas, which is complicated by the division of administrative responsibility.

THE SEVENTH MEETING OF NATIONAL FOCAL POINTS FOR SPAs
Seville, 31st May – 3rd June 2005
Giulio Relini
University of Genoa
Italian Ministry for the Environment and Territory

I General Information

1. **Italy.**
2. June 2003 to March 2005.
3. The report is compiled by Prof. G. Relini, NFP, with the help of Dr. Sandro La Posta, Arch. Annamaria Maggiore, Arch. Angelo Ciasca and Mr. Paolo Galoppini, Officers of the Italian Ministry for the Environment and Territory (acronym: IMET), General Directorate for Nature Protection.
Dr. Carlo Fortunato, Dr. Barbara Marniga, Dr. Marina Pulcini of Technical Secretary for Protected Areas of IMET.
4. National Organizations that provided data are:
ICRAM Istituto Centrale per la Ricerca Scientifica e Tecnologica Applicata al Mare
SIBM Società Italiana di Biologia Marina Onlus
Centro Studi Cetacei

II Legal and/or administrative measures taken under the terms of the Protocol

6. To protect, preserve and manage marine and coastal areas (article 3);
In the period March 2003 – March 2005 the Presidential Decree n.120/2003 of 12th March 2003 containing amendments for implementation measure to the EU Directive n. 43/92 that is the most valuable and important law for countries of the European Union for Nature Conservation, was published in the Official Journal.
ACCOBAMS agreement has been finally ratified by the Law 10.02.2005 n. 27, G.U. (Italian Official Journal) n. 51 of 3rd. 03.2005
7. To establish marine and coastal specially protected areas (article 5);
A new MPA named Plemmirio (Sicily) was established by Ministerial Decree of 15.09.2004 (G.U. n. 32, 09.02.05). The Italian laws provided for the setting up to 51 marine protected areas.
At present, 25 have been established for a total surface of 260,125 hectares of which two are the marine part of National Park (see list in annex 1). Strictly protected areas extend on 10,178 ha.
8. To provide protection (article 6);
Strengthening of application of the other Protocols and other relevant treaties to which they are Parties;
 - a. No new generally applicable measures were adopted specifically targeted on the strengthening the application of other Protocols within specially protected areas.
As far as the “Pelagos Sanctuary” is concerned, a specific provision of the treaty (art. 6) provides for the obligation of contracting States to exercise a specific control in the area and to strengthen the fight against land based and marine sources of pollution that are able to have an impact on the conservation status of marine mammals. Parties also commit themselves to adopt national strategies for the progressive reduction of toxic substances in the area, giving priority to substances listed in Annex I of LBS Protocol. These measures are useful also for coastal marine areas and SPAs.
 - b. No new generally applicable measures were adopted on prohibition of dumping or discharge affecting protected areas
According to frame law on protected areas (Law n. 394/1991), the discharge of any solid or liquid waste is prohibited within marine protected areas.
Other economic and human activities are regulated by specific legislation: e.g. the 1996 Ministerial Decree limits the dumping of dredged materials in protected areas. Consistently, ICRAM technical standards for harbour dredging activities recommend special conditions for the management of such materials in the whole International Sanctuary area.
 - c. No new generally applicable measures were adopted for the regulation of the passage of ships.
The area between the isle of Corse (France) and the isle of Sardinia (Italy), which falls within the boundaries of the “Pelagos Sanctuary”, is a strait used for international navigation and represents a major concern as far as the risk of pollution from international shipping is concerned. In 2001, aiming at addressing this risk, the Italian and French Coast Guards signed a co-operation agreement for the co-ordinated monitoring and surveillance of the area. At international level, since the '80s, both countries have been submitting to the International Maritime Organization (IMO) several requests for the prohibition of the passage of ships through the strait. In 1998, same national legislation was adopted in both countries prohibiting loaded national ships to cross the strait. IMO adopted several resolutions on this issue and finally established recommended routes and a mandatory reporting system in the area. In 2001, in the framework of the voluntary agreement between the Italian Ministries of Environment, Transport, Industry, the industrial organizations, the trade unions and environmental NGOs, the Italian industry committed itself to include in ships contracts a specific clause concerning the Strait.
 - d. Regulation of introduction of species
No legislation nor administrative measures were adopted specifically addressing the problem of introduction of non indigenous species in protected areas.
Since 1998, the Italian Society for Marine Biology (SIBM) set up a working group with the aim of studying the problem of marine allochthonous species in Italy and collaborating with ICRAM and in particular with the ICES Working Group on Introductions and Transfers of Marine Organisms (WGITMO) and the ICES/IOC/IMO Study

Group on Ballast and other Ship Vectors (SGBOSV). The chair of the Italian Group attends each year the ICES Meeting and presents the Italian report (non official). The last meeting were hosted by Italy in Cesenatico (21 – 26 March 2004).

The ICRAM with the collaboration of SIBM finished an important work:

Introduction of non-indigenous and genetically modified species project, a government-funded program stemming from the application of article 13 of SPABIO Protocol. The project deals mainly with: a) the formulation of a taxonomic and diagnostic atlas for the identified species of each taxonomic group, realized through GIS; b) the monitoring of ballast waters; c) the drawing up of guidelines for aquaculture practices (one of the main causes for the penetration of alien species) to avoid the expansion of this phenomenon.

e. Regulation of activities;

The “Pelagos Sanctuary” Agreement, foresees that Parties shall ensure a favourable state of conservation for every marine mammal species and will protect their habitat from direct and indirect negative impacts (Art. 4). The Agreement prohibits any deliberate “taking” (defined as “hunting, catching, killing or harassing of marine mammals, as well as the attempting of such actions”) or disturbance directed at marine mammals. Non-lethal catches may be authorized in urgent situations or for in-situ scientific research purposes (Art. 7, a). The Agreement foresees that Parties shall conform with international and EC regulations with regard to the use and detention of driftnets (Art. 7, b).

At national level, Law n. 391 of 11/10/2001 prohibits, in article 5.1, speed boat racing within Italian territorial waters falling within the Sanctuary.

f. Regulation of scientific research activities;

The elaboration of a draft management plan for the “Pelagos Sanctuary”, encompassing management and program activities and including research and monitoring activities started.

g. No new generally applicable measures were adopted in this last period targeted for protected areas. Following the precautional approach and the FAO Code of Conduit, the Italian Triennial Fisheries Plans refer specifically to the conservation and sustainable use of marine and coastal biological diversity.

Frame Law on protected areas (n. 394 of 06/12/1991) prohibits the following activities in marine protected areas:

- capture, collection and destruction of animal and plant species and collection of minerals and archeological remains
- geophysical alteration of the environment and of its chemical and water hydro-biological characteristics
- usage of fire arms, explosives and any other destructive means or capture.

Furthermore, decrees and regulations of each marine protected area provide specific indications on the modalities, periods and fishing gear types allowed for the collection of wildlife as well as on the procedures for obtaining fishing licenses.

9. Some work was done or is in progress regarding planning, management, supervision and monitoring of specially protected areas;

ICRAM and CONISMA have devised, funded and coordinated a scientific programme called “Sistema Afrodite” for the inventory and monitoring of the core zones (Zona A) of Italian Marine Protected Areas, to be completed in a three years span (2001-2004).

In addition to the main goal of helping the creation of a national MPA network, the objectives of “Afrodite/Venere” include the creation of a shared, standardised base of knowledge, the promotion of a higher level of cooperation among scientists in Italy and in the Mediterranean countries. Among several activities habitat and species inventories is performed through first national-wide application of the Standard Data Entry Forms. To help in the preparation of the inventories, ICRAM, in collaboration with SIBM, has provided for the preparation of a manual for the description and identification of Mediterranean marine habitat (benthic priority habitat) and species of annex 2 of the Protocol.

For each species and habitat a fact sheet was prepared with drawings and/or colour photos, as well as descriptions of the main characteristics to enable identification. An English version is in progress.

The DIP.TE.RIS (Dipartimento per lo Studio del Territorio e delle sue Risorse) of Genoa University was asked by the RAMOGE to study an area near Ventimiglia (Capo Mortola) and to use the Standard Data-Entry Form for the description of marine habitat, in parallel with a similar work carried out by French colleagues on Cap Dramont and Corniche D'Antheor (Var, France).

A draft management plan for the “International Sanctuary for Marine Mammals” has been formulated and approved during the last meeting of Parties held in Elba Island (Sept. 2004). The choice of the site for Secretariat is still in discussion. The plan encompasses the management of human activities, research and monitoring, education and capacity building, administration activities.

10. There are no new legal or administrative measures dealing with the protection and conservation of species, except what referred at point 6.

11. In the field of regulation of introduction of non-indigenous or genetically modified species, Italy signed the “International Convention for the Control and Management of Ships’ Ballast Waters and Sediments” (London, 2004).

As far as the Adriatic sea is concerned, Italy is a member of the trilateral ballast water management sub commission for the Adriatic sea (Italy-Slovenia-Croatia).

12. To grant exemptions from protection measures (Article 12,18).

As far as the protection of marine turtles is concerned, the IMET established a specific working group, coordinated by ICRAM, for the formulation of national guidelines for the handling and rehabilitation of marine turtles. These guidelines will support the formulation of a Ministerial Decree containing specific procedures on the granting of exemptions regulated by EC Directive n. 92/43/CEE.

III. Technical application of the protocol

13. All the SPAs (Marine protected areas), except Plemmirio were established before March 2003 (see list in annex 1).
 - a) In addition to MAPs, there are also other coastal and marine areas which are protected to different degrees and managed by different organisations as referred in the previous report of 2003.
 - b) In the frame of Natura 2000 (EC Directives 92/43 and 79/409) Italy has proposed 2255 SCIs (Site of Community Importance), and 505 SPAs (Special Protection Areas); 160 SCIs and 6 SPAs have marine habitats.

Proposal for the inclusion of MPA of Portofino in the SPAMI list has been presented in March 2005.
14. International Sanctuary for Marine Mammals, i.e. "Pelagos Sanctuary"
 - a) In 1999, a treaty signed by Italy, France and Monaco established the International Sanctuary for Marine Mammals. Italy ratified the treaty by law n. 391/2001 ("Ratifica ed esecuzione dell'Accordo relativo alla creazione nel Mediterraneo di un santuario per i mammiferi marini, fatto a Roma il 25 novembre 1999") and established a national "Comité de Pilotage" and funds for the needs of the treaty.

The International Sanctuary for Marine Mammals covers territorial waters and a part of the high seas. In November 2001, the Sanctuary was proposed for the inclusion in the SPAMI List. In the same year the inclusion was awarded.
 - a) No modification in the delimitation of the legal status of the SPAMI occurred.
15. No changes of the delimitation and legal status of protected species were made.
16. ICRAM is carrying out a project concerning the identification of alien species in Italian seas, funded by IMET as referred at point 8d. The project also foresaw the creation of an inventory and atlas of non-indigenous and genetically modified organisms (GMOs) utilized in aquaculture and the aquaria industries.

The study indicated the presence in the Mediterranean of 129 species of micro and macrophytes; 25 cnidarians; 140 molluscs; 58 anellids; 59 species of crustaceans; 16 species of bryozoans; 10 ascidiaceans; 104 fish;

The Mediterranean sea with its 541 non indigenous species is to date the sea with the highest number of recorded alien species. An updated list of NIS present in Italy was compiled by the SIBM group (see annex 2). In total 149, while in the previous report in Marseille, 123 were recorded. Macrophyta are represented by 36 species, animals are 3 cnidaria, 5 bryozoa, 2 pycnogonida, 3 Ascidiacean, 31 Mollusca, 20 Crustacea, 29 Anellida, 20 Fishes.

SIBM and Pavia University have been entrusted by IMET with a study on population dynamic of the alien gasteropod *Rapana venosa* in Adriatic Sea.
18. See point 9.

SIBM has been entrusted by the IMET with the task of updating the checklist of Italian marine fauna. The checklist is also aimed at inventorying the presence of threatened or endangered fauna (2002-2005). SIBM through the Laboratorio di Biologia Marina di Trieste prepared the checklist of microfitoplankton of Italian seas with some data on distribution in different areas. In total 1740 species of which 750 Bacillariophyceae, 597 Dinophyceae, 174 Prymnesiophyceae (Cocolithophorids are listed). SIBM with the coordination of Catania University prepared the inventory with geographic distribution, on the basis of literature data, of 60 out of 61 priority benthic habitat following SPABIO Protocol. This important work helped the Officer of IMET and some marine biologists in preparing a report for Bruxelles asking the introduction of some priority habitat of Barcelona Convention in the annex 1 of Habitat Directive (enclosed 3). The same was tried for species. Recommendations for introduction of new species (enclosed 4) in the annexes 2 and 4 were sent with detailed description and motivation for several species. Some of them are not yet in the annex 2 of Barcelona SPABIO Protocol.

IMET published a beautiful and interesting volume on Marine Caves (50 years of research in Italy) that is an important source of information and also an inventory of this type of habitat along the Italian coast.

ICRAM participates in the activities of the European Topic Centre for Biodiversity coordinated by the Museum of Natural History, Paris. This framework involves, amongst other things, the insertion of the marine habitat classification, developed within the Barcelona Convention system, in the European EUNIS classification and the identification of specific biodiversity indexes (2005 – 2008).
19. Exemptions granted from protection measures.

There is no available information concerning this item.
20. Implementation of the action plans for threatened species adopted within the framework of MAP.

Guidelines for the formulation of national action plans for the conservation of cetaceans, monk seal, sharks and marine turtles have been elaborated by ICRAM and submitted to the Ministry of Environment.

 - Conservation of Cetaceans.

The preparation of a management plan for Pelagos Sanctuary is a very important implementation of conservation of Cetaceans.

In the report dealing with this plan, there is a summary review of the knowledge on the area prepared by scientists of three countries. DIPTERIS (University of Genoa) prepared for Ministry of Environment another report "Studio per l'acquisizione di elementi conoscitivi per la gestione di Pelagos". The report (536 pages) is a synthesis of the knowledge of Pelagos Sanctuary dealing with geographic, biotic and abiotic

characteristic of the area, trophic structure, fishery, tourism, maritime traffic and impact on cetaceans, pollution, research, protection law, fishery law, references.

SIBM was entrusted by Ministry of Environment to prepare a special volume on Pelagic environment and Pelagos Sanctuary of the series "Italian Habitats" edited by Ministry of Environment, Friuli Museum of Natural History.

In December 2004, the Centre for Cetacean Studies published the 18th Report on stranded cetaceans in Italy during 2003. The report is dealing with 102 specimens which were found stranded, rammed or incidentally caught along the national coasts.

There are many private organisations interested in cetaceans studies and observation. Whale watching is increasing in particular along the Ligurian coast. It is urgent a national, and if possible international, coordination of activity to avoid the loss of important information and control that the Code of Conduct at Sea is respected.

Very interesting and new observations on finwhale wintering near Lampedusa Island (Sicily Channel) were made by a group of ICRAM. Several specimens of *B. phisalus* were seen feeding on very shallow water and close to the coast of Lampedusa. The main prey was the small Euphausiid *Nyctiphanes couchi*.

- Monk seal.
During the last two years, isolated monk seal was several times recorded along the southern part of Sardinia Island.
- Sea turtles.
ICRAM was entrusted by IMET to chair a committee composed by representative of Italian Scientific Society, NGOs association, etc., whose aim is to coordinate the activity in Italy on protection of marine turtle and review the Italian National Plan prepared several years ago by ICRAM with the support of different bodies.
- Marine vegetation.
At present, there is no proposal for national action plan for marine vegetation though the mapping of Posidonia beds all around Italy is in progress. Most of the marine SIC (Site of Community Interest) were established because of the presence of Posidonia meadow. Some regional Authorities promulgated important local laws with the aim to protect Posidonia and other sensitive habitats. In particular defining the technical standards for the activities to protect the coastline and the standards requirement for the material to be used for nourishing the sandy beaches. Another important point is the definition of criteria for evaluation of the "status" of Posidonia meadow.
SIBM, in collaboration with APAT and ICRAM, published the "Mediterranean marine benthos: a manual of methods for its sampling and study" in Italian and English.
SIBM published with the financial support of IMET a guide for identification of Mediterranean corallinales as a further contribution to the knowledge of marine biodiversity along the Italian coasts. A CD with an electronic identification key in English was also produced by two authors from the University of Trieste, L. Babbini and G. Bressan.
- Cartilaginous fish.
The national plan prepared several years ago is not yet approved. Inside SIBM there is an active group of scientists working on chondrichthyans in collaboration with FAO experts and the European Elasmobranch Association. They are working in particular on a guide for identification of skates and rays that is still a problem.
Scientific data on the catch of demersal species are still collected during the trawl surveys (Mediterranean and Grund) all around Italy, while very few data are available for pelagic sharks.
- There is no national plan concerning the introduction of species and invasive species in the Mediterranean, but a lot of work and research was carried out or is in progress.
- A meeting of experts is planned in October 2005 at Alghero to discuss the conservation of birds listed in annex 2.

21. Implementation of other recommendations pertinent to the Contracting Parties.

In the frame of art. 19 of SPA Protocol, IMET in cooperation with Italian Touring Club published, in Italian and English, a guide book and an atlas of 22 MPAs + Pelagos Sanctuary with main information needed to visit the areas.

IV. Brief description of all problems or constraints encountered in the application of the Protocol.

2. Brief description of any problems or constraints in implementation of the Protocol (optional)
Not applicable.

Enclosed: Annex 1 List of established MPA in Italy and National Parks
Annex 2 List of introduced Marine Species in Italy
Annex 3 List of Habitat proposed for inclusion in the annex 1 of Habitat Directive
Annex 4 List of species proposed for inclusion in the annexes 2 and 4 of Habitat Directive

Table A. Established marine protected areas in Italy, their surface areas and its decrees of establishment (note: G.U. indicates the Official Journal)

MARINE PROTECTED AREA	TOTAL SURFACE AREA (ha)	SURFACE AREA OF ZONE A (ha)	ACT
PORTOFINO	346	18	Ministerial Decree 6.6.98 - published in G.U. n. 188, 13.08.98
CINQUE TERRE	2,726	79	Ministerial Decree 12.12.97 - published in G.U. n. 48, 27.02.98
SECCHIE DI TOR PATERNO	1,387	0	Ministerial Decree 22.11.00 - published in G.U. n. 16, 20.01.01
ISOLE DI VENTOTENE E S. STEFANO	2,799	410	Ministerial Decree 12.12.97 - published in G.U. n. 451, 24.02.98
PENISOLA DEL SINIS - ISOLA MAL DI VENTRE	32,900	1,136	Ministerial Decree 12.12.97 - published in G.U. n. 45, 27.02.98
CAPO CARBONARA	8,598	332	Ministerial Decree 15.09.98 - published in G.U. n. 229, 29.09.99
TAVOLARA - CAPO CODA CAVALLO	15,357	529	Ministerial Decree 12.12.97 - published in G.U. n. 47, 26.02.98
PUNTA CAMPANELLA	1,539	181	Ministerial Decree 12.12.97 - published in G.U. n. 47, 26.02.98, as amended
ISOLA DI USTICA	15,951	60	Interministerial Decree 12.11.86 - published in GU n. 71, 26.03.87
ISOLE EGADI	53,992	1,067	Interministerial Decree 27.12.91 - published in G.U. n. 115, 19.5.92, as amended
ISOLE CICLOPI	623	35	Interministerial Decree 27.12.91 - published in GU n. 86, 12.04.90, as amended
CAPO RIZZUTO	14,721	585	Interministerial Decree del 27.12.91 - published in G.U. n. 115, 09.05.92, as amended
PORTO CESAREO	16,654	173	Ministerial Decree 12.12.97 - published in G.U. n. 45, 24.02.98
TORRE GUACETO	2,227	179	Interministerial Decree 4.12.91 - published in G.U. n. 115, 19.05.92
ISOLE TREMITI	1,466	180	Interministerial Decree 14.07.89 - published in G.U. n. 295, 19.12.89
MIRAMARE	30	30	Interministerial Decree 12.11.86 - published in G.U. n. 77, 2.04.87
BAIA	176.6	20.07	Interministerial Decree 07.08.02 - published in G.U. n. 288, 09.12.2002
GAIOLA	41.6	6.4	Interministerial Decree 07.08.02 - published in G.U. n. 288, 09.12.2002
CAPO GALLO	2,173	77	Ministerial Decree 24.07.02 - published in G.U. n. 285, 05.12.02
ISOLA DELL'ASINARA	10,732	577	Ministerial Decree 13.08.02 - published in G.U. n. 298, 20.12.02
CAPO CACCIA	2,631	38	Ministerial Decree 20.09.02 - published in G.U. n. 285, 05.12.02
ISOLE PELAGIE	3,220	80	Ministerial Decree 21.10.02 - published in G.U. n. 14 del 18.01.03
PLEMMIRIO	2,429	113	Ministerial Decree 15.09.04 - published in G.U. n. 32 del 09.02.03
TOTAL	188,313.2	5,308.1	

Table B. Established national parks including a sea area and their establishment acts (note: G.U. indicates the Italian Official Journal)

PARCO NAZIONALE ARCIPELAGO TOSCANO	56.766	3.045	Presidential Decree 22.07.1996
PARCO NAZIONALE ARCIPELAGO DELLA MADDALENA	15.046	1.825	Law 4.01.1994 n. 10 in G.U. n. 6, 10.01.94; Presidential Decree 17.05.96
TOTAL	71.812	4.870	
GRAND TOTAL	260.125,2	10.178,1	



39th European Marine Biology Symposium - Genoa, 21-24 July 2004

Gruppo Alloctoni SIBM coordinated by Anna Occhipinti-Ambrogi

Department of Genetics and Microbiology, Section of Ecology, Via Sant'Epifanio, 14
27100 Pavia, Italy E-mail: occhipin@unipv.it

Introduced Marine Species in Italy

Non indigenous species (NIS) are being introduced in marine habitats with increasing frequency, often establishing large populations, that are considered a threat to biodiversity. In order to cope with international efforts aimed at a better knowledge of the ongoing global change in the distribution of marine organisms, the Italian scientific community has assembled the available information on recent (post war) introductions in Italian coastal waters. A few years after the publication of the first list (Occhipinti Ambrogi, 2002) the number of species has increased substantially, and the study group of allochthonous species appointed by the Italian Society of Marine Biology (SIBM) has completed a revision and analysis of the data that are presented here. This contribution aims at establishing a baseline for evaluating the rate of new introductions and their further spreading. Italy is at a crossroads in the Mediterranean, between the expansion of species coming from the East (most of Lessepsian origin) and from the West (most Atlantic species), is the terminal of many transoceanic commercial routes and has a large aquaculture activity especially clams and mussels. Moreover, the long tradition in taxonomic studies and the good historical knowledge of the fauna and flora of many localities still survive and are the most powerful tools in monitoring marine biodiversity.

The NIS data are analysed in groups dealing with fishes, algae and invertebrates, respectively. Fishes, crustaceans and molluscs are treated in more detail thanks to the existence of the CIEM Atlas of marine exotic species. Data on planktonic organisms are somewhat more scattered and elusive. Single findings of a small number of individuals have been quoted separately. The hotspots where a large number of NIS have been found are located in the Northern Adriatic and in Sicily, although the findings can be biased by the intensity of search by local investigators. Invasive species, that have built up

× non established species ● invasive species

MACROPHYTA (36)

- Acrothamnion preissii* (Sonder) E.M. Wollaston
- Agardiella subulata* (C.Agardh) Kraft & M.J.Wynne
- × *Aglaothamnion feldmanniae* Halos
- Antithamnion amphigeneum* A. Millar
- Antithamnion pectinatum* (Montagne) Brauner Athanasiadis et Tittley
- Apoglossum gregarium* (E.Y. Dawson) M.J. Wynne
- Asparagopsis armata* Harvey
- Bonnemaisonia hamifera* Hariot
- Botryocladia madagascariensis* Feldmann-Mazoyer
- *Caulerpa racemosa* (Forsskål) J. Agardh
- *Caulerpa taxifolia* (Vahl) C. Agardh
- *Ceramium strobiliforme* G.W. Lawson & D.M. John
- × *Chondria polyrhiza* Collins & Hervey
- Chondria pygmaea* Garbary & Vandermeulen
- Codium fragile* (Suringar) Hariot ssp. *tomentosoides* (Goor) P.C. Silva
- Colpomenia peregrina* Sauvageau
- × *Grateloupia turuturu* Yamada
- Halophila stipulacea* (Forsskål) Ascherson
- Halothrix lumbricalis* (Kützting) Reinke
- × *Hypnea cornuta* (Kützting) J. Agardh
- Hypnea spinella* (C. Agardh) Kützting
- Laurencia chondrioides* Borgesen
- Laurencia majuscula* (Harvey) A.H.S. Lucas
- Leathesia difformis* (Linnaeus) Areschoug
- × *Lomentaria hakodatensis* Yendo
- Lophocladia lallemandii* (Montagne) F. Schmitz
- Neosiphonia harveyi* (J.W. Bailey) M.S. Kim, H.G. Choi, Guiry & G.W. Saunders
- × *Padina boergesenii* Allender & Kraft
- × *Plocamium secundatum* (Kützting) Kützting
- × *Polysiphonia morrowii* Harvey
- *Sargassum muticum* (Yendo) Fensholt
- Scytosiphon dotyi* M.J. Winne
- Solieria filiformis* (Kützting) P.W. Gabrielson
- × *Symphyclocladia marchantioides* (Harvey) Falkenberg
- *Undaria pinnatifida* (Harvey) Suringar
- *Womersleyella setacea* (Hollenberg) R.E. Norris

CNIDARIA (3)

- Clytia hummelincki* (Leloup, 1935)
- *Garveia franciscana* (Torrey, 1902)
- Diadumene cincta* Stephenson, 1925

BRYOZOA (5)

- Celleporella carolinensis* (Ryland, 1979)
- × *Crepidacantha poissonii* (Audouin, 1826)
- × *Electra tenella* (Hincks, 1880)
- *Tricellaria inopinata* (d'Hondt et Occhipinti Ambrogio, 1985)
- × *Arachnoidea protecta* (Harmer, 1915)

PYCNOGONIDA (2)

- Ammothea hilgendorfi* (Böhm, 1879)
- Anoplodactylus californicus* (Hall, 1912)

TUNICATA (3)

- Botrylloides violaceus* Oka, 1927
- Microcosmus exasperatus* Heller, 1978
- Polyandrocarpa zorritensis* (Van Name, 1931)

MOLLUSCA, BIVALVIA (13)

- *Anadara inaequalis* (Bruguère, 1789)
- *Anadara demiri* (Piani, 1981)
- *Brachidontes pharaonis* (Fisher, 1870)
- × *Chlamys lischkei* (Dunker, 1850)
- *Crassostrea gigas* (Thunberg, 1793)
- × *Eastonia rugosa* (Helbling, 1779)
- *Musculista senhousia* (Benson in Cantor, 1842)
- Perna picta* (Born, 1778)
- × *Pinctada radiata* (Leach, 1814)
- Saccostrea cucullata* (Born, 1778)
- *Tapes philippinarum* (Adams & Reeve, 1850)
- *Xenostrobus securis* (Lamarck, 1819)
- Mya arenaria* Linnaeus, 1758

MOLLUSCA, GASTROPODA (17)

- × *Aplysia dactylomela* Rang, 1828
- × *Aeolidiella indica* (Bergh, 1888)
- Bursatella leachii* De Blainville, 1817
- *Cerithium scabridum* Philippi, 1848
- × *Chromodoris quadricolor* (Rueppell & Leuckart, 1828)
- Crepidula fornicata* (Linnaeus, 1758)
- × *Cuthona perca* (Marcus, 1958)
- × *Doris bertheloti* (d'Orbigny, 1839)
- Haminea callidegenita* Gibson & Chia, 1989
- Melibe fimbriata* Alder & Hancock, 1864
- × *Odostomia (Megastomia) cfr. sicula* Philippi, 1851
- Polycera hedgpethi* Marcus, 1964
- Polycerella emertoni* Verrill, 1881
- *Rapana venosa* (Valenciennes, 1846)
- × *Rissoina spirata* (Sowerby, 1820)
- × *Sabia conica* (= *Hipponyx conicus*) (Schumacher, 1817)
- × *Sclerodoris cfr. tuberculata* Eliot, 1904

MOLLUSCA, CEPHALOPODA (1)

- Tremoctopus gracilis* (Eyedoux/Souleyet, 1852)

CRUSTACEA, COPEPODA (3)

- Acartia grani* Sars, 1904
- Acartia tonsa* Dana, 1849
- Pteriacartia josephinae* Crisafi, 1974

CRUSTACEA, PERACARIDA (3)

- Caprella scaura* Templeton, 1836
- Elasmopus pectenarius* (Bate, 1842)
- Paracerceis sculpta* (Holmes, 1904)

CRUSTACEA, DECAPODA (14)

- × *Callinectes danae* Smith, 1869
- Callinectes sapidus* Rathbun, 1896
- × *Calappa pelii* Herklotz, 1851
- × *Dromia spinirostris* (Miers, 1881)
- *Dyspanopeus sayi* (Smith, 1869)
- × *Herbstia nitida* Manning & Holthuis, 1981
- × *Heteropanope laevis* (Dana, 1852)
- × *Marsupenaeus japonicus* (Bate, 1888)
- × *Menaethius monoceros* (Latreille, 1825)
- *Percon gibbesi* (H. Milne, Edwards, 1853)
- *Portunus pelagicus* (Linnaeus, 1758)
- *Rhithropanopeus harrisi* (Gould, 1841)
- × *Scyllarus caparti* Holthuis, 1952
- × *Thalaimita gloriensis* Crosnier, 1962

ANNELIDA (29)

- Amphicorina eimeri* (Lagerhans, 1880)
- Amphicorina pectinata* (Banse, 1957)
- *Branchiomma luctuosum* (Grube, 1869)
- *Desdemona ornata* Banse, 1957
- × *Dispio uncinata* Hartman, 1951
- × *Epidiopatra hufferiana monroi* Day, 1957
- × *Fabriciella qhardaqa* Banse, 1959
- × *Isolda pulchella* Müller, 1858
- Leiochirides australis* Augener, 1914
- × *Longibranchium atlanticum* (Day, 1973)
- × *Lumbrinerides neogesa* Miura, 1980
- × *Lumbrineris inflata* (Moore, 1911)
- Lysidice collaris* Grube, 1870
- Mediomastus capensis* Day, 1961
- × *Metasynchis gotoi* (Izuka, 1902)
- Notomastus aberans* Day, 1963
- Notopygos crinita* Grube, 1855 (= *N. megalops* Mc Intosh, 1885)
- Ophryotrocha japonica nomen nudum*
- Pileolaria berkeleyana* (Rioja, 1942)
- × *Pista unibranchia* Day, 1963
- × *Platynereis cf. australis* Schmarda, 1861
- × *Priónosio pygmaea* Hartman, 1955
- × *Protodorvillea egena* (Ehlers, 1913)
- × *Questa caudicirra* Hartman, 1966
- × *Rhodine loveni* Malmgren, 1866 (= *Rhodine gracillor*)
- × *Scoloplos (Leodamas) chevalieri candiensis* Harmelin, 1969
- *Spirorbis marioni* Caullery & Mesnil, 1897
- × *Streblosoma hesslei* (Day, 1955)
- × *Streptosyllis arenae* Webster & Benedict, 1884

VERTEBRATES, FISHES (20)

- Abudefduf vaigiensis* (Quoy & Gaimard, 1825)
- Beryx splendens* Lowe, 1934
- Chaunax suttkusi* Caruso, 1989
- × *Diodon hystrix* (Linnaeus)
- × *Epinephelus coioides* (Hamilton, 1822)
- Fistularia commersoni* (Ruppel, 1835)
- × *Galeocerdo cuvier* (Peron & Le Sueur, 1822)
- × *Halosaurus ovenii* Johnson, 1863
- Makaira indica* (Cuvier, 1832)
- Pinguipes brasiliensis* Cuvier & Valenciennes, 1829
- × *Pisodonophis semicinctus* (Richardson, 1848)
- × *Pomadasystris stridens* (Forsskål, 1875)
- × *Rhizoprionodon acutus* (Rüppel, 1837)
- Seriola fasciata* (Bloch, 1793)
- Seriola carpenteri* Mather, 1971
- × *Seriola rivoliana* Cuvier, 1833
- Sphoeroides pachygaster* (Müller & Troschel, 1848)
- × *Sphyrna mokarran* (Rüppel, 1837)
- Stephanolepis diaspros* Fraser-Brunner, 1940
- × *Synagrops japonicus* (Döderlein, 1884)

large populations in the receiving habitats of the Italian peninsula, are to be found among algae, molluscs, crustaceans and bryozoans.

Annex 3

List of 22 habitats of SPABIO proposed for inclusion in Annex I of 92/43/CEE Habitat Directive

Legend: Criteria: V = vulnerability; H = heritage value; R = rarity; Ae = Aesthetic; Ec = Economic significance; Rating (Rt): P = Priority habitat.

Piano/ Habitat	Criteria						Priority Habitat with four 1
	V	H	R	Ae	Ec	Category	
MESOLITTORAL							
Association with <i>Lithophyllum byssoides</i>	1	1	1	1	3	P	X
Association with <i>Fucus virsoides</i>	1	1	1	2	3	P	
INFRALITTORAL							
Facies of the hidrothermal waters with <i>Cyclope neritea</i> and nematods	1	1	1	3	3	P	
Maërl facies (Association with <i>Lithothamnion corallioides</i> and <i>Phymatolithon calcareum</i>)	1	1	1	2	2	P	
Facies with Vermetids	1	1	1	1	2	P	X
Facies and associations of coralligenous biocoenosis (in enclave)	1	1	2	1	2	P	
CIRCALITTORAL							
Association with <i>Laminaria rodriguezii</i> on debris	1	1	1	2	3	P	
Coralligenous biocoenosis:	1	1	2	1	2	P	
Association with <i>Cystoseira zosteroides</i>	1	2	1	1	3	P	
Association with <i>Cystoseira usneoides</i>	1	2	1	1	3	P	
Association with <i>Cystoseira dubia</i>	1	2	1	1	3	P	
Association with <i>Cystoseira corniculata</i>	1	2	1	1	3	P	
Association with <i>Sargassum spp.</i>	1	1	1	2	3	P	
Association with <i>Laminaria ochroleuca</i>	1	2	1	1	3	P	
Association with <i>Rodriguezella strafforellii</i>	1	1	1	1	3	P	X
Facies with <i>Eunicella cavolinii</i>	1	1	3	1	2	P	
Facies with <i>Eunicella singularis</i>	1	1	2	1	2	P	
Facies with <i>Lophogorgia sarmentosa</i>	1	1	1	1	3	P	X
Facies with <i>Paramuricea clavata</i>	1	1	2	1	2	P	
Coralligenous platforms	1	1	1	1	3	P	X
Facies with <i>Corallium rubrum</i>	1	1	2	1	1	P	
BATHYAL							
Biocoenosis of deep sea corals	1	2	1	1	2	P	X

Annex 4

PROPOSAL OF NEW SPECIES TO BE INCLUDED IN THE ANNEXES OF THE HABITAT DIRECTIVE

RHODOPHYTA

Species	Annexes of the Habitat Directive		
	Annex II	Annex IV	Annex V
<i>Lithophyllum bissoides</i> (Lamarck) Foslie (sinonimo <i>Lithophyllum lichenoides</i>)	x		
<i>Lithophyllum trochanter</i> (Bory) H. Huvé ex Woelkerling (sinonimo <i>Goniolithon byssoides</i>)	x		
<i>Schimmelmanna schousboei</i> (J. Agardh) J. Agardh	x		

PHAEOPHYTA

<i>Cystoseira amentacea</i> (C. Agardh) Bory incluse var. <i>spicata</i> (Ercegovic) Giaccone e var. <i>stricta</i> Montagne	x		
<i>Cystoseira sedoides</i> (Desfontaines) C. Agardh	x		
<i>Cystoseira spinosa</i> (Sauvageau) incluse var. <i>compressa</i> (Ercegovic) Cormaci et al. E var. <i>tenuior</i>	x		
<i>Cystoseira zosteroides</i> (C. Agardh)	x		
<i>Laminaria rodriguezii</i> (Bornet)	x		
<i>Laminaria ochroleuca</i> (De La Pylaie)	x		
<i>Fucus virsoides</i> (J. Agardh)	x		

MAGNOLIOPHYTA

<i>Posidonia oceanica</i> (Linnaeus) Delile	x		
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PORIFERA

<i>Aplysina spp.</i>			x
<i>Spongia spp.</i>			x
<i>Petrobiona massiliana</i> (Vacelet & Levi, 1971)	x	x	
<i>Axinella polyoides</i> (Schmidt, 1862)	x	x	
<i>Axinella cannabina</i> (Esper, 1794)	x	x	
<i>Geodya cydonium</i> (Jameson, 1811)	x	x	
<i>Ircinia foetida</i> (Schmidt, 1862)	x	x	
<i>Ircinia pipetta</i> (Schmidt, 1868)	x	x	
<i>Tethya citrina</i> (Sarà & Melone, 1965)	x	x	

CNIDARIA

Species	Annexes of the Habitat Directive		
	Annex II	Annex IV	Annex V
<i>Antipathes dichotoma</i> (Pallas, 1766)			x
<i>Antipathes fragilis</i> (Gravier, 1918)			x
<i>Antipathes subpinnata</i> (Ellis & Solander, 1786)			x
<i>Gerardia savaglia</i> (Bertoloni, 1819)	x	x	
<i>Errina aspera</i> (Linnaeus, 1767)	x	x	

MOLLUSCA

<i>Dendropoma petraeum</i> (Monterosato, 1884)	x	x	
<i>Erosaria spurca</i> (Linnaeus, 1758)		x	
<i>Luria lurida</i> (Lamarck, 1810)		x	
<i>Schilderia achatidea</i> (J.E. Gray in G.B. Sowerby II, 1837)		x	
<i>Zonaria pyrum</i> (Gmelin, 1791)		x	
<i>Tonna galea</i> (Linnaeus, 1758)		x	
<i>Ranella olearia</i> (Linnaeus, 1758)		x	
<i>Charonia lampas lampas</i> (Linnaeus, 1758)		x	
<i>Charonia tritonis variegata</i> (Lamarck, 1816)		x	
<i>Cymatium parthenopaeum</i> (Salis Marschlin, 1793)		x	
<i>Mitra zonata</i> (Marryat, 1818)		x	
<i>Pinna rudis</i> (Linnaeus, 1758)		x	
<i>Pholas dactylus</i> (Linnaeus, 1758)		x	
<i>Lucinoma spelaum</i> (Palazzi & Villari, 2000)	x	x	
<i>Spondylus gaedopus</i> (Linnaeus, 1758)		x	
<i>Spondylus gussoni</i> (Costa O. G., 1829)		x	
<i>Bursa scrobilator</i> (Linnaeus, 1758)		x	
<i>Pedicularia sicula</i> (Swainson, 1840)		x	
<i>Atrina pectinata</i> (Linnaeus, 1767)	x	x	
<i>Panopea glycimeris</i> (Born, 1778)		x	
<i>Solemya togata</i> (Poli, 1795)		x	

CRUSTACEA

Species	Annexes of the Habitat Directive		
	Annex II	Annex IV	Annex V
<i>Ocypode cursor</i> (Linnaeus, 1758)			
<i>Pachylasmus giganteum</i> (Philippi, 1836)			

BRYOZOA

<i>Hornera lichenoides</i> (Linnaeus, 1758)			
<i>Reteporella spp.</i>		x	
<i>Adeonella spp.</i>		x	
<i>Myriapora truncata</i> (Pallas, 1766)		x	
<i>Pentapora fascialis</i> (Pallas, 1766)		x	

ECHINODERMATA

<i>Asterina pancerii</i> (Gasco, 1870)		x	
<i>Ophiaster ophidianus</i> (Lamarck, 1816)		x	
<i>Paracentrotus lividus</i> (Lamarck, 1816)			x

CONDRICTHYES

Species	Annexes of the Habitat Directive		
	Annex II	Annex IV	Annex V
<i>Carcharodon carcharias</i> (Linnaeus, 1758)		x	
<i>Cetorhinus maximus</i> (Gunnerus, 1765)		x	
<i>Mobula mobular</i> (Bonnaterre, 1788)		x	
<i>Squatina squatina</i> (Linnaeus, 1758)		x	
<i>Squatina aculeata</i> (Cuvier, 1829)		x	
<i>Squatina oculata</i> (Bonaparte, 1840)		x	
<i>Rhinobatus rhinobatus</i> (Linnaeus, 1758)		x	
<i>Rhinobatus cemiculus</i> (E. Geoffroy Saint-Hilaire, 1817)		x	
<i>Carcharias taurus</i> (Rafinesque, 1809)		x	
<i>Odontaspis ferox</i> (Risso, 1810)		x	
<i>Echinorhinus brucus</i> (Bonaterre, 1788)		x	
<i>Gymnura altavela</i> (Linnaeus, 1758)		x	
<i>Pteromylaeus bovinus</i> E. Geoffroy Saint-Hilaire, 1817)		x	
Rhinoptera marginata		x	
<i>Pristis sp.</i>		x	
<i>Heptanchias spp.</i>			x
<i>Heptanchias perlo</i>			x
<i>Centrophorus granulosus</i> (Bloch & Schneider, 1801)			x
Species	Annexes of the Habitat Directive		
	Annex II	Annex IV	Annex V
<i>Centrophorus uyato</i> (Rafinesque, 1810)			x
<i>Centroscymnus coelolepis</i> (Bocage & Capello, 1864)			x
<i>Somniosus rostratus</i> (Risso, 1826)			x
<i>Oxinoxys centrina</i> (Linnaeus, 1758)			x
<i>Dalatis licha</i> (Bonnaterre, 1788)			x
<i>Alopias vulpinus</i> (Bonnaterre, 1788)			x
<i>Alopias superciliosus</i> (Lowe, 1839)			x
<i>Sphyrna spp.</i>			x
<i>Isurus oxyrinchus</i> (Rafinesque, 1810)			x
<i>Lamna nasus</i> (Bonnaterre, 1788)			x
<i>Prionace glauca</i> (Linnaeus, 1758)			x
<i>Carcharhinus spp.</i>			x
<i>Squalus acanthias</i> (Linnaeus, 1758)			x
<i>Squalus blainvillei</i> (Risso, 1826)			x
<i>Galeorhinus galeus</i> (Linnaeus, 1758)			x

<i>Mustelus asterias</i> (Cloquet, 1821)			x
<i>Mustelus mustelus</i> (Linnaeus, 1758)			x
<i>Mustelus punctulatus</i> (Risso, 1826)			x
<i>Myliobatis aquila</i> (Linnaeus, 1758)			x
<i>Rostroraja alba</i> (Lacepède, 1803)			x
<i>Dipturus batis</i> (Linnaeus, 1758)			x
<i>Dipturus oxyrinchus</i> (Linnaeus, 1758)			x
<i>Raja</i> spp.			x
<i>Leucoraja</i> spp.			x
<i>Raja melitensis</i> (Clark, 1926)			x
<i>Raja polystigma</i> (Regan, 1923)			x
<i>Dasyatis centroura</i> (Mitchill, 1815)			x
<i>Dasyatis pastinaca</i> (Linnaeus, 1758)			x

OSTEICHTHYES

<i>Hippocampus hippocampus</i> (Linnaeus, 1758)		x	
<i>Hippocampus ramulosus</i> (Leach, 1814)		x	
<i>Pomatoschistus marmoratus</i> (Risso, 1810)		x	
<i>Pomatoschistus microps</i> (Kroyer, 1838)		x	
<i>Pomatoschistus minutus</i> (Pallas, 1770)		x	
<i>Pomatoschistus tortonesei</i> (Miller, 1968)		x	

NATIONAL REPORT
ON THE IMPLEMENTATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY
IN THE MEDITERRANEAN⁸

XVI. General information

1. Country

Hellenic Republic.

2. Period covered by the report.

2001-2005.

3. National body responsible for drawing up the report.

Ministry of Environment, Physical Planning and Public Works, Directorate General for the Environment, Environmental Planning Division, Nature Management Section

4. National body and other organisations and/or institutions that provided data for the establishment of the report.

Ministry of Agricultural Development and Food, Directorate General of Forests, General Directorate of Fisheries. Ministry of Merchant Marine, Port Police Branch.

XVII. Legal and/or administrative measures taken under the terms of the Protocol⁹

69. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

New legislative development concern the issuing of Law 3044/02, according to which, among other provisions, Management Bodies for 25 areas were established. Thirteen of these areas include marine and coastal parts.

More specifically, recent development in the operation and management of the existing coastal and marine protected areas, as well as in the setting up of new protected areas is as follows:

- The National Marine Park of Alonissos – Northern Sporades got a renewed designation as National Marine Park (JMD 23537/03).
- The Administrative Councils of the Management Bodies of the National Marine Park of Alonissos Northern Sporades, of the National Park of Samaria and the National Park of Schinias Marathonas have been established by legislative act.
- The Administrative Council of the Management Body of the National Marine Park of Zakynthos was officially reformed.
- The Administrative Councils of the Management Bodies of 6 coastal Ramsar sites have also been established (Delta Evrou, Delta of Axios- Loudias –Aliakmon, Nestos Delta and Vistonis –Imaris lakes, Messolonghi- Aetolikon lagoons, Amvrakikos gulf wetlands, Kotychi – Strofyliia forest and wetlands.
- The Administrative Councils of the Management Bodies along with definition of boundaries in 3 new protected areas, which include marine and coastal elements, have been established (Mt Parnon- Moustos wetland, the gorges and estuaries of rivers Kalamas and Acherontas, and the Aegean islands of Karpathos and Saria).

Further to that, the marine component of the Greek contribution to the NATURA 2000 European Ecological Network has been strengthened with the addition of 54 coastal/marine important bird areas in the list of Special Protection Areas and the extension of 12 respective areas. The Ministry for Aegean designated a number of island areas as Landscapes of Outstanding Natural Beauty. The Ministry of Agricultural Development and Food requested from the competent Services of North and South Aegean to designate the relevant islets up to 1000 ha as Wildlife Refuges, procedure that is is under way. Finally, a number of other coastal areas were

⁸ This new format is in conformity with the reporting system set up within the framework of the Barcelona Convention and adopted by the Contracting Parties during their 13th meeting (Catania, November 2003)

- The information requested should be presented synthetically and the report should not exceed 6 pages (approximately 3000 words)
- The reports should be drafted in English or in French and be sent in electronic form to car-asp@rac-spa.org.in by the deadline of 1st March 2005.

⁹ In the case of legal measures, it is requested that a copy of the enacted law be attached to this report or handed in during the meeting of National Focal Points.

designated as Wildlife Refuges where, among other provisions, hunting is prohibited and collection of species is regulated.

As regards the species, a number of projects were carried out, including actions for the monk seals, marine turtles, endangered sea birds. All the endangered bird species of Annex 2 to the Protocol that are present in Greece are already strictly protected from the Joint Ministerial Decision 414985/85. Bird species benefit further from the designation of a number of Wildlife Refuges. Fishing, collecting and trading of specific species is regulated by national as well as by European Community legislation. Within the period under consideration, the issuing of the EC Regulations 1936/01 and 869/04 for the fishing and aquaculture of migratory fish species, the issuing of the EC Regulation 1185/03 for carcharoids and, at national level, the issuing of the Presidential Decree 227/03, modifying the P.D. 86/98 for the fishing of shells took place.

70. To establish marine and coastal specially protected areas (article 5);

The list of designated specially protected areas has not been changed within the period in concern.

71. To provide protection (article 6) :

A number of measures and actions have been directed for the majority of the items of article 6 mostly at a national horizontal level, which also affects the areas in concern. Specific measures within the specially protected areas have been taken only for Alonissos Northern Sporades National Marine Park that has a draft management plan accompanying its designation act. For the area of Amvrakikos Gulf, the outlines of a Joint Ministerial Decision determining management practices (which however expired in 1994) and for the areas of Samaria National Park and Vai Aesthetic Forest, provisions of the Specific Environmental Studies under elaboration are taken into consideration at the environmental impact assessment procedure.

The Alonissos Northern Sporades National Marine Park is divided in a core and a peripheral area. Specific provisions regulate fisheries, passage of ships (special permission from the Management Body is demanded for entrance in the core area), visitor disembarking and passing of the night. Highest speed limit for ships passing at a distance of less than half nautical mile from the coastline of the core area is 10 nautical miles / hour. Passage of tankers holding cargoes over 500 tn as wells as ships carrying toxic or radioactive cargoes is prohibited.

Protection at horizontal level has as follows:

The acceptance from Greece of the amendments of the Barcelona Convention in 10/3/03, the signature of the new emergency protocol (25/1/02) and the acceptance of the amendments of the Land-based sources protocol (10/3/03) strengthened application of the other Protocols to the Convention.

Dumping or discharge of wastes is subject to legislation acts already valid since 1977, 1982 and 1998. For the implementation of the above, permanent circulars were issued from the Ministry of Merchant Marine in 1988 (for the MARPOL Convention), 1998, 1999 and 2003 with instructions for the management of wastes in the ships. Further on, with the JMD 3418/07/2002/30-5-02 the European Community Directive 2000/59/EC concerning the port installations for wastes, was transposed to the national legislation.

A system for the monitoring and control of ship passage in the Aegean is planned under the third Community Support Framework.

A national authorised committee established in 2002 regulates introduction of species for aquaculture.

A complex of legislative acts regulates permissions for scientific research activities and taking of animals. Competent authority for the edition of the permissions for protected species is in general the Ministry of Agricultural Development and Food. Trading and taking of animals included in the Annexes of CITES is regulated according to the provisions of the respective convention. Hunting is prohibited for all avifauna species of annex 2 to the Protocol by Annual Hunting Regulations. Fishing and trading of specific species is regulated by national as well as by European community legislation

Environmental Impact Assessment of works and activities is subject to recent national legislation (L. 3010/02, JMD 15393/2332/02, JMD 11014/703/F104/03) transposing the respective European Community Legislation. Specifically for the areas of Sporades, Samaria, Lesvos, Skiathos, Sounion, Vai and Amvrakikos Gulf that are also designated in the European Ecological Network Natura 2000, the assessment of environmental impact and the issuing of environmental

terms follows a specific procedure so that the protection of their important natural elements is further safeguarded.

72. Concerning planning, management supervision and monitoring of the specially protected areas (article 7);

Within the period in concern, National Marine Park of Alonissos Northern Sporades got a renewal of its designation and its legally adopted draft management plan and an Administrative Council of its Management Body. For another two areas (Amvrakikos wetlands and Samaria National Park) Management Bodies with their respective Administrative Councils were also established. These Councils, which are responsible for both the land and marine parts of the areas, are comprised by representatives of Central and Local Services as well as by representatives of local stakeholders, NGO's and scientists with knowledge over the site. The Administrative Councils are given various powers and responsibilities, including the compilation of management plans and operating regulations, monitoring and assessment of the application of the regulations, assistance in control over human activities, delivery of opinions concerning preliminary planning authorisation and adoption of environmental conditions for projects and activities, implementation of technical or other projects. Implementation of a monitoring project for species and habitat types is planned for the three areas under the support of the 3rd European Community Support Framework. Activities and projects are regulated as regards their environmental impact according to the national legislation. For seven of the submitted specially protected areas which have been included in the Natura 2000 European Ecological Network, legislation provides for the stricter examination of the possible impact of planned activities on their environment.

73. For the protection and conservation of species (article 11);

The majority of Greek vertebrates species that are listed in Annex 2 and 3 to the Protocol are also included in the Annexes of European Directives 92/43/EC and 79/409/EC and are considered protected at national level (LMD 414985/85, 33318/3028/98). Plants listed in Annex 2 to the Protocol are found in habitat types of Annex I to the Directive 92/43/EC, present in Greece, which are also considered protected. A number of the species of both annexes to the Protocol were protected already since 1981 with the P.D. 67/81.

Permissions for scientific research activities and taking of animals are regulated by a complex of legislative acts. Competent authority for the edition of the permissions for protected species is in general the Ministry of Agricultural Development and Food. Trading and taking of animals included in the Annexes of CITES is regulated according to the provisions of the respective convention and its ratification (L. 2637/98) and the respective EC Regulations. Hunting is prohibited for all avifauna species of annex 2 to the protocol by Annual Hunting Regulations. Fishing and exploitation of a number of species is regulated with a number of legislative documents (Presidential Decrees, Laws, Ministerial Decisions) issued in between 1980 and 1996. As regards fishing in particular, according to EU regulations trawlers are not allowed to fish on Posidonia prairies and the use of driftnets is prohibited. The establishment of aquaculture units is subject to environmental impact assessment.

74. To regulate the introduction of non-indigenous or genetically modified species (article 13);

Since 2002 a Committee has been established for the regulation of the introduction of non-indigenous species for aquaculture, by a Joint Ministerial Decision from the Ministers of Agriculture and the Environment (147703/4-7-02). However, no measures have been taken so far for the evaluation and eradication of possible harmful species already introduced.

As regards the genetically modified species, the International and the European Community legislative framework of the Biosafety Protocol are followed.

75. To grant exemptions from protection measures (articles 12,18)

No exemptions have been granted during the period under review

XVIII. Technical application of the protocol

76. List the specially protected areas established under the terms of article 5.

	Specially Protected Areas	Designation
1	Aesthetic Forest of Nikopolis – Mytikas	*
2	Aesthetic Forest of Pefkias – Xylokastron	*
3	National Marine Park of Northern Sporades	*
4	Samaria National Park	*
5	Petrified Forest of Sigri in Iesvos	*
6	Aesthetic Forest of Skiathos Island	*

7	Sounio National Park	*
8	Aesthetic Forest of Vai	*
9	Wetlands of Amvrakikos Gulf	*

* = Already established at the beginning of the reporting period

77. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9a)

78. No proposal was made to include areas on the SPAMI list within the period in concern.

79. SPAMI list :

No site has been included in the SPAMI list within the period in concern.

80. Any modification to the legal status of protected species.

There has been no modification to the legal status of protected species in the national legislation. However, at European level, the status of two species was modified in the Annexes of Directive 92/43/EC. More particularly, *Chelonia mydas* that was in Annex IV was added also to annex II and *Gibbula nivosus* was added to both Annexes II and IV.

81. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

The list of non-indigenous marine species that was submitted in 2002 for the meeting of experts for elaboration of the action plan for introduced and invasive species in the Mediterranean sea remains basically unchanged. Many of the reported non indigenous species are potentially harmful (e.g. *Caulerpa racemosa* at depths up to 100m modifies the benthic associations and causes anoxic conditions in the bottom, fact that has unpredictable impacts on the fisheries) but there has not been a concrete study on the possible impacts of the non indigenous species.

As regards the genetically modified organisms, all imported or cultivated species have been licensed according to the above mentioned framework (question no 11). There has been no evidence till now that the licensed organisms can be harmful

Inventories of the components of biological diversity (article 15).

- a) Date of establishment or updating of the inventory of areas containing rare or fragile ecosystems;
- b) Date of establishment or updating of the inventory of endangered or threatened species of flora and/or fauna ;
- c) Attach the inventory/s unless they have already been submitted in a special report.
- d) Inventory using the standard data format (SDF)

An inventory of sites with ecological importance was firstly created in 1995, in preparation for the European Ecological Network NATURA 2000 and has a strong marine and coastal component. Specific data of this inventory for the flora and fauna of the sites that were finally proposed to the Network were updated in the coming years. Mapping of habitat types (as defined in the Directive 92/43 and in a more detailed approach) in areas of interest for the conservation of nature was completed in 2001. During the period in concern there was no overall updating of the above mentioned inventories. Most of the requested information on marine and coastal sites, habitats and species, included in the SDF of the Protocol is included in the database of sites included in the Natura 2000 ecological network. It is not foreseen that a separate inventory and database would be created in the near future.

82. Exemptions granted to protection measures articles 12,18,23 c).

No exemptions have been granted within the period in concern.

83. Implementation of the action plans adopted within the framework of MAP:

- Action plan for the conservation of cetaceans in the Mediterranean sea
The implementation of this Action Plan has been limited. Data from strandings have continued to be gathered in a database. The Ministry of Merchant Marine co-operates with the competent bodies for the rescuing of the wounded cetaceans through the 24-hour working Centre for the Coordination of Research and Rescuing. Port police cooperates tightly with the competent authorities for the necessary actions. Sites holding an importance for these species have been included in the NATURA 2000 European ecological network.

- Action plan for the management of the monk seal in the Mediterranean

The implementation of the National Programme for the Protection of the Mediterranean Monk Seal (Archipelagos and Mom, 1996) has been continued and reinforced. Activities include actions directed to reduce adult mortality, establishment of a network of marine reserves, research – data collection, rescue and rehabilitation and information – public awareness programmes.

The operation of the National Marine Park of Alonissos- Northern Sporades has continued to contribute successfully to the conservation of the largest population of the species with a high rate of births. Specific management actions have been implemented in the southern Aegean Region (protected area of Karpathos-Saria, Kimolos - Polyaiagos) in the framework of a Life-Nature project conducted by MOm. All sites holding an importance for the species have been included in the NATURA 2000 ecological network of the European Communities.

- Action plan for the conservation of sea turtles in the Mediterranean

Greece is also an important host of sea turtle nesting activities and the implementation of conservation actions has continued and expanded. Activities include protection and management of critical habitats, reducing mortality at sea, information – education and training, scientific research and monitoring. A Life-Nature project undertaken by the NGO ARCHEON contributed significantly to the reduction of losses of individuals of the species from incidental capture.

All sites holding an importance for the species have been included in the NATURA 2000 ecological network of the European Communities.

- Action plan for the conservation of marine vegetation

The implementation of this Action Plan has been limited, however activities with regard to monitoring and conservation have been implemented and specific importance has been attached to it in the procedure of evaluating impact assessments in the coastal zone. The most important and representative locations for marine vegetation have been included in the NATURA 2000 ecological network of the European Communities.

- Action plan for the conservation of bird species listed in Annex 2 of the Protocol

All bird species of Annex II of the specially protected areas and biodiversity protocol are strictly protected at national level since 1985 (JMD 414985/85) and their hunting is prohibited by Annual Hunting Regulations. The avifauna of Greek wetlands is monitored since 1982 during the annual mid-winter countings that are being carried out by the Hellenic Ornithological Society under the supervision of the Ministry of Agricultural Development and Food. Through the European Community financial instrument Life-Nature, conservation actions have been carried out or are under way for *Pelecanus crispus* and *Phalacrocorax pygmeus* in Lake Mikri Prespa, *Numenius tenuirostris* in Evros Delta, *Falco eleonora* and *Phalacrocorax aristotelis* in Tilos island. Another Life-Nature project aims specifically for drafting a National Action Plan and implement conservation actions for *Falco eleonora* in nine sites hosting the largest part of the Greek population.

- Action plan for the conservation of cartilaginous fish (chondrichthyans) in the Mediterranean sea

No specific actions have been carried out for the implementation of the action plan for the conservation of cartilaginous fish, mostly due to heavy load of other commitments of the competent Services

- Action plan concerning the introduction of species and invasive species in the Mediterranean sea

No specific actions have been carried out for the implementation of the action plan concerning the introduction of species and invasive species in the Mediterranean Sea, except the establishment in 2002 of a Committee for the regulation of the introduction of non-indigenous species for aquaculture. Lack of coordinated action is attributed mainly to heavy load of other commitments of the competent Services.

84. Implementation of other recommendations pertinent to the Contracting Parties

No information available

XIX. Brief description of all problems or constraints encountered in the application of the Protocol

Main axes for the conservation and protection of the natural environment and its marine and coastal component in Greece are mainly harmonized with the obligations of the European Community legislation. The European Community Directives 79/409 and 92/43 cover many of the provisions of the Protocol, at least partly. This ensures the implementation of a number of actions required by the Protocol. However, it has the drawback that for a country like Greece, being a member of the European Community, the application of the requirements of the EC Directives is of first priority. The application of some remaining provisions of the Protocol which provide for more in detail knowledge and protection of the coastal and marine environment remain of next priority due to heavy load of commitments and to restricted budgets.

FORMAT FOR THE PRESENTATION OF THE NATIONAL REPORT
ON THE APPLICATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN
THE MEDITERRANEAN¹⁰

XX. General information

1. Country **Lebanon**
2. Period covered by the report : July 2003- March 2005

This is the period going from the last report up to March 2005.

3. National body responsible for drawing up the report.

Indicate the title and address of the national organisation that drew up the present report including the names and titles of the persons responsible for actually drafting the report

Ministry of Environment

Lazarieh Bldg P.O.Box: 11-2727

Beirut-Lebanon

Tel: +961-11976555

Fax: +961-1-976530

Lina Yamout

Chief of Service, Protection of Urban Environment/ SPA Focal Point

Ministry of Environment

Beirut-Lebanon

Tel: +961-11976555 ext: 443

Fax: +961-1-976530

E-mail: l.yamout@moe.gov.lb

4. -National body and other organisations and/or institutions that provided data for the establishment of the report.

List the names and addresses of the bodies others than those mentioned above under point 3 that contributed to the present report by providing information and data.

Marie Abboud- Abi Saab, Ph.D.

Marine Biologist

National Center for Marine Sciences

P.O.Box: 534

Batroun Lebanon

Tel: 961-6-741582/3

Fax: 961-6-741584

E-mail: mabisaab@cncs.edu.lb

Ghassan Jaradi, Ph.D

Ornithologist

National Council for Scientific Research

P.O.Box: 11-8281, Beirut-Lebanon

Tel: 961-3-689840

Fax: 961-1-822639

E-mail: r-jaradi@cyberia.net.lb

Manal Nader, Ph.D

Fisheries and Wildlife Manager

University of Balamand

P.O. Box: 100 Tripoli-Lebanon

Tel: 961-6-930250

Fax: 961-6-930278

¹⁰ This new format is in conformity with the reporting system set up within the framework of the Barcelona Convention and adopted by the Contracting Parties during their 13th meeting (Catania, November 2003)

- The information requested should be presented synthetically and the report should not exceed 6 pages (approximately 3000 words)
- The reports should be drafted in English or in French and be sent in electronic form to car-asp@rac-spa.org.tn by the deadline of 1st March 2005.

Gaby Khalaf, Ph.D.
National Center for Marine Sciences
P.O.Box: 534
Batroun Lebanon
Tel: 961-6-741582/3
Fax:961-6-741584

XXI. Legal and/or administrative measures taken under the terms of the Protocol¹¹

85. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

Indicate what legislation has been promulgated or what administrative measures have been taken during the period under review to protect, preserve and manage marine and coastal areas considered of particular natural or cultural value and to protect, preserve and manage threatened or endangered marine and coastal species.

The Code of Environment issued by Law No: 444/2002 making the environmental impact assessment mandatory for any development project and applying polluter pays principle. The code also includes guidelines for sustainable coastal zone management and conservation of biological diversity

Within the framework of Strategic Environmental Assessment project executed by the Ministry of Environment and financed by the EU Third-life Countries, a draft decree for SEA has been prepared (based on the Code of Environment) in line with international initiatives of SEA Protocol and EC directives with the objective of mainstreaming environmental considerations in sectoral policies, plans and programmes. Consequently any land use planning for coastal areas has to comply with SEA guidelines. Another initiative has been under taken by the Lebanese parliament to draft legislation for the coastal areas management.

A draft Management plan for a coastal nature reserve: Tyre Coast has been prepared during 2004 within the framework of the Regional MedWet Coast project executed by the Ministry of Environment aiming at developing national policies and capacities for the conservation of endemic and endangered species of flora and fauna of the nature reserve and their habitats.

Legal and administrative documents are in the process to be prepared to designate the marine turtle nesting beach of Al- Abasieh , South of Lebanon on the Land –use Master Plans, based on a research report submitted in January 2005 on sea turtle nesting survey for South Lebanon.

Cooperation between the Lebanese Ministry of Environment and the Syrian Ministry of Environment started at the beginning of year 2005 to designate a trans-boundary coastal protected area (Cheikh Zinad)

86. To establish marine and coastal specially protected areas (article 5);

Indicate what legal and/or administrative measures have been adopted and/or implemented during the period under review to establish marine and coastal specially protected areas.

Within the framework of the Coastal Areas Management Programme (CAMP)-Lebanon Project, The thematic activity for "Marine Conservation Areas" is being implemented, awaiting for the elaboration of the technical, administrative and legal documents for the declaration of Naqoura Beach and Damour River Basin as specially protected areas at national and Mediterranean levels.

87. To provide protection (article 6) :

Indicate what legal and/or administrative measures have been taken during the period under review to apply the provisions of article 6 of the protocol within the specially protected areas, and in particular the measures concerning :

a) Strengthening the application of the other Protocols to the Convention and of other relevant treaties to which they are Parties (article 6 a);

¹¹ In the case of legal measures, it is requested that a copy of the enacted law be attached to this report or handed in during the meeting of National Focal Points.

The "MEDPOL Coastal Litter Pilot-Project in Lebanon-protection of Palm Islands" supported by UNEP/MAP is being implemented by the Union of Northern Association for Development, Environment and Patrimony under the supervision of the Ministry of Environment, the MEDPOL National Coordinator.

The project aims at addressing marine environmental, economic and social concerns, specifically improving the solid waste management of the Northern Coast of Lebanon (Tripoli) near the Specially Protected Area: Palm Islands Nature Reserve .

The Palm Islands Reserve is a Ramsar site and an Important bird area. The president of the reserve's committee is an ornithologist and technical focal point for EAWA agreement. Hence the application of these relevant treaties is highly considered.

b) Prohibiting the dumping or discharge of wastes liable to harm the protected areas (article 6 b) ;
Dumping of wastes in the Palm Islands SPA and within a boundary of 500 meters is prohibited by Law. In addition, the committee of Palm Islands Reserve had convinced the municipality of Tripoli to construct a barrier between its dump and the sea so that the waves and the sea currents will not bring garbage to the reserve. This was done recently in response to one of the reserve's policies which gives priority to promoting elimination of all dumps that discharge their garbage or toxic compounds into the sea from land-based sources.

In the framework of MEDPOL Coastal Litter Pilot Project Project (CLIPP)-Protection of Palm Islands, measures of legal, institutional and technical natures would be proposed to be adopted for the improvement of status of coastal solid waste management in the CLIPP area

c) Regulating the passage of ships (article 6 c) ;
Sailing of ships is regulated by the Ministry of Transportation. All ships follow a way that is at least three kilometers away from Palm Islands. This is partly due to the shallow water nature around the reserve. The lighthouse of Ramkine island (one of the three islands of the reserve) and other floating light signals in the sea help keeping ships on their traced way.

d) Regulating the introduction of species (article 6 d) ;
Species of plants and animals which are not native to the islands are prohibited to be introduced to the reserve according to the management plan of the reserve

e) Regulating activities (article 6 e), 6 h) ;
All activities within the specially protected areas are in accordance of the management plan approved by the Ministry of Environment, and all developmental proposals are assessed and evaluated before approval.

f) Regulating scientific research activities (article 6 f) ;
Scientific research activities are promoted and facilitated through a research permit, with conditions, based on a research agenda. The management of the SPA maintains permanent collections of all research results. Also there are specified zones for research on the reserve, representing the different types of available habitats.

g) Regulating fishing, hunting, the taking of animals, and the harvesting of plants as well as the trade in animals or parts of animals, of plants or parts of plants coming from the protected areas.

The Law of protected area (Palm Islands) prohibits all activities having negative effects on the biodiversity in the protected area.

Consequently, all species of fauna and flora within protected areas are fully protected according to the management plan and all activities such as fishing, hunting, eggging, plant picking, domestic and commercial trading or use of plant and animals are prohibited.

88. Concerning planning, management supervision and monitoring of the specially protected areas (article 7);

Indicate and briefly describe what legal and/or administrative measures have been taken during the period under review to plan, manage and control the specially protected areas.

Palm Islands is a specially Protected Area proclaimed a nature reserve by Law No:121 dated 12/3/1992 and is currently managed through a management plan prepared with the assistance of GEF Protected Areas project executed by the Ministry of Environment. All species within the nature reserve are considered protected. Visitation is prohibited during the nesting and laying seasons of marine turtles to the beaches used for nesting. During breeding season of birds, visitation is only allowed upon permits and for education or research purposes.

A study on biodiversity assessment and monitoring in Palm Islands nature and Tyre Coast Nature Reserve was conducted in 2004 with the aim of assessing the biodiversity of selected species, status, habitats, threats, management options and monitoring priorities within the site

89. For the protection and conservation of species (article 11);
Indicate what legal and/or administrative measures have been taken during the period under review to apply the measures under article 11 of the Protocol, in particular measures aimed at regulating or prohibiting : a) the taking, possession, killing, trade, transport and exhibition for commercial purposes of protected species of fauna, their eggs, parts and products, b) the disturbance of wild fauna during critical biological periods and c) the destruction or disturbance of species of protected flora.

Decision 279/1 dated 19/11/98, MOA: Banning of fishing of marine turtles, their consumption and sale of products derived from them.

Decision 125/1 dated 23/9/99. MoA: Protecting Wales, Monk seals, Marine turtles and banning their fishing

Decision 281/1 dated 19/1/98, MoA: Banning of Sponges

In coastal and marine protected areas all species of flora and fauna are protected. During critical biological periods visitation is not allowed.

90. To regulate the introduction of non-indigenous or genetically modified species (article 13);

Indicate what legal and/or administrative measures have been taken during the period under review to regulate the voluntary or accidental introduction into nature of non-indigenous or genetically modified species and prohibit those that could have adverse effects on the ecosystems, habitats or species in the area to which this protocol applies. Also indicate what legal and/or administrative measures have been taken during the period under review to ensure the eradication of harmful species already introduced.

22 invasive plant species has been identified along the Lebanese coast however no measures have been taken due to lack of information regarding their status and degree of invasiveness. (Biodiversity National Report 2002)

One of the objectives in the management plans of the protected areas relates to the development of a program for the removal of identified introduced species. In Palm Islands Nature Reserve the introduced rabbit species are subject to an eradication program which is running slowly so that non target species are not affected.

91. To grant exemptions from protection measures (articles 12,18)

Indicate what exemptions to the prohibitions prescribed in the annexes have been granted during the period under review.

No exemptions have been granted

XXII. Technical application of the protocol

92. List the specially protected areas established under the terms of article 5.
Provide a list of the specially protected areas established under article 5 of the Protocol at the end of the period under review. In this list, indicate with the appropriate annotations, which areas had already been established at the beginning of the period, and which were established during the actual period under review.

No Specially protected areas have been established during the review period

93. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9a)

- a) Date of the proposal/s
- b) Areas proposed (list attached)

Provide a list of areas subject to national jurisdiction proposed for inclusion on the SPAMI list during the period under review, with the date on which each of the proposals was submitted.

No sites have been proposed

94. SPAMI list :
 a) Status and state of the areas under national jurisdiction included on the SPAMI list (article 23a)

b) Any modification in the delimitation or the legal status of the SPAMI (article 23 b).
Provide an updated list indicating the status and situation of the areas subject to national jurisdiction included on the SPAMI list during the period under review, and briefly describe any modifications made to the delimitation or the legal status of the SPAMIs indicating if they were established before or during the period under review.
No areas have been proposed during the review period

95. Any modification to the legal status of protected species.
Indicate if any changes have been made to the legal status of protected species during the period under review. If there have been, describe them briefly.
 No changes have been made

96. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

Provide information on the presence of new non-indigenous or genetically modified species liable to be harmful.

A research study conducted at the American University of Beirut determined 22 invasive plant species on the Lebanese coast. However, the scope of this study only covered the presence of these species and not on their status and degree of invasiveness.

Observations of marine algae in the Lebanese sea by some scientists have recorded the presence of the following algal species:

Green algae (originating from the indopacific ocean)
 Caulerpa racemosa,
 Caulerpa mexicana
 Caulerpa scalpelliformis
Red Algae (originating from the indopacific ocean)
 Asparagopsis taxiformis

Brown Algae (invasive)
 Styppodium schimperi

Marine Phanerogame (originating from the indopacific ocean)
 Halophila stipulacea

97. Inventories of the components of biological diversity (article 15).

a) Date of establishment or updating of the inventory of areas containing rare or fragile ecosystems;

A coastal survey in the form of rapid assessment of all beaches of the Lebanese coast was assessed in late June/beginning of July 2004, one group of animals(marine turtles) and one group of habitats(sand dunes) were selected to describe the overall status of the beaches

Date of establishment or updating of the inventory of endangered or threatened species of flora and/or fauna ;

Following the survey organized by the Ministry of Environment, with the support of the regional Activity Center for Specially Protected Areas (RAC/SPA) and the Mediterranean Association to save the Sea Turtles that was carried out during the period of 23rd July to 6th August 2001, to assess marine turtle nesting along the Lebanese coast, another survey on sea turtle nesting activity was carried out in South Lebanon specifically in Tyre Coast Nature Reserve, Abassieh beach and Al-Mansourieh beach between 27th June to 7th August, 2004 in collaboration between the MedWet Coast project executed by the Ministry of Environment and the Mediterranean Association to Save the Sea Turtles (MEDASSET) supported by the Marine Conservation Society(MCS) Turtle Conservation Fund (UK).

A coastal survey of beaches of Lebanon for assessment of marine turtle nesting was carried out by a consultant: Max Casparek in late June/beginning of July 2004 for the Management Support Consultancy

Project (MSC) executed by the Ministry of Environment. The report also updates and builds on the first survey carried out in 2001 by RAC/SPA and MEDASSET

A survey of flora and fauna in three selected sites: Damour, Sarafand and Naqoura has been conducted within the framework of the implementation of *the Coastal Areas Management Programme (CAMP)-Lebanon Project, The thematic activity for "Marine Conservation Areas*

b) Attach the inventory/s unless they have already been submitted in a special report.

c) Inventory using the standard data format (SDF)

No activity using SDF has been undertaken

Provide information on the date of establishment or updating of the inventories mentioned in paragraphs a) to c) above, during the period under review. Attach copies of the inventories in question (if they occurred during the period under review).

98. Exemptions granted to protection measures articles 12,18,23 c).

Provide a list of exemptions to protection measures granted under the terms of articles 12, 18 and 23 c during the period under review. In each case, indicate briefly the reasons for the exemption.
No exemptions has been granted

99. Implementation of the action plans adopted within the framework of MAP:

- Action plan for the conservation of cetaceans in the Mediterranean sea

-Dolphin species are legally protected

- No action due to the relatively low importance of Lebanon for cetaceans. Activities are limited to gathering information on Cetaceans caught by fishermen. Activities are carried out by the National Center of Marine Sciences.

- Action plan for the management of the monk seal in the Mediterranean

No specific action plan is needed since Monk Seals may occur occasionally in the Lebanese terrestrial waters

- Action plan for the conservation of sea turtles in the Mediterranean

-A coastal survey of the Lebanese beaches for assessment of marine turtle nesting activity was carried out in late June/beginning of July 2004 by Max Kasperek for the Management Support Consultancy Project executed by the Ministry of Environment

The MedWet Coast Project executed by the Ministry of Environment collaborated with the Mediterranean Association to Save the Sea Turtles (MEDASSET) supported by the Marine Conservation Society(MCS) in 2004 in several activities:

1-A survey on sea turtle nesting activity was carried out in South Lebanon, specifically in Tyre Coast Nature Reserve, between 27th June to 7th August, 2004.

2-Training of trainers for sea turtle monitoring, conservation and handling in Tyre Cost Nature Reserve attended by protected areas staff and volunteers,

3-Community Awareness Campaigns and activities on the conservation of marine turtles for several target groups in Tyre Coast Nature reserve,

4-Awareness workshop at the Ministry of Environment targeting all different stakeholders to promote the conservation the marine turtles, their habitats and their sustainable use. Recognizing the role of awareness to achieve conservation of globally endangered species of marine turtles, a National Environmental NGO prepared T.V documentary on" Marine Turtles, the Last Call". The documentary was awarded the first prize in the 4th International Festival for the Environmental Movies that was held between the period of 4-14 January, 2005 in Al-Kairawan, Tunis

- Action plan for the conservation of marine vegetation

As part of the CAMP Lebanon- Project, the Thematic Activity for Marine Conservation Areas, surveys were undertaken of marine vegetation for 2 sites: Naqoura and Damour, as part of the biodiversity survey. Scientific reports were prepared which include data on the marine vegetation in these areas.

In the framework of a joint scientific program between Syria and Lebanon, hydrological and planktonic samples have been carried out, from 5 cruises between May 2002 and August 2003 in 6 offshore stations

selected to cover the coastal waters of Lebano-Syrian shoreline at the surface layer in order to compare the changes across the south-north axis and at different seasons in the two coastal waters.

In the same framework, new project is being conducted on mapping of terraces and identification of flora and fauna associations in these formations along the Lebanese coast for a period of 2 years starting since March 2004.

Monitoring of micro algae is being conducted continuously since 1999 in two sites in North Lebanon (Batroun Region) and at different levels

- Action plan for the conservation of bird species listed in Annex 2 of the Protocol. All bird species in marine and coastal protected areas are legally protected and are continuously monitored. Efforts are made on Palm Islands Nature Reserve to bring back the former breeder *Larus audouini* to the reserve through several activities aiming at reducing the competition between Audouin's Gull and the dominant Yellow-legged Gull *Larus cachinnans* on the available breeding sites, The ongoing efforts resulted in the reappearance of the Audouin's Gull after a long disappearance.

- Action plan for the conservation of cartilaginous fish (chondrichthyans) in the Mediterranean sea
No action due to the lack of resources.

The University of Balamand launched in September 2004 a Marine Resources and Coastal Zone Management Programme under the Environmental studies with the aim of launching a multidisciplinary unit to implement and to contribute to national, regional and international efforts towards promoting management strategies of the coastal zone and the associated marine resources.

One of the main objectives of the programme is the protection of marine and coastal species with specific emphasis on endangered ones.

Under this programme a research project on : "The assessing of commercial fish species" is being implemented since January 2005 for the Northern Governate of Lebanon with a potential for expansion all over the Lebanese coast if funding is secured.

Another project will be implemented focusing on listing all chondrichthyan fishes coat by fishermen and their quantities. Advice on the implementation of this activity is constantly solicited with IUCN

- Action plan concerning the introduction of species and invasive species in the Mediterranean sea

No action has been taken. Awareness and knowledge of alien species is limited to the scientific community due to the lack of continuous studies.

Despite the challenges facing the marine ecosystem in Lebanon, the National Marine Center has identified several alien species based on informal information such as a consensus about the natural invasion of marine species coming from the Suez Canal and from Gibraltar. However no formal measures has been taken to monitor the alien species.

The only recent research study conducted at the American University of Beirut in 2002 determined 22 invasive plant species on the Lebanese coast. However, the scope of this study only covered the presence of these species and not on their status and degree of invasiveness.

As for avifauna, the introduction of foreign species to Lebanon was limited for a long time to cage birds. To the knowledge of experts there are no, at present, other alien species of significant number in Lebanon.

Describe the developments that occurred during the period under review in the implementation of action plans (in case of no action, please indicate the reasons for lack of action)

100. Implementation of other recommendations pertinent to the Contracting Parties

Briefly describe the implementation of other recommendations of the Contracting Parties relative to the Protocol.

XXIII. Brief description of all problems or constraints encountered in the application of the Protocol

Briefly state any specific problems or constraints that impeded the application of measures taken under the provisions of the Protocol during the period under review. If applicable, specify what measures were taken to correct them. Put forward summarily any other pertinent remarks or observations of a general nature concerning the measures taken to ensure the application of the Protocol.

There are several issues in Lebanon that are hindering the conservation of marine and coastal biodiversity and consequently the implementation of the protocol:

- Tourism developments are out competing efforts for conservation
 - Need for policy enforcement
 - Difficulty of law enforcement agencies to prevent pollution along the coast
 - Insufficient support by the political body to protect the coastal zone
 - Difficulty in securing specialists in marine sciences, more specifically taxonomists
 - Difficulty in obtaining the necessary database for marine and coastal fauna and flora
- (not available)
- Difficulty in obtaining recent background data on invasive species and their impact (not available)
 - Lack of recent detailed topographic and bathymetric maps for the Lebanese coast
 - Non-availability of a research vessel for long term studies
 - Non-availability of up to date field and laboratory research equipment
 - Difficulty in obtaining funding for marine research
 - Lack of awareness on the level of concerned public institutions

Refer to SAP BIO National Report

THE NATIONAL REPORT
ON THE APPLICATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN
THE MEDITERRANEAN¹²

XXIV. General information

1. Country: **The Libyan Arab Jamahiriya**
2. Period covered by the report: *June 2003- March 2005.*
3. National body responsible for drawing up the report.

The Environment General Authority, P.O.Box 83618 Tripoli-Libya. The report is prepared by Mr. Abdulmaula Hamza, Researcher, Nature conservation Dept of EGA) and approved by Mr. Ali R. Alkekli (Head, Nature conservation Dept of EGA and SPA NFP.

4- National body and other organisations and/or institutions that provided data for the establishment of the report.

Marine Biology Research Centre-Tajura, P.o.Box 80830 Tripoli-Libya.

XXV. Legal and/or administrative measures taken under the terms of the Protocol¹³

101.To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);
Establishment of Rural and Agricultural development authority, of its duties planning and protecting natural sites.

102.To establish marine and coastal specially protected areas (article 5);
EGA will launch soon a program of detailed study on marine and coastal sites to be declared as marine protected areas.

103.To provide protection (article 6) :

Indicate what legal and/or administrative measures have been taken during the period under review to apply the provisions of article 6 of the protocol within the specially protected areas, and in particular the measures concerning:

- a) Strengthening the application of the other Protocols to the Convention and of other relevant treaties to which they are Parties (article 6 a);
 - International workshop on cetacean conservation, with RACSPA, ACCOBAMS have been organised in Tajura (May, 2004).
 - A survey of wintering water birds have been conducted in collaboration AEWA-CMS and RACSPA (Jan.2005).
 - A workshop on satellite tagging of sea turtles with RACSPA, SZN (March, 2005).
- b) Prohibiting the dumping or discharge of wastes liable to harm the protected areas (article 6 b): The Law No. 15-2003/chapter 3 paragraphs 33, 34, 35 indicated that any wastes, wastewaters, poisonous, radioactive materials, gases, dynamites or any other industrial or nuclear wastes are banned from disposal, storage or release on the coasts of Great Libyan Arab Jamahiriya (GSLAJ).
- c) Regulating the passage of ships (article 6 c) ; Law No.15-2003/chapter 3 paragraph 21 stated that " ship tankers, floating carriers and other marine units are prohibited to dump –in ports and territorial waters of GSLAJ– sands, stones, wastes, rubbish, fuel wastes or any other chemical materials". Paragraph 22 stated "it's prohibited to dump oil or oil mixtures or cleaning tanks and heavy oil discharge or bottom waters in the ports or the territorial waters of GSLAJ. Paragraph 26 mentioned the necessity of reporting by tank captains of any oil spills or discharges in the waters of GSLAJ.
- d) Regulating the introduction of species (article 6 d); Chapter 10 on Biosafety, Article 58 stated that "All seeds and genetically modified species are sources of risk on local biodiversity and its resources". And Article 59 mentioned that it's demanded a prior

¹² This new format is in conformity with the reporting system set up within the framework of the Barcelona Convention and adopted by the Contracting Parties during their 13th meeting (Catania, November 2003)

- The information requested should be presented synthetically and the report should not exceed 6 pages (approximately 3000 words)
- The reports should be drafted in English or in French and be sent in electronic form to car-asp@rac-spa.org.tn by the deadline of 1st March 2005.

¹³ In the case of legal measures, it is requested that a copy of the enacted law be attached to this report or handed in during the meeting of National Focal Points.

permission from EGA to import or introduce or sell any alien species or GM species and products.

- e) Regulating activities (article 6 e), 6 h) ; n/a.
- f) Regulating scientific research activities (article 6 f); Chapter 6, articles 2 and 18 gave to EGA the duty of the application of scientific research results on national level, and conducting environmental studies and research activities in GSPLAJ to promote conservation and sustainable use of natural resources. Chapter 9 Article 57 on wildlife conservation and hunting mentioned that "hunting of species for scientific research purposes is allowed under certain criteria".
- g) Regulating fishing, hunting, the taking of animals, and the harvesting of plants as well as the trade in animals or parts of animals, of plants or parts of plants coming from the protected areas. Chapter 3 Article 18 stated that "fishing with dynamites, poisoning chemicals or nay other harmful means affecting marine life and habitats are prohibited in the waters of GSPLAJ". The executive directive of this law will determine fishing regulations in coordiance with other national and international legislations. Chapter 56 and 57 on wildlife conservation and hunting mentioned that hunting of species is illegal without a valid permission from relevant authorities.

After joining CITES, EGA is planning to issue a special national legislation on trade and transportation of endangered species.

104. Concerning planning, management supervision and monitoring of the specially protected areas (article 7); Chapter 9 Article 56 on wildlife conservation stated that "A protected areas should be established to conserve species form the risk of extinction and to be used as a reproduction areas for wild animals".

EGA also have some contacts with exest PA's for drafting and implementing management plans for inclusion of some PA's as a SPAMI.

105. For the protection and conservation of species (article 11);
See paragraph 8 of this report.

106. To regulate the introduction of non-indigenous or genetically modified species (article 13);
See paragraph 8 (d) of this report.

107. To grant exemptions from protection measures (articles 12,18)
NA

XXVI. Technical application of the protocol

108. List the specially protected areas established under the terms of article 5.

Site	Nature	Present situation
<i>Farwa Lagoon</i>	<i>Coastal lagoon</i>	<i>Under review</i>
<i>Ain Azzayana Lagoon</i>	<i>Coastal lagoon with freshwater spring</i>	<i>Under review</i>
<i>Ain AlGazalah Lagoon</i>	<i>Coastal lagoon with freshwater spring</i>	<i>Under review</i>
<i>Bumba bay</i>	<i>Coastal lagoon</i>	<i>Under review</i>
<i>Awadi Lahmar</i>	<i>Nesting beach for loggerheads</i>	<i>Under review</i>
<i>Al-Ghbeba</i>	<i>Nesting beach for loggerheads</i>	<i>Under review</i>
<i>Wadi Kaam</i>	<i>Important freshwater biodiversity site</i>	<i>Under review</i>

109. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9a)
None, but EGA is preparing some files for a candidate sites to be included in SPAMI during the next biennium.

110. SPAMI list : n/a

111. Any modification to the legal status of protected species.

Eestablishment of Rural and Agricultural development authority, of its duties planning and protecting natural sites. EGA still have the technical role in setting up management plans and providing consultations to PA's.

112. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

20 species of invasive fish species have been reported. A national study will start July 2005 aims to identify affected habitats and quantifying the effect of these species on marine and coastal ecosystems (MBRC bulletin).

113. Inventories of the components of biological diversity (article 15).

- a) January 2005 (Water birds census)
- b) January 2005 updating of Farwa lagoon SDF data (under final amendments)
- c) A report is under preparation.
- d) SDF have been used in all EGA biological diversity inventories 2004-2005.

114. Exemptions granted to protection measures articles 12, 18, and 23 c).

Non

115. Implementation of the action plans adopted within the framework of MAP:

- Action plan for the conservation of cetaceans in the Mediterranean Sea: EGA and MBRC in collaboration with ACCOBAMS and RACSPA have organized an international scientific seminar on cetacean conservation.
- Action plan for the management of the monk seal in the Mediterranean: The second phase of monk seal study at the eastern coasts of the country will start next July, in collaboration with RACSPA and ICRAM.
- Action plan for the conservation of sea turtles in the Mediterranean: On the 4th of March 2005, EGA in cooperation with RACSPA and Stazione zoologica of Naples has released a loggerhead sea turtle with a satellite transmitter, in the framework of scientific research concerning tracking. The event organised after one day workshop on sea turtle conservation and tracking aimed to raise both fishermen and scientific community information and awareness about the issue of turtle conservation techniques in the Mediterranean.

One of the outcomes of that seminar, EGA and MBRC have agreed to launch a national program of education and public awareness on turtle conservation, the program will be organised by a joint team and will include workshops, meetings with fishermen and other local stakeholders in marine environment, as well as using the experience of some NGO's and Libyan scouts in conduction of that activities.

- Action plan for the conservation of marine vegetation: EGA have submitted a proposal for the centre to include marine vegetation surveys and mapping of two sites: Farwa and Ain Azzayana. This work will be conducted in cooperation with RACSPA consultant.
- Action plan for the conservation of bird species listed in Annex 2 of the Protocol: During January 2005 EGA have organised a wintering bird survey census on the whole coastal area of the country, the survey concentrated also on habitats and possible presence of the slender-billed curlew. Preliminary results indicated the presence of very good habitats for slender-billed curlew although no birds of this species encountered during the survey. Some 30,000 birds has been counted, of them some species were not known to winter in Libya before. SDF has been used to describe the whole surveyed sites. Final report is under final touches and would be ready in June 2005.
- Action plan for the conservation of cartilaginous fish (chondrichthyans) in the Mediterranean Sea: EGA and MBRC have launched a national project to identify the cartilaginous fish species along the coast, in addition to collect data on ecology, biology, threats, critical habitats, stocks to develop a national management program for sustainable use and conservation.
- Action plan concerning the introduction of species and invasive species in the Mediterranean Sea: MBRC have a program of activities for identifying marine invasive fish and plant species coming from the adjacent seas of the Mediterranean. So far 20 fish species has been reported most of them came from the red sea. The ecological characteristics of the Libyan waters might encourage those invasive species to settle and reproduce, the issue made EGA and MBRC quite concerned about the consequences of such phenomenon.

In addition to the above actions EGA with WWF MedPo have organized a field study of marine and coastal biodiversity of the eastern coast (Cyrenica), the final report of this study results will be announced this summer.

XXVII. Brief description of all problems or constraints encountered in the application of the Protocol
The main problems lie in need to strengthening the national authorities' coordination to implement the various articles of the protocol. EGA is doing a huge effort to maintain an accepted level of coordination between the different stakeholders on the national level.

MALTA NATIONAL REPORT
ON THE APPLICATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN THE
MEDITERRANEAN

XXVIII. General information

- 1. Country** MALTA
- 2. Period covered by the report.** May 2003 to March 2005.
- 3. National body responsible for drawing up the report.**

Nature Protection Unit
Environment Protection Directorate
Malta Environment & Planning Authority
St. Francis Ravelin,
Floriana
Malta

4. National body and other organisations and/or institutions that provided data for the establishment of the report.

5. Assistance received from UNEP/MAP towards the compilation of the present report.

RAC/SPA have been instrumental in providing Malta with various useful contacts around the Mediterranean and in allowing Malta to implement some of its obligations in the nature protection field. It has provided professional, technical and financial assistance on a number of project or commitments, including assistance in connection with the SAP-BIO Project and associated action plans, in the setting up of Marine Protected Areas in Malta by producing a technical report and financing and/or administering two projects, namely the CAMP Project on Rđum Majjiesa/Ras ir-Raheb (in collaboration with PAP/RAC), and the EU SMAP MedMPA Project for the setting up of a management plan for the first marine protected area in Malta. RAC/SPA also provided sponsorship to a number of important workshops and training stages on nature protection and helped us in the implementation of a turtle tagging programme. Indeed, we are at the moment discussing the possibility of working on a guidebook in Maltese on the handling of turtles and addressed to for fishermen.

XXIX. Legal and/or administrative measures taken under the terms of the Protocol¹⁴

116. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

During the period under review, the following legal measures were adopted:

- *Flora, Fauna and Natural Habitats Protection Regulations [Legal Notice 257 of 2003]*
These regulations, published on the 26th September 2003, transpose and update national law in relation to the European Union nature acquis and relevant international treaties, contributing to the conservation of natural habitats, flora and fauna by affording legal protection to endemic and threatened flora and fauna, and by designating Special Areas of Conservation (SAC).
- *Marine Mammals Protection Regulations [Legal Notice 203 of 2003]*
*These regulations, published on the 12th August 2003, repeal and replace the 1992 'Marine Mammals Protection Regulations' [Legal Notice 77 of 1992]. By virtue of these regulations, legal protection is afforded to nineteen species of cetaceans and one pinnipede, the Mediterranean Monk Seal (*Monachus monachus*) by prohibiting/regulating a number of activities.*
- *Water Policy Framework Regulations [Legal Notice 194 of 2004]*
These regulations, published on the 23rd April 2004, establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater by preventing their degradation, as well as enhancing and restoring them to good water chemical and ecological status.
- *Trade in Species of Fauna and Flora Regulations [Legal Notice 236 of 2004]*
These regulations, published on the 30th April 2004, repeal and replace the 1992 'Trade in Species of Fauna and Flora Regulations' [LN 19/92 as amended]. These enable the enforcement of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) on a national scale, as well as for relevant EU regulations on the protection of species of wild fauna and flora by regulating trade therein.
*Moreover, amendments of a number of other regulations, and the scheduling*¹⁵ *of protected areas*

¹⁴ In the case of legal measures, hyperlinks are provided, so as to enable the downloading from internet of the relevant enacted law. Most information is available on the Malta Environment and Planning Authority web-site, namely www.mepa.org.mt.

¹⁵ Article 46 (1) of the [Development Planning Act](#) [Cap. 356] requires MEPA to prepare, and from time to time review, "a list of areas, buildings, structures and remains of geological, palaeontological, cultural, archaeological, architectural, historical, antiquarian, or artistic or landscape importance, as well as areas of natural beauty, ecological or scientific value [referred to as

have continued, of which the most relevant include the following:

- Protection of Birds and Wild Rabbit Amendment Regulations [LN 41/03]
- Protection of Birds and Wild Rabbit Amendment Regulations [LN 158/03]
- Protection of Birds and Wild Rabbit Amendment Regulations [LN 222/03]
- Ta' Hmsaqfa (l/o Siggiewi) Emergency Conservation Order [GN 125/04]
- Contained Use of Genetically Modified Micro-organisms Amendment Regulations [LN 168/04]
- Rubble Walls and Rural Structures Conservation and Maintenance Amendment Regulations [LN 169/04]

A list of relevant legislation and Malta's status in connection with international treaties are included in Annexes I and II of this report, respectively.

Management agreements for the management of a number of Special Areas of Conservation have been concluded or are in final phases with respect to L-Ghadira (l/o Mellieha) [designated as a Protocol SPA], Is-Simar (l/o San Pawl il-Bahar) and Ghajn Tuffieha (l/o Mgarr), and work on management of Dwejra (l/o San Lawrenz, Gozo) and Wied Ghollieqa (l/o San Gwann) has proceeded with the collaboration of NGOs. Management of the islands of Filfla, Fungus Rock and St Paul's Islands, all designated as Protocol SPAs, has continued in accordance with the legislation declaring these sites as Nature Reserves¹⁶, and is essentially based on issuing of permits for scientific studies and monitoring.

117. To establish marine and coastal specially protected areas (article 5):

Malta has designated 23 sites as Special Areas of Conservation under the Flora, Fauna and Natural Habitats Protection (Declaration of SACs) Regulations [GN 877/03] and proceeded with the Habitat Inventorying Process, partly financed through the Council of Europe, which process comprised the development of species and habitat data sheets for every site, as well as the identification of threats. These sites were proposed as potential Sites of Community Interest (pSCIs) in connection with the EU Natura 2000 Network and as Areas of Special Conservation Interest (ASCIs) in connection with the Council of Europe's Emerald Network. Furthermore, the marine protected area has been proposed in the North-West Coast of Malta from Rdum Majjiesa to Ras ir-Raheb area, and a management plan is being compiled for the area, with assistance from the EU SMAP Programme and RAC/SPA.

MEPA is involved in a number of projects aimed at the establishment of protected areas during the period covered by this report, and has participated to the EC SMAP MedMPA project coordinated by RAC/SPA and is participating to the EC ERDF Project on the Filfla candidate marine protected area, the EC LIFE Third Project on the Dwejra Special Area of Conservation, the EC Interreg IIIC MedPAN Project on a network of marine protected areas, the EC Interreg IIIC Parks Network Project on a network of terrestrial protected areas, and the EC Transitional Funds Natura 2000 Twinning Project with Austria and Italy and coastal and marine Special Areas of Conservation.

118. To provide protection (article 6):

a) Strengthening the application of the other Protocols to the Convention and of other relevant treaties to which they are Parties (article 6 a):

The main competent authority for nature treaties is the Malta Environment and Planning Authority itself, rendering co-ordination matters relatively straightforward. With respect to the other Protocols of the Convention, MEPA shares some of its competence with the Police, the Malta Maritime Authority (MMA) and the Malta Resources Authority (MRA), on which there is close collaboration. A memorandum of understanding with MRA is also in its final stages, in view of the competence enlisted in the national Water Policy Framework Regulations.

Management plans for protected areas have to take into account relevant environment legislation, including national and international law.

b) Prohibiting the dumping or discharge of wastes liable to harm the protected areas (article 6 b):

Dumping of waste is regulated through the Deposit of Waste and Rubble (Fees) Regulations [LN 128/97 as amended], the Waste Management Permit and Control Regulations [LN 337/01] and the Urban Waste Water Treatment Regulations [LN 340/01].

c) Regulating the passage of ships (article 6 c):

A protected area where maritime activities are controlled is Filfla where no fishing, diving or underwater activities are allowed except for sport diving with permission issued from the Malta Maritime Authority. No new legislation has been enacted to regulate the passage of ships in the period covered by this report.

d) Regulating the introduction of species (article 6 d):

¹⁶ "scheduled property" ... which are to be scheduled for conservation and may in respect of all or any one or more of the scheduled property make conservation orders to regulate their conservation".

¹⁶ The legislation protecting these sites are the Filfla Nature Reserve Act [Cap. 323], the Fungus Rock (il-Gebla tal-General) Nature Reserve Regulations [LN 22/92] and the Selmunett Islands (St. Paul Islands) Nature Reserve Regulations [LN 25/93], the latter two issued through the virtues of the Environment Protection Act [Cap. 435].

Regulation 22 (1) of the Flora, Fauna and Natural Habitats Protection Regulations empowers the Competent Authority to prohibit the importation of any species of flora and fauna which in its opinion may potentially endanger local biodiversity, whilst Regulation 23 of the same regulations requires that prior to reintroduction of native species, a study shall be commissioned by the Competent Authority to assess whether such action would contribute to the conservation status of the species concerned. Regulation 27 of the same regulations calls for the promotion of *ex-situ* conservation measures as well as the establishment of facilities for carrying out activities of research, rehabilitation and recovery of threatened and endangered species for eventual reintroduction into their original natural habitats.

With respect to GMOs, the Deliberate Release into the Environment of Genetically Modified Organisms Regulations [LN 170/02] establishes rules on the control, management and regulation of the introduction of genetically modified organisms into the environment.

e) Regulating activities (article 6 e), 6 h) :

Various activities are regulated through the Environment Protection Act and the Development Planning Act and their subsidiary legislation, as well as through the Sand Preservation Act [Cap. 127], the Fertile Soil Preservation Act [Cap. 236], the Filfa Nature Reserve Act, the Fisheries Conservation and Management Act [Cap. 425], the Malta Resources Authority Act [Cap. 423] and the Code of Police Laws [Cap. 10]. Moreover, Regulation 4 (1) of the Flora, Fauna and Natural Habitats Protection Regulations requires "natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range". According to Regulations 8 and 13 of the same regulations, appropriate steps are to be taken to avoid the deterioration of the habitats of the species and also its disturbance in such areas, and thus to carry out appropriate assessment for projects which may have significant effect on these. Environment impact assessments are also required for various activities, as specified by the Environment Impact Assessment Regulations [LN 204/01].

f) Regulating scientific research activities (article 6 f):

Part IX of the Flora, Fauna and Natural Habitats Protection Regulations states that MEPA is to promote and encourage national and international research. Since most of the research activities carried out involve protected species and/or habitats, Part X of the same Legal Notice includes provisions for the regulation of such scientific research activities, indicating the necessity of a permit in order to carry out such activities. This section also indicates that a report is to be forwarded to the Competent Authority in relation to the research that would have been carried out.

A number of studies have been carried out, the results of which are publicised through an annual national seminar carried out by the Department of Biology of the University of Malta (DOB/UOM) with financial support from MEPA, the proceedings of which are jointly published by the DOB/UOM and MEPA. Two such books have been published, in November 2003 and December 2004 in the period covered by this report. Results are also available as dissertations or as papers in scientific peer-reviewed journals.

g) Regulating fishing, hunting, the taking of animals, and the harvesting of plants as well as the trade in animals or parts of animals, of plants or parts of plants coming from the protected areas.

The taking/handling/possession of protected species is regulated by a permitting system under the provisions of a number of subsidiary legislation of the Environment Protection Act. Part X of the Flora, Fauna and Natural Habitats Protection Regulations sets out a permitting system, where applications are evaluated on a case-by-case basis. Fishing and hunting activities are regulated by licences, which are issued by Fisheries Conservation and Control Division and the Commissioner of Police respectively; the main legal provisions for these are set by the Fisheries Conservation and Management Act and the Protection of Birds and Wild Rabbit Regulations as amended. The Trade in Species of Fauna and Flora Regulations also regulate trade; refer to reply to question 6 for additional information.

119. Concerning planning, management supervision and monitoring of the specially protected areas (article 7);

The current Structure Plan for the Maltese Islands, drawn up in 1990, provides strategic guidance on land-use in the Maltese Islands. It contains 320 policies on settlements, the built environment, housing, social and community facilities, commerce and industry, agriculture, minerals, tourism and recreation, transport, urban and rural conservation, ecology and public utilities. More recently, Part III and Part VIII of the Flora, Fauna and Natural Habitats Protection Regulations deal with the management and monitoring of protected areas respectively. Refer to reply to question 6 for additional information.

120. For the protection and conservation of species (article 11);

Various subsidiary legislation of the Environment Protection Act protected species at varying degrees and regulate activities on such protected species. The latest set of regulations is provided by the Flora, Fauna and Natural Habitats Protection Regulations, issued in the period covered by this report. Part IV of such regulations sets out the regulating system for protected species declared under the same regulations, as well as for the incidental capture and killing of animal species listed in Schedule V and the control of exploited species to render it is compatible with their being maintained at a favourable conservation status.

121. To regulate the introduction of non-indigenous or genetically modified species (article 13);

Refer to reply to question 8(d). Regulations 22 and 26 of the Flora, Fauna and Natural Habitats Protection Regulations state that MEPA is to take all necessary measures to prevent, control, monitor and/or eradicate the introduction of organisms belonging to alien species with the potential to establish populations into the environment or which threaten ecosystems, habitats or species, and requires MEPA to develop eradication or control plans to address alien species. In order to prioritise such work, MEPA has commissioned two studies to provide a detailed list of alien flora and fauna in the Maltese Islands, to identify the alien species of the Maltese islands, their invasiveness and extent, the threats they pose on local biodiversity, their present exploitation and other uses, and suggest ways how to control or eradicate and the implications resulting from such measures, provided they are feasible.

With respect to the introduction of GMOs into the environment, three main regulations are in place, namely the Contained Use of Genetically Modified Micro-Organisms Regulations [LN 169/02 as amended], the Deliberate Release into the Environment of Genetically Modified Organisms Regulations [LN 170/02] and the Biosafety Coordinating Committee Regulations [LN 290/02].

122. To grant exemptions from protection measures (articles 12,18)

The following exemptions have been granted during the period under review:

Species	Annex	Purpose	Permit holders
<i>Aphanius fasciatus</i>	II	Scientific Research	2
<i>Charonia tritonis</i>	II	Scientific Research	1
Marine Mammals	II	Scientific Research; Treatment of Stranded Individuals	1
Turtles	II	Scientific Research; Treatment of Stranded Individuals	2

XXX. Technical application of the protocol

123. List the specially protected areas established under the terms of article 5.

Refer to the reply to question 18.

124. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9 a)

Malta has four sites designated as specially protected areas (SPAs) under the previous protocol, namely the Fungus Rock Nature Reserve, L-Ghadira, the St. Paul's Islands Nature Reserve and the Filfla Nature Reserve. No areas have been proposed for inclusion on the SPAMI list during the period under review, but the aforementioned SPAs are receiving the necessary attention for submission on the SPAMI List.

125. SPAMI list : Status and state of the areas under national jurisdiction included on the SPAMI list (article 23a); Any modification in the delimitation or the legal status of the SPAMI (article 23 b).
N/A.

126. Any modification to the legal status of protected species.

No changes have been made to the legal status of already protected species during the period under review.

127. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

Data is still being compiled (refer to reply to question 11), however rather than new harmful species, some taxa are known to have increased considerably in the period under review, particularly the invasion of *Caulerpa racemosa*, which since 1997 has spread throughout the Maltese Islands due to its prolific growth¹⁷.

According to Vella (2001)¹⁸, this green macroalga "is still expanding to occupy the whole of the accessible local biotopes between 0 and 60m depth".

128. Inventories of the components of biological diversity (article 15).

a) Date of establishment or updating of the inventory of areas containing rare or fragile ecosystems;

A complete list of all the protected sites across the Maltese Islands has been compiled through the CDDA (Common Database on Designated Areas), which is updated on an annual basis. (The list and maps can be found at <http://cdr.eionet.eu.int/mt/eea/cdda1>).

As stated in the reply to question 7 (q.v.), Malta has designated 23 sites as Special Areas of Conservation via the Flora, Fauna and Natural Habitats Protection (Declaration of SACs) Regulations [GN 877/03] and filled in the relevant Standard Data Entry Forms for each site submitted to European Union and the Council of Europe in connection with the Natura 2000 and Emerald Networks respectively. Although not

¹⁷ Mifsud, C.R., Stevens, D.T., & Baldacchino, A.E. (2003). Strategic Action Plan for the Conservation of the Maltese Coastal and Marine Biodiversity.

¹⁸ Vella, K. (2001) A study of the recently introduced chlorophyte *Caulerpa racemosa* along the south coasts of Malta. Unpublished Bachelor of Science (BSc) Dissertation. Department of Biology, University of Malta.

currently available on internet at the moment of writing, these should be available in due course.

Moreover, the baseline survey of the extent and character of *Posidonia oceanica* meadows in the territorial waters of the Maltese Islands has been finalized in December 2003; mapping of *Posidonia oceanica* and other marine habitats can be viewed on the internet-based GIS-facility (known as Map Server) available on the MEPA web-site. At least 3 other projects are currently being considered in connection with ecologically important marine areas, and these will lead to further collation of essential information.

b) Date of establishment or updating of the inventory of endangered or threatened species of flora and/or fauna;

Information on endangered or threatened species of flora and/or fauna is being collated by means of the following commissioned studies:

- Threatened Bats and Important Bat Sites – awarded, finalised March 2004; pending publication.
- Threatened and/or Endemic Invertebrates, excluding Insects – recently awarded;
- Threatened and/or Endemic Insects – awarded, to be finalised by end 2005;
- Threatened and/or Endemic Fish – recently awarded;
- Threatened and/or Endemic Vertebrates excluding Fish, Birds, Cetaceans and Bats – recently awarded.

The data is to be submitted in the form of data sheets that will be fed into the National Database on Biodiversity when the latter is set up. As per Regulation 32 of the Flora, Fauna and Natural Habitats Protection Regulations, these inventories shall be, as far as practically possible, digitised and made freely available to the public, probably through the Clearing-House Mechanism, subject to the provisions of the Freedom of Access to Information on the Environment Regulations (LN 217/01).

Additional information is provided through environment impact assessments [reply to questions 8(e), q.v.], reports submitted in connection with authorised scientific studies [reply to questions 8(f), 8(g), 10 and 12], and the reported strandings or beachings of cetaceans and/or turtles [reply to question 20].

c) Attach the inventory/s unless they have already been submitted in a special report.

d) Inventory using the standard data format (SDF)

Refer to the reply to questions 18 (a) and (b).

129. Exemptions granted to protection measures articles 12,18,23 c).

Refer to the reply to question 12.

130. Implementation of the action plans adopted within the framework of MAP:

▪ **Action plan for the conservation of cetaceans in the Mediterranean sea**

All Mediterranean cetaceans are protected via the aforementioned Marine Mammals Protection Regulations, Flora, Fauna and Natural Habitats Protection Regulations and Trade in Species of Fauna and Flora Regulations. The Fisheries Conservation and Management Act and various Environment Protection Act subsidiary legislation also provide direct and indirect protection.

With respect to cetacean strandings, a 24-hour mobile telephone system operated by MEPA exists to report such organisms beached or sighted at sea. The Armed Forces of Malta, the Malta Maritime Authority or the Administrative Law Enforcement Section of the Police also collaborate through the provision of sea-craft, when required. This network also involves veterinarians, biologists as well as local NGOs and volunteers. In this respect, a protocol for cetacean stranding has been adopted since 1999, which protocol is in the process of reviewing and updating. Through the provisions of the protocol, autopsies are carried out on dead cetaceans in collaboration with stakeholders and veterinary services in order to investigate the cause of the death. Efforts are being made in order to increase the practice of collecting samples on which tests may be carried out in order to gather data both on the contaminants load and population structures. In this respect, NGOs or individuals who handle or possess dead cetaceans submit a yearly report to MEPA with information on their research work as prescribed in the conditions of the permit. In this respect, also refer to the reply to questions 8(f), 8(g), 10, 12 and 18 (b).

With respect to awareness, MEPA continued publishing its posters on cetaceans and also participated in the IFAW/ACCOBAMS survey targeted to collect scientific information on sperm whales, but through which other data has been collected. Such survey was also conducted near Maltese waters, and when the vessel employed for this survey was in Maltese waters, a general public awareness campaign was carried out through the national media.

▪ **Action plan for the management of the monk seal in the Mediterranean**

The monk seal is now occasional in Maltese waters, and is not known to breed on the Maltese Islands. Nevertheless, it is strictly protected through the Flora, Fauna and Natural Habitats Protection Regulations and the Marine Mammals Protection Regulations.

▪ **Action plan for the conservation of sea turtles in the Mediterranean**

Five species of marine turtles have been confirmed from the Maltese territorial waters, all of which are protected via the Reptiles Protection Regulations [LN 76/92], and/or the already cited Flora, Fauna and Natural Habitats Protection Regulations and Trade in Species of Fauna and Flora Regulations. The Fisheries Conservation and Management Act also provides for turtle protection, as does, indirectly, various Environment Protection Act subsidiary legislation dealing with pollution, run-off and waste management.

With respect to sea turtle conservation, work on action plans has also been carried out, mostly in connection with the SAP-BIO project, through financial and other support from RAC/SPA. Moreover, a 24-hour mobile telephone system operated by MEPA exists to report sick, injured or dead or stranded turtles (and cetaceans) beached or sighted at sea. The Armed Forces of Malta, the Malta Maritime Authority or the Administrative Law Enforcement Section of the Police also collaborate through the provision of sea-craft, when required. This network also involves from veterinarians, biologists as well as local NGOs and volunteers.

The Reptiles Protection Regulations, administered by MEPA, also provides for accidentally captured turtles, and states that all turtles caught by fishermen during their normal fishing activities and/or landed at the fish market must be immediately given to the Director responsible for Fisheries, and in such cases the fishermen are to be compensated for any loss of tackle fixed from time to time by the Director responsible for Fisheries. Such turtles, as well as stranded sick or injured turtles, or turtles in need of assistance reported to the stranding network, are transferred to the Malta Centre for Fisheries Science where dedicated personnel provides care for injured turtles. These are treated, sometimes through surgery, and rehabilitated, for eventual release. Prior to release turtles are tagged via the RAC/SPA tagging system. Such release are widely publicised and the media is also involved, with the aim of raising public awareness. In the case of dead turtles, post-mortem analysis is generally carried out to identify the possible cause(s) of death. As far as other data collection on marine turtles, please refer to the reply to question 18 (b).

Furthermore, through the help of RAC/SPA, a booklet in Maltese for local fishermen with guidelines on the appropriate handling of marine turtles is planned for publication later in 2005.

- **Action plan for the conservation of marine vegetation**

Legal protection has been afforded to various marine habitat types and species through the Flora, Fauna and Natural Habitats Protection Regulations. With respect to inventorying and mapping, a considerable amount of data is being gathered through various sources, included commissioned studies and environment impact assessments. Refer to the reply to question 18 for additional information. Other surveys are planned, subject to financial resources.

Work on action plans has also been carried out, mostly in connection with the SAP-BIO project, through financial and other support from RAC/SPA. With respect to management plans for protected areas, these are underway for a number of areas, with considerable effort being made in connection with the Rđum il-Majjiesa/Ras ir-Raheb area, and other projects – refer to the reply to questions 6 and 7.

- **Action plan for the conservation of bird species listed in Annex 2 of the Protocol**

All Annex II bird species are legally protected by the Protection of Birds and Wild Rabbit Regulations [LN 146/93], which was amended during the period under review as indicated in the reply to question 6. The taking or shooting of such birds, their eggs or their nest is prohibited. However, a number of such listed species are either recorded as vagrant (these include *Phalacrocorax aristotelis*, *Pelecanus onocrotalus*, and *Sterna albifrons*) or absent (these include *Phalacrocorax pygmaeus*, *Pelecanus crispus* and *Sterna benghalensis*) from the Maltese Islands. All other birds are recorded as very rare, rare or scarce, except for *Calonectris diomedea*, *Hydrobates pelagicus* and *Puffinus yelkouan* which regularly breed in Malta.

All sites which constitute important breeding areas or important staging areas for Annex 2 bird species have been identified, and are protected as Bird Sanctuaries via the same regulations, as amended by Protection of Birds and Wild Rabbit Amendment Regulations [LN 41/03]. Important sites include:

- The islet of Filfla, the whole island of Comino and its satellite islets, and the coastal cliffs at Rđum tal-Madonna and Ta' Cenc are important breeding sites for *Calonectris diomedea*, *Hydrobates pelagicus* and *Puffinus yelkouan*.
- The wetlands at L-Ghadira and Is-Simar, as well as the woodland at Buskett constitute potentially staging grounds for water birds and raptors respectively. MEPA funds and supervises the management of the protected areas of L-Ghadira and Is-Simar, which are also open to the public. The management plans for L-Ghadira and Is-Simar have been revised in 2004. NGOs maintains the interpretation centres present at L-Ghadira and Is-Simar and guides bird-watching activities all year round.

Most of these sites have also been proposed in December 2004 as Special Areas of Conservation and Special Protection Areas in terms of the EU Directives 92/43/EEC and 79/409/EEC respectively. L-Ghadira and Is-Simar are also declared as Ramsar Sites with respect to the Ramsar Convention. Filfla and L-Ghadira are both enlisted as Protocol SPAs.

Research relating to bird species is ongoing in the Maltese Islands. Specific research relating to the conservation of *Calonectris diomedea*, *Hydrobates pelagicus* and *Puffinus yelkouan* is carried out on a regular

basis mostly by local ornithologists under the supervision of MEPA. Additional research is indirectly carried out as part of environment impact assessments (subject to provisions of the Environment Impact Assessment Regulations) and appropriate assessments (subject to provisions of the Flora, Fauna and Natural Habitats Protection Regulations) in relation to development projects and other activities potentially harming such birds and their breeding stations.

In the period covered by this report, MEPA continued the reprinting and distribution of educational posters on protected birds, but also published new educational material on Special Areas of Conservation and the Protection of Birds and Wild Rabbit Regulations.

▪ **Action plan for the conservation of cartilaginous fish (chondrichthyans) in the Mediterranean sea**

Various cartilaginous fish species are covered through relevant provisions of the aforementioned Flora, Fauna and Natural Habitats Protection Regulations, as well as other relevant obligations of the EU *acquis* and international treaties.

Work on action plans has also been carried out, mostly in connection with the SAP-BIO project, through financial and other support from RAC/SPA. With respect to research, an extensive scientific study has been carried out by the University of Malta, with the results published in 2003¹⁹. Moreover, additional information is being collected through the commissioned studies specified in the reply to question 18. On public awareness, a local NGO, Nature Trust Malta, has produced a small booklet and a poster on local shark species.

▪ **Action plan concerning the introduction of species and invasive species in the Mediterranean sea**

Although the Action plan concerning the introduction of species and invasive species in the Mediterranean Sea has not yet been adopted certain actions called for by this plan are actually being or shall be undertaken nationally as indicated herewith:

National legislation for controlling the introduction of non-native species has been enacted through primary legislation (Environment Protection Act) and secondary legislation (various regulations). The objective of 'collecting reliable and pertinent scientific data that can be used for decision-making where necessary' shall be achieved at a national level once the two commissioned studies on setting up a list on alien flora and fauna are completed. Data procured from these tenders shall implement the requirement for inventorying the non-indigenous species reported in the national territory and also for determining which alien species require measures of eradication or control, and will further aid in the formulation of the national plan as required by the Action plan concerning the introduction of species and invasive species in the Mediterranean Sea.

Through bilateral cooperation with the UK, through the UK/Malta Action Plan co-funded project, a traineeship on issues related to invasive alien species was carried out in 2004, hosted by the Environment and Heritage Service (EHS) within the Department of Environment in Northern Ireland. The purpose of the traineeship was to gather and share knowledge on how principles to manage IAS are actually put into practice in the field in another country. Various issues were raised and discussed during the training including vectors and pathways, impacts of IAS, risk assessments and research, legislation addressing IAS, increasing public awareness as well as management efforts illustrated with specific case studies. **Implementation of other recommendations pertinent to the Contracting Parties**

During the 13th Ordinary Meeting of the Contracting Parties held in November 2003, the Contracting Parties agreed on a number of recommendations relevant to nature protection. A summary on implementation of relevant recommendations by Malta follows. In this respect, it should be noted that the information provided in this section is complimentary to the rest of the report, and only relevant issues not tackled in the previous questions are included.

Recommendation II.B: Biodiversity & SPAs

- Planning & Management: Malta has joined ACCOBAMS, and became a party since the 13th February 2001.
- Training: New staff mentioned in the reply to question 6 was trained on relevant nature protection matters, and this also included a series of traineeships on marine protected areas (Marseilles/France, England/UK), on terrestrial protected areas (England/UK), genetically-modified organisms (2 visits to England/UK) and issues related to invasive alien species (Ireland/UK). A twinning programme was set up in conjunction with English Nature, UK on the following topics: Management of marine protected areas; Biodiversity Monitoring and Surveillance; Enforcement; National Biodiversity Strategy; Biodiversity Action Plans; Protected Species and the Habitats Directive; Control of Non-Native Species; and Re-introduction of Native Species.
- Public Awareness: Making information accessible to the general public in order to increase public awareness is intrinsic in various operations of MEPA and is mandatory in the case of any regulations and policy linked to the Environment Protection Act. The recently enacted Flora, Fauna and Natural Habitats Protection

¹⁹ Schembri, T.; Fergusson I.K. & Schembri P.J. (2003): Revision of the Records of Shark and Ray Species from the Maltese Islands [Chordata: Chondrichthyes]. *Central Mediterranean Naturalist*, 4 (1): 71-104.

Regulations also have various provisions in this respect, e.g. Part III on Protected Areas and Part IX on Communications and Research. In view of this, and the need for increased awareness on environment protection, MEPA regularly participates to media programmes, issues press releases and publishes information to the general public by means of its website. The latter acts as the formal clearing-house mechanism, and is being revised to bring it in line with the provisions set by the European Environment Agency and the Convention on Biological Diversity. A number of publications are produced, and recently a series of CDs is being developed. A Seminar was held on Biodiversity Day in order to increase public awareness with respect to the environment and biodiversity and publicise the Flora, Fauna and Natural Habitats Protection Regulations. An MoU with RAC/SPA has also been signed in order to translate the fisherman's guide into the Maltese language, so that it can subsequently be adapted to the national circumstances.

Recommendation II.C: Sustainable Management of Coastal Zones

A Coastal Zone Topic Paper has been prepared as part of the Structure Plan Review Process, setting out a policy framework for the new structure plan. Moreover, work on CAMP (funded by PAP/RAC and RAC/SPA) has already been carried out locally, and part of this project has continued through the EU SMAP MedMPA project, led by RAC/SPA. A number of coastal areas are also under management (refer to the reply to question 6).

Recommendation II.D: Integrating Environment and Development

Malta has been providing the National Statistical Office with wildlife data on a biennial basis, making use of the joint OECD/Eurostat Questionnaire on the State of the Environment, which is intended to promote an overview of the state of threatened species of animals and plants. Staff from the Nature Protection Unit of MEPA also attended a training seminar, which took place in Malta in October 2004, which focused on Mediterranean biodiversity, which also focussed on the adoption of standardized systems for data processing and biodiversity assessment in the Mediterranean region.

XXXI. Brief description of all problems or constraints encountered in the application of the Protocol

Increased collaboration and synergy with European (e.g. Bern Convention, Florence Convention) and UN (e.g. Rio Conventions, Ramsar Convention, CMS, CITES, WHC) treaties is required, particularly in setting up common standards, and in the fields of reporting obligations, the clearing-house mechanism (with the Mediterranean CHM, the EC CHM, and the CBD CHM) and biodiversity sustainability indicators. This is even more relevant with respect to the interaction of policies concerning nature conservation and management and their interaction with issues related to fisheries, aquaculture and maritime activities at the Mediterranean level.

Activities presently being undertaken are in line with the financial resources available. The availability of more financial resources will be an asset to further increase and expand on such activities, especially with regards to the marine environment.

Increased co-operation and coordination between countries on common issues related to invasive alien species, as well as some action plans on related issues such as the impact on biodiversity of ballast water discharge and hull-cleaning procedures may also help.

ANNEX I MAIN NATURE PROTECTION MALTESE LEGISLATION

Note: All texts are available on internet, mostly on the Malta Environment and Planning Authority web-site, available at www.mepa.org.mt. All legal instruments cited below are hyperlinked for easier access.

Main Relevant Acts:

[Environment Protection Act \[Cap. 435\]](#)
[Development Planning Act \[Cap. 356\]](#)
[Filfa Nature Reserve Act \[Cap. 323\]](#)
[Fisheries Conservation and Management Act \(Cap. 425\)](#)
[Malta Resources Authority Act \[Cap. 423\]](#)
[Malta Maritime Authority Act \[Cap.352\]](#)
[Fertile Soil Preservation Act \[Cap. 236\]](#)
[Sand Preservation Act \[Cap. 127\]](#)
[Code of Police Laws \[Cap. 10\]](#)
[Criminal Code \[Cap. 9\]](#)

Main Relevant Regulations:

[Flora, Fauna and Natural Habitats Protection Regulations \[LN 257/03\]](#)
[Flora, Fauna and Natural Habitats Protection \(Declaration of SACs\) Regulations \[GN 877/03\]](#)
[Trade in Species of Fauna and Flora Regulations \[LN 236/04\]](#)
[Ta' I-Hmsaqfa \(l/o Siggiewi\) Emergency Conservation Order \[GN 125/04\]](#)
[Protection of Birds and Wild Rabbit Amendment Regulations \[LN 222/03\]](#)
[Marine Mammals Protection Regulations \[LN 203/03\]](#)
[Protection of Birds and Wild Rabbit Amendment Regulations \[LN 158/03\]](#)
[Protection of Birds and Wild Rabbit Amendment Regulations \[LN 41/03\]](#)

Capture and Killing Methods Prohibition Regulations [LN 167/02]
Trees and Woodlands Protection Regulations [LN 12/01]
Flora and Fauna Protection Amendment Regulations [LN 161/99]
Protection of Birds and Wild Rabbit Regulations [LN 146/93]
Flora and Fauna Protection Regulations [LN 49/93]
Reptiles Protection Regulations [LN 76/92]
Selmunett Islands (St. Paul Islands) Nature Reserve Regulations [LN 25/93]
Fungus Rock (il-Gebla tal-General) Nature Reserve Regulations [LN 22/92]

Other Regulations:

Water Policy Framework Regulations [LN 194/04]
Rubble Walls and Rural Structures Conservation and Maintenance Amendment Regulations [LN 169/04]
Contained Use of Genetically Modified Micro-Organisms Amendment Regulations [LN 168/04]
Biosafety Coordinating Committee Regulations [LN 290/02]
Contained Use of Genetically Modified Micro-Organisms Amendment Regulations [LN 194/02]
Deliberate Release into the Environment of Genetically Modified Organisms Regulations [LN 170/02]
Contained Use of Genetically Modified Micro-Organisms Regulations [LN 169/02]
Convention on Biological Diversity Incorporation Regulations [LN 160/02]
Urban Waste Water Treatment Regulations [LN 340/01]
Waste Management Permit and Control Regulations [LN 337/01]
Importation of Skins of Certain Seal Pups and Derived Products Regulations [LN 335/01]
Environment Impact Assessment Regulations [LN 204/01]
Motor Vehicles (Offroading) Regulations [LN 196/97]
Rubble Walls and Rural Structures Conservation and Maintenance Regulations [LN 160/97]
Deposit of Waste and Rubble (Fees) Regulations [LN 128/97]
Marine Vegetation Licence Regulations [LN 66/97]
Antiquarian Trees Regulations [GN 269/33]
Wild Thyme Protection Regulations [GN 85/32]

ANNEX II

NATURE PROTECTION TREATIES SIGNED, RATIFIED AND/OR ACCEDED BY MALTA

A number of international treaties concerning nature protection exist. The present status of Malta in relation to the main international treaties concerned with nature protection and other conventions/treaties related to the protection of nature and natural resources is shown in the table below.

The status of Malta is listed in chronological order by date of adhesion (ratification or accession) by Malta. Pollution and waste treaties are excluded from this list, unless directly relevant to nature protection.

Treaty	Entered in force	Adhesion by Malta	Status
International Plant Protection Convention [IPPC]	3 April 1952	13 May 1975	Accession
Convention for the Protection of the Mediterranean Sea against Pollution [Barcelona Convention]	16 February 1976	30 December 1977	Ratification
Convention concerning the Protection of the World Cultural and Natural Heritage [World Heritage Convention]	17 December 1975	14 November 1978	Accession
Protocol concerning Mediterranean Specially Protected Areas [SPA Protocol]	23 March 1986	11 January 1988	Ratification
<i>The Convention on Wetland of International Importance especially as Waterfowl Habitats [Ramsar Convention]</i>	1975	19 August 1988	Accession
Convention on International Trade in Endangered Species of Wild of Flora and Fauna [CITES]	1 July 1975	17 April 1989	Accession
Amended International Plant Protection Convention [FAO-Amended IPPC]	4 April 1991	16 November 1990	Acceptance
United Nations Convention on the Law of the Sea [UNCLOS]	16 November 1994	20 May 1993	Ratification
Convention on the Conservation of European Wildlife and Natural Habitats [Bern Convention]	1 June 1982	26 November 1993	Accession
United Nations Framework Convention on Climate Change [UNFCCC]	21 March 1994	17 March 1994	Ratification
United Nations Convention to Combat Desertification in those Countries experiencing Serious Drought and/or Desertification, particularly in Africa [UNCCD]	26 December 1996	30 January 1998	Ratification
Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean [Amended Barcelona Convention]		28 October 1999	Ratification
Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean [SPA & Biodiversity Protocol]	12 December 1999	28 October 1999	Ratification
United Nations Convention on Biological Diversity [CBD]	29 December 1993	12 December 2000	Ratification
Convention on the Conservation of Migratory Species of Wild Animals [Bonn Convention]	3 November 1983	13 February 2001	Accession
Agreement on the Conservation of Bats in Europe [EuroBats]	16 January 1994	13 February 2001	Accession
Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area [ACCOBAMS]	1 June 2001	13 February 2001	Ratification
Agreement on the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks	11 December 2001	11 November 2001	Accession
European Landscape Convention [Florence Convention]	Not in Force	–	Signed

RAPPORT NATIONAL
SUR L'APPLICATION DU PROTOCOLE RELATIF AUX AIRES SPECIALEMENT PROTEGEES ET A LA DIVERSITE BIOLOGIQUE EN
MEDITERRANEE²⁰

XXXII. Information Générale

1. **Maroc**

Inscrire le nom du pays à propos duquel le rapport est soumis.

2. Période couverte par le rapport.

*Indiquer la période couverte par le rapport (du précédent rapport à la date de remise de celui-ci).
Dans le cas présent, approximativement d'avril, mai ou juin 2003 à mars 2005.
Avril 2003 à Mars 2005*

3. Organisme national chargé de l'établissement du rapport.

Indiquer la désignation et l'adresse de l'organisation nationale ayant établi le présent rapport y compris les noms et qualités des personnes effectivement chargées de ce travail.

*Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification
Quartier Administratif Rabat – Chellah,*

*Marraha Mustapha
Service des Parcs et Réserves*

4. Organisme national et autres organisations et/ou institutions ayant communiqué des données en vue de l'établissement du rapport

Enumérez les noms et adresses des organismes autres que ceux mentionnés au point 3 ci-dessus qui ont contribué au présent rapport en communiquant des informations et des données.

XXXIII. Mesures juridiques et/ou administratives prises aux termes du Protocole :²

132. Pour protéger, préserver et gérer les espaces marins et côtiers ayant une valeur naturelle ou culturelle particulière, et pour protéger, préserver et gérer les espèces de la faune et de la flore marines et côtières qui sont en danger ou menacées (article 3);

Indiquer quelle législation a été promulguée ou quelles mesures administratives ont été mises en oeuvre au cours de la période considérée pour protéger, préserver et gérer les espaces marins et côtiers dont on estime qu'ils ont une valeur naturelle ou culturelle particulière, et pour protéger, préserver et gérer les espèces menacées ou en danger de la faune et de la flore marines et côtières.

Les principales mesures prises aux termes du protocole s'articulent autour de l'élaboration des textes législatifs et réglementaires, du développement d'outils de planification et d'inventaire ainsi que le renforcement de la surveillance et contrôle de la biodiversité marine et côtière en méditerranée. Il s'agit entre autres du :

- Lancement à l'échelle national du processus du développement organisationnel au niveau des aires protégées.
- Réglementations annuelles portant ouverture, clôture et réglementation spéciale de la chasse d'une part, et réglementation de la pêche dans les eaux continentale d'autre part ;
- Organisation de plusieurs campagnes de prospections, durant la période considérée, des sites potentiels pouvant abriter le phoque et ce en collaboration avec des experts nationaux et internationaux. Ces actions s'intègrent dans le cadre de la mise en oeuvre du "plan d'action Phoque moine" ;

133. Pour créer des aires spécialement protégées marines et côtières (article 5);

Indiquer quelles mesures juridiques et/ou administratives ont été adoptées et/ou mises en oeuvre au cours de la période considérée pour créer des aires spécialement protégées marines et côtières.

Les mesures prises pour la création des aires spécialement protégées ont consisté en :

- Les inventaires de sites au niveau de la région méditerranéenne entrepris dans le cadre de l'étude nationale sur les aires protégées. Le nombre de sites identifiés s'élevé à 14 SIBEs. Il s'agit des

²⁰ - Ce nouveau format est conforme au système de rapport établi dans le cadre de la Convention de Barcelone et adopté par les Parties Contractantes lors de leur 13^{ème} réunion (Catane, novembre 2003)

-L'information demandée devrait être présentée dans une forme synthétique, et le rapport ne devrait pas dépasser les 6 pages (3000 mots environ)

-Les rapports sont à préparer en anglais ou en français et à envoyer sous format électronique à l'adresse car-asp@rac-spa.org.tn pour le 1^{er} mars 2005 délai de rigueur.

2. Dans le cas de mesures juridiques, il est demandé que soit remis, avec ce rapport ou lors de la réunion des Points Focaux Nationaux, une copie du texte entré en vigueur.

SIBEs suivant : Parc national d'Al Hoceima, Cirque d'El Jebha, Côte de Ghomara, Embouchure de la Moulouya, Cap des trois fourches, Beni Snassen, Lagune de Nador et Jbel Gourougou, Sebkh Bou Areg, Perdicaris, Cap Spartel, Koudiat Taifour, Lagune de Smir et Jbel Moussa. Ces inventaires constituent un préalable pour la prise de mesures visant la création d'aires spécialement protégées.

- L'élaboration d'un projet de loi sur les aires protégées qui institue une nouvelle procédure de création basée sur un classement des aires à protéger selon les catégories de l'UICN et l'obligation de requérir l'avis motivé sur la création du parc du Conseil National des Forêts. Il définit également le mode de gestion de chacune de ces catégories ;
 - L'achèvement de la procédure de création du parc national d'Al Hoceima (Aire Spécialement Protégée) qui a été concrétisée par décret du premier ministre publié au Bulletin officiel n° 5255 du 11 octobre 2004 ; et La préparation du projet relatif à la création du Parc National de Jbel Moussa ;
 - Lancement de la procédure de création du parc national de Moulouya et mise en place, dans un cadre partenarial avec ENDA Maghreb, d'actions de conservation de ce SIBE ;
 - La poursuite de la préparation, dans le cadre de la coopération Maroc-Andalouse (Espagne) en matière de conservation des ressources forestières et du développement durable, du projet de création de la Réserve de Biosphère Intercontinentale de la Méditerranée amorcé en 2003 ;
 - La signature en date du 17 octobre 2002 d'une Convention cadre de coopération et de partenariat pour la création et l'aménagement des aires protégées entre le Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification et la région de Tanger – Tétouan, ainsi que la signature d'une convention spécifique pour l'aménagement du SIBE de Perdicaris entre la Direction Régionale des Eaux et Forêts, la Wilaya de Tanger –Tétouan, le Conseil Régional, Les Conseils Communaux concernés, L'Agence Urbaine de la Wilaya de Tanger et l'Inspection Régionale de l'Aménagement du Territoire et de l'Environnement.

134. Pour assurer la protection (l'article 6) :

Indiquer quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour appliquer les dispositions de l'article 6 du protocole au sein des aires spécialement protégées, et en particulier les mesures concernant :

- a) Le renforcement de l'application des autres Protocoles de la Convention et d'autres traités pertinents auxquelles elles sont parties (article 6 a) ;

Mise en place au niveau du Département Chargé de l'Environnement du CHM-Maroc Clearing House Mechanism ou Centre d'Echange d'Information qui représente une plate forme d'information et de communication marocaine sur la mise en œuvre de la Convention cadre sur la Diversité Biologique et celle des autres conventions. Il s'adresse à tous les acteurs oeuvrant dans le domaine de la biodiversité sur le plan national et international: les administrations, les universités, les chercheurs, les ONGs et les médias ainsi que les organisations internationales.

- b) L'interdiction de rejeter ou de déverser des déchets portant atteinte à des aires protégées (article 6 b) ;

La législation en vigueur interdit de jeter intentionnellement dans les eaux de la mer toute substance ou appât toxique susceptible de détériorer les écosystèmes marins. Elle interdit également aux propriétaires et exploitants d'usines établies sur le littoral de répandre ou laisser répandre dans la mer des éléments polluants. Tout projet d'installation de tels rejets d'eaux résiduelles doit faire l'objet d'une autorisation préalable du Département chargé des Pêches Maritimes.

Par ailleurs, la loi n° 11-03 sur la protection et la mise en valeur de l'environnement a été promulguée par le dahir n° 1-03-59 du 10 rabii I 1424 (12 mai 2003). Il en est de même pour la loi n° 12-03 du 12 Mai 2003 relative aux études d'impact sur l'environnement. Cette dernière stipule dans ses dispositions que tous les projets doivent être étudiés et approuvés par le Comité National des études d'impact sur l'environnement constitué pour cette fin.

- c) La réglementation du passage des navires (article 6 c) ;

Les mesures administratives prises pour la réglementation des passages des navires consistent en le renforcement de la surveillance de la partie marine du parc national d'Al Hoceima en coordination étroite avec les forces de l'ordre locales et le Département des Pêches Maritimes. La dotation du parc par des moyens de communication et de mobilité s'intègrent sans ce cadre.

- d) La réglementation de l'introduction d'espèces (article 6 d) ;

Les mesures administratives prises interdisent toutes sortes d'introduction d'espèces non indigènes dans l'aire spécialement protégée (parc) et ce conformément aux recommandations du plan de gestion dudit parc.

- e) La réglementation d'activités (article 6 e), 6 h) ;

Les mesures administratives prise pour la réglementation des activités au sein du parc ont consisté en le renforcement du respect du plan de zonage du parc établi en 1993 qui prévoit une réglementation au niveau de chacune des zones identifiées : zone intégrale, zone de sanctuaire naturelle gérée et zone de gestion des ressources naturelles.

f) La réglementation des activités de recherche scientifique (article 6 f) ;

Toute activité de recherche à l'intérieur du parc et SIBE identifiés est soumise au préalable à une autorisation (permis scientifique) délivrée par le Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification.

g) La réglementation de la pêche, de la chasse, de la capture d'animaux et de la récolte de végétaux ainsi que du commerce d'animaux ou de parties d'animaux, de végétaux ou de parties de végétaux provenant d'aires protégées.

Outre la législation en vigueur sur la chasse et la pêche, le Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification a mis récemment dans le circuit un projet de loi sur la chasse qui représente une refonte de la législation en vigueur et son adaptation à sa stratégie de gestion durable des espèces de la faune cynégétique. Ce projet a été adopté par le conseil du gouvernement et poursuit le circuit en vigueur pour sa promulgation

Par ailleurs, dans le cadre de la mise en œuvre de la Convention sur le Commerce Internationale des Espèces de Faune et de Flore Sauvages menacées d'Extinction (CITES), le Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification, organe de gestion de ladite Convention a élaboré un projet de loi sur le commerce de ces espèces, en vue de l'intégration des dispositions de cette convention dans la législation nationale.

135. Concernant la planification, la gestion, la surveillance et le contrôle des aires spécialement protégées (article 7);

Indiquer et décrire brièvement quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour planifier, gérer et superviser les aires spécialement protégées.

Les mesures prises ont consisté en :

- l'élaboration dans le cadre du projet MedMPA relevant du CAR/ASP de Tunis du plan de gestion de la partie marine du parc national d'Al Hoceima qui a été examiné par l'ensemble des institutions et ONG intervenant au niveau du Parc lors de l'atelier tenu le 14 juillet 2004 à Al Hoceima. Ce plan précise le zonage et la réglementation à respecter au niveau de la partie marine du parc.
- La mise en place d'actions entreprises dans le cadre du projet GEF de gestion des aires protégées concernant les infrastructures de bases, construction et équipement des laboratoires, acquisition de zodiac, des véhicules et du matériel informatique ainsi que la formation du personnel, en vue du renforcement de la surveillance et contrôle au niveau parc national d'Al Hoceima.
- La mise en place, par le HCEFLCD, d'actions urgentes de conservation et de valorisation écotouristique des atouts écologiques, biologiques, paysagers et culturels au niveau du SIBE de Beni Snassen. Elles concernent l'aménagement des aires de récréation, l'aménagement de pistes, aménagement d'un enclos à Mouflon, construction d'un mirador, la régénération de la callitriche, la régénération et la conservation des écosystèmes à *adenocarpus*, la fourniture de ruchers et de plants d'olivier et d'amandiers pour des actions communautaires.
Outre les mesures prises au niveau du parc national d'Al Hoceima et le SIBE de Beni Snassen, il y a lieu de citer les activités entreprises au niveau des autres aires protégées marines et côtières de la façade méditerranéenne bénéficiant d'une importance particulière. Il s'agit de :
- SIBE de Jbel Moussa : financé par le projet GEF, les actions programmées pour ce site concernent (i) des études de la biodiversité et études relatives aux aspects socio-économique en vue de l'élaboration et la mise en œuvre du plan d'aménagement et de gestion du SIBE (ii) construction de l'unité de gestion du SIBE (iii) achat de matériels de télécommunication et de matériels informatiques (vi) achat de panneaux de signalétique. Il importe de signaler que le processus est engagé, par le HCEFLCD, pour ériger ce SIBE en un parc national.
- SIBEs de Embouchure de la Moulouya, Cap des trois fourches, Beni Snassen, Lagune de Nador et Gourougou financés dans le cadre du Projet MEDWETCOAST de conservation des zones humides et des écosystèmes côtiers de la région méditerranéenne. Ce projet régional d'une durée de 5 ans, et d'un montant de 6 millions USD dont 3,5 millions USD sont financés par le FEM et FFEM. vise la mise en œuvre d'une politique méditerranéenne de protection de la biodiversité et la gestion durable de ces SIBEs. Les actions entreprises concernent des études de diagnostic des sites servant de base pour l'élaboration des plans d'aménagement et de gestion de ces milieux. Des actions de renforcement des capacités du personnel chargé de la gestion de ces SIBEs ont été également entreprises.

136. Pour la protection et la conservation des espèces (article 11);

Indiquer quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour appliquer les dispositions de l'article 11 du Protocole, en particulier les mesures

visant à réglementer ou à interdire: a) la capture, détention, mise à mort, le commerce, le transport et l'exposition à des fins commerciales des espèces protégées de faune, de leurs oeufs, parties et produits, b) la perturbation de la faune sauvage pendant les périodes biologiques critiques et c) la destruction ou la perturbation d'espèces de flore protégées.

Les actions entreprises en faveur de la conservation des espèces concernent :

- Le parachèvement du projet " Inscription de nouveaux sites sur la liste Ramsar des Zones Humides d'Importance Internationale" financé par le WWF et ayant pour objectif la vérification des critères d'inscription dans la liste Ramsar d'une vingtaine de Zones Humides parmi lesquelles figure les SIBE de Moulouya et le Cap des Trois Fourches situés sur la façade méditerranéenne.
- Le Monitoring de deux espèces d'oiseaux : le Goéland d'audouin et le Balbuzard Pêcheur, espèces emblématiques du parc national d'Al Hoceima ;

Les inventaires et suivi de ces espèces permettent de mieux connaître leurs statuts et de prendre les mesures de protection appropriées en leur faveur.

137. Pour réglementer l'introduction d'espèces non indigènes ou génétiquement modifiées (article 13);

Indiquer quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour réglementer l'introduction volontaire ou accidentelle dans la nature d'espèces non indigènes ou génétiquement modifiées et interdire celles qui pourraient entraîner des effets nuisibles sur les écosystèmes, habitats ou espèces dans la zone d'application du Protocole. Indiquer aussi quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour faire en sorte que soient éradiquées les espèces nuisibles déjà introduites.

Les mesures administratives prises ont consisté en la collaboration avec l'UICN pour le montage d'un projet visant l'éradication de l'Erismature, espèce invasive qui n'atteint pas la façade maritime méditerranéenne, dans l'état actuel des choses, mais qui pourrait entraîner des effets nuisibles ultérieurement.

En outre un projet de loi relatif au contrôle de l'utilisation et la dissémination des OGM est en cours de préparation. Ce projet de loi s'aligne sur les directives Européenne, la loi Française sur le biosécurité et le Protocole de Carthagène ratifié par le Maroc le 5/5/2000.

138. Pour accorder des dérogations aux mesures de protection (articles 12,18).

Indiquer quelles dérogations aux interdictions prescrites dans les annexes ont été accordées au cours de la période considérée.

Aucune dérogation aux mesures de protection prises n'a été accordée durant la période considérée.

XXXIV. Application technique du protocole

139. Liste des aires spécialement protégées créées aux termes de l'article 5

Fournir une liste des aires spécialement protégées créées aux termes de l'article 5 du Protocole à la fin de la période considérée. Dans cette liste, indiquer au moyen d'annotations appropriées quelles aires avaient déjà été créées au début de cette période, et quelles aires ont été créées au cours de la période considérée proprement dite.

Parc national d'Al Hoceima

140. Propositions faites pour l'inscription d'aires relevant de la juridiction nationale sur la liste des ASPIM (Article 9 a)

- a) Date de la ou des propositions
- b) Aires proposées (liste jointe)

Fournir une liste des aires relevant de la juridiction nationale proposées pour inscription sur la liste des ASPIM au cours de la période considérée, avec la date de soumission de chacune de ces propositions.

En cours de préparation

141. Liste des ASPIM:

- a) statut et état des aires sous juridiction nationale inscrites sur la liste des ASPIM (article 23 a)
- b) toute modification de la délimitation ou du régime juridique des ASPIM (article 23 b).

Fournir une liste à jour indiquant le statut et la situation des aires relevant de la juridiction nationale inscrites sur la liste des ASPIM au cours de la période considérée, et exposer brièvement tous les changements intervenus dans la délimitation ou le statut juridique des ASPIM en indiquant si elles ont été créées avant ou pendant la période considérée.

142. Toute modification dans le régime juridique des espèces protégées.

Indiquer si des changements sont intervenus dans le régime juridique des espèces protégées au cours de la période considérée. Dans l'affirmative, les exposer brièvement.

143. Nouvelles données concernant des espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages (article 13.2).
Fournir des informations sur la présence de nouvelles espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages.
144. Inventaires des éléments de la diversité biologique (article 15)
- a) Date d'établissement ou d'actualisation de l'inventaire des aires contenant des écosystèmes rares ou fragiles;
 - b) Date d'établissement ou d'actualisation de l'inventaire des espèces de flore et/ou de faune en danger ou menacées;
- En 2003 et 2004 il a été procédé à l'inventaire de la biodiversité dans les SIBE de Jbel Moussa le parc national d'Al Hoceima, l'Embouchure de la Mouloya, le Cap des trois fourches, le massif Beni Snassen, la Lagune de Nador et le mont Gourougou.
- c) Joindre le ou les inventaires, à moins qu'ils n'aient déjà été soumis dans un rapport spécial.
 - d) Inventaire utilisant le format standard de données (FSD)
- Fournir des informations sur les dates d'établissement ou d'actualisation des inventaires mentionnés aux paragraphes a) à c) ci-dessus au cours de la période considérée. Joindre des exemplaires des inventaires en question.*
145. Dérégations accordées aux mesures de protection (articles 12, 18, 23 c).
Fournir une liste des dérogations aux mesures de protection accordées aux termes des articles 12, 18 et 23 c au cours de la période considérée. Dans chaque cas, indiquer brièvement les raisons de la dérogation.
Aucune dérogation aux mesures de protection prises n'a été accordée durant la période considérée.
146. Mise en oeuvre des plans d'action adoptés dans le cadre du PAM :
Les actions entreprises en faveur de la protection du phoque moine de la méditerranée concernent tout d'abord la prospection des sites potentiels pouvant abriter cette espèce. Ces prospections ont abouti à l'observation d'un seul individu au niveau de la zone d'action du projet MedWetCoast (Cap des trois Fourches). Les plans d'aménagement des ces sites seront élaboré incessamment. Quant aux espèces de cétacés, des Tortues marines (*Careta careta*) ainsi que la végétation marine, il y a lieu de signaler les activités d'inventaires entreprises dans le cadre du même projet cité ci-dessus. Les actions de protection ces espèces seront identifier au niveau des plans d'aménagement et de gestion de ces sites.
- Plan d'action pour la conservation des cétacés en mer Méditerranée
 - Plan d'action pour la gestion du phoque moine de Méditerranée
 - Plan d'action pour la conservation des tortues marines en Méditerranée
 - Plan d'action pour la conservation de la végétation marine
 - Plan d'action pour la conservation des espèces d'oiseaux inscrites en Annexe II du Protocole
 - Plan d'action pour la conservation des poissons cartilagineux (chondrichthyens) en mer Méditerranée
 - Plan d'action relatif aux introductions d'espèces et aux espèces envahissantes en mer Méditerranée
- Exposer les développements intervenus au cours de la période considérée dans la mise en oeuvre des plans d'action (en cas d'absence d'action, veuillez indiquer les raisons de cette absence)*
147. Mise en oeuvre des autres recommandations pertinentes des Parties contractantes
Exposer brièvement la mise en oeuvre des autres recommandations des Parties contractantes se rapportant au Protocole.
- XXXV. Brève description de tous problèmes ou contraintes rencontrés dans l'application du Protocole
Consigner brièvement les problèmes ou contraintes spécifiques qui ont gêné l'application de toute mesure prise en vertu de dispositions du Protocole au cours de la période considérée. S'il y a lieu, spécifier quelles mesures ont été prises pour y remédier. Formuler succinctement d'autres remarques ou observations pertinentes d'ordre général concernant les mesures prises en vue de l'application du Protocole.

Le renforcement de coordination entre les différentes Institutions impliquées permettrait de créer une synergie entre les différentes actions entreprises et une planification plus efficiente des activités. Il est proposé à ce titre la constitution d'un comité regroupant les différents points focaux des protocoles de la Convention de Barcelone ainsi que les institutions les plus concernées par les aires spécialement protégées.

RAPPORT NATIONAL
SUR L'APPLICATION DU PROTOCOLE RELATIF AUX AIRES SPECIALEMENT PROTEGEES ET A LA DIVERSITE BIOLOGIQUE
MEDITERRANEE²¹

XXXVI. Information Générale

1. Pays. **PRINCIPALITE DE MONACO**
2. Période couverte par le rapport. : mars 2003 à mars 2005
3. Organismes nationaux chargés de l'établissement du rapport.

Point focal CAR/ASP :

DIRECTION DES RELATIONS EXTERIEURES
Délégation à l'Environnement International et Méditerranéen
Monsieur Patrick VAN KLAVEREN
Ministère d'Etat
Place de la Visitation
98000 MONACO
Tél : (+377) 93 15 81 48 pvanklaveren@gouv.mc

Organisme technique et scientifique en charge du rapport :

DIRECTION DE L'ENVIRONNEMENT, DE L'URBANISME ET DE LA CONSTRUCTION
« Les Terrasses de Fontvieille »
23, avenue Prince Héritaire Albert
B.P. 609
MC 98013 MONACO
Tél. : (+377) 93.15.22.99 Fax : (+377) 93.15.88.02

Contacts : Division Patrimoine et Milieux :

Monsieur Bruno BLANCHY – Chef de Division	bblanchy@gouv.mc
Madame Valérie DAVENET – Chef de Section	vdavenet@gouv.mc
Monsieur Raphaël SIMONET – Chef de Section	rsimonet@gouv.mc
Madame Astrid RUSIN – Administrateur Juridique	arusin@gouv.mc

4. Organisme national et autres organisations et/ou institutions ayant communiqué des données en vue de l'établissement du rapport

Enumérez les noms et adresses des organismes autres que ceux mentionnés au point 3 ci-dessus qui ont contribué au présent rapport en communiquant des informations et des données.

XXXVII. Mesures juridiques et/ou administratives prises aux termes du Protocole : ²

148. Pour protéger, préserver et gérer les espaces marins et côtiers ayant une valeur naturelle ou culturelle particulière, et pour protéger, préserver et gérer les espèces de la faune et de la flore marines et côtières qui sont en danger ou menacées (article 3);

Indiquer quelle législation a été promulguée ou quelles mesures administratives ont été mises en oeuvre au cours de la période considérée pour protéger, préserver et gérer les espaces marins et côtiers dont on estime qu'ils ont une valeur naturelle ou culturelle particulière, et pour protéger, préserver et gérer les espèces menacées ou en danger de la faune et de la flore marines et côtières.

CADRE JURIDIQUE MONEGASQUE RELATIF AUX AIRES MARINES PROTEGEES ET A LA PREVENTION DE LA POLLUTION DES MILIEUX AQUATIQUES

Au niveau international :

²¹ - Ce nouveau format est conforme au système de rapport établi dans le cadre de la Convention de Barcelone et adopté par les Parties Contractantes lors de leur 13^{ème} réunion (Catane, novembre 2003)

-L'information demandée devrait être présentée dans une forme synthétique, et le rapport ne devrait pas dépasser les 6 pages (3000 mots environ)

-Les rapports sont à préparer en anglais ou en français et à envoyer sous format électronique à l'adresse car-asp@rac-spa.org.tn pour le 1^{er} mars 2005 délai de rigueur.

2. Dans le cas de mesures juridiques, il est demandé que soit remis, avec ce rapport ou lors de la réunion des Points Focaux Nationaux, une copie du texte entré en vigueur.

- Convention de Barcelone du 16 février 1976 pour la protection de la mer Méditerranée contre la pollution (rendue exécutoire le 30 septembre 1980) ;
- Protocole de Barcelone du 10 juin 1995, à la convention de Barcelone, relatif aux aires spécialement protégées et à la biodiversité en Méditerranée - Protocole ASPIM (rendu exécutoire le 23 avril 2001) ;
- Convention de Ramsar du 2 février 1971 sur les zones humides d'importance internationale particulièrement comme habitats des oiseaux d'eau (rendue exécutoire le 23 janvier 1998) ;
- Convention de Paris de novembre 1972 pour la protection du patrimoine mondial culturel et naturel (rendue exécutoire le 31 janvier 1979) ;
- Accord franco-italo-monégasque du 10 mai 1976 sur la protection des eaux du littoral méditerranéen – Accord RAMOGE (rendu exécutoire le 10 décembre 1980) – Un nouveau texte tripartite est entré en vigueur à Monaco le 9 avril 2004 ;
- Convention de Bonn du 23 juin 1979 sur la conservation des espèces migratrices appartenant à la faune sauvage (CMS) (rendue exécutoire le 12 mai 1993), amendée à Cap Town le 14 novembre 1999 (rendue exécutoire le 30 mars 2000) ;
- Convention de Berne du 19 septembre 1979 sur la conservation de la vie sauvage et du milieu naturel en Europe, rendue exécutoire le 29 avril 1994 ;
- Convention de Rio de Janeiro sur la diversité biologique du 11 juin 1992 rendue exécutoire le 9 mai 1994 ;
- Accord de Monaco du 24 novembre 1996 sur la conservation des cétacés de la Mer Noire, de la Méditerranée et de la zone Atlantique adjacente - ACCOBAMS (rendu exécutoire le 4 mars 2002) ;
- Accord tripartite du 25 novembre 1999 relatif à la création en Méditerranée du sanctuaire PELAGOS pour les mammifères marins (rendu exécutoire le 18 février 2002);
- Protocole de la Convention de Barcelone relatif à la « Coopération en matière de prévention de la pollution par les navires et, en cas de situation critique, de lutte contre la pollution de la mer Méditerranée » rendu exécutoire le 6 mai 2004 (O.S. n°16.311) ;
- Amendements à la Convention de Barcelone pour la protection de la mer Méditerranée contre la pollution, du 10 juin 1995 rendus exécutoires le 20 septembre 2004 (O.S. n°16.440);
- Convention de Stockholm sur les « Polluants Organiques Persistants » du 22 mai 2001 rendu exécutoire le 20 décembre 2004 (O.S. n°16.551).

Au niveau national :

- Ordonnance du 2 juillet 1908 sur le service de la marine et la police maritime;
- Loi n°1198 du 27 mars 1998 portant Code de la Mer : articles L.223-1, L.224-1 à 3, L. 230-1 et suivants, L.241-1 et suivants, L. 750-1 – et textes d'application.
- Ordonnance Souveraine n°16.456 du 7 octobre 2004 révisant le Code de la Mer par réglementation de la recherche scientifique dans les zones maritimes monégasques.

MESURES ADMINISTRATIVES :

- Monaco dispose de deux aires marines protégées dites zones protégées :
La Réserve du Larvotto créée par Ordonnance Souveraine du 25 avril 1978 et la Réserve à Corail rouge créée par Ordonnance Souveraine du 29 août 1986.
La gestion de ces sites est confiée à l'Association Monégasque de Protection de la Nature alors que la Direction de l'Environnement, de l'Urbanisme et de la Construction en assure la maîtrise des opérations de surveillance et d'entretien et le Gouvernement Princier son financement.
La constatation des infractions est assurée par la Division de la Police Maritime et Aéroportuaire et la Direction des Affaires Maritimes.
La Principauté de Monaco est à l'origine de l'Accord RAMOGE réunissant depuis 1976 la France, Monaco et l'Italie dans la constitution d'une zone-pilote de gestion intégrée et de protection du littoral maritime allant de la Ligurie aux Bouches-du-Rhône.
Monaco prend en charge le Secrétariat Exécutif de l'Accord qui est mis en œuvre grâce aux travaux effectués au sein de plusieurs Groupes de Travail, Commission et Comité Technique se réunissant à Monaco tout au long de l'année, ainsi qu'à travers des réunions thématiques ayant lieu dans l'un ou l'autre des trois pays.
La Présidence tournante du Comité Technique revient à Monaco pour le biennium 2004-2005.

149. Pour créer des aires spécialement protégées marines et côtières (article 5);

Indiquer quelles mesures juridiques et/ou administratives ont été adoptées et/ou mises en œuvre au cours de la période considérée pour créer des aires spécialement protégées marines et côtières.

Sanctuaire PELAGOS pour les mammifères marins :

Le bassin s'étendant des côtes Toscannes aux côtes Provençales et au sud jusqu'à la Sardaigne en englobant la Corse est une zone pélagique méditerranéenne très riche attirant une population importante de cétacés. La volonté de préserver ce patrimoine biologique a conduit la Principauté de Monaco, la France et l'Italie à décider en 1993 d'un Accord sur la création d'un sanctuaire pour les mammifères marins, le Sanctuaire PELAGOS, signé en 1999 puis ratifié par les trois Etats pour entrer en vigueur en février 2002.

En septembre 2004, la 2ème Réunion des Parties Contractantes à l'Accord a été consacrée à sa mise en œuvre dans la zone géographique du Sanctuaire englobant l'espace maritime monégasque.

150. Pour assurer la protection (l'article 6) :

Indiquer quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour appliquer les dispositions de l'article 6 du protocole au sein des aires spécialement protégées, et en particulier les mesures concernant :

a) Le renforcement de l'application des autres Protocoles de la Convention et d'autres traités pertinents auxquelles elles sont parties (article 6 a);

L'Accord RAMOGE comprend le plan tripartite de prévention et de lutte contre la pollution, RAMOGEPOL, qui concerne une vaste zone englobant la Corse et la Sardaigne et au sein de laquelle se situe l'espace maritime monégasque et ses aires marines protégées.

Une nouvelle version de ce plan organisant la surveillance aérienne et les échanges d'informations entre les trois pays, vient d'être signée à Monaco le 11 janvier 2005.

b) L'interdiction de rejeter ou de déverser des déchets portant atteinte à des aires protégées (article 6 b) ;

Interdiction de tout rejet susceptible de porter atteinte à la faune et la flore marine, article L.223-1, L224-1 du Code de la Mer.

c) La réglementation du passage des navires (article 6 c) ;

Aires maritimes protégées du Larvotto et de la Réserve à Corail rouge :

Sont interdits la navigation moteur en marche et le mouillage.

Ordonnance du 2 juillet 1908 sur le service de la marine et la police maritime.

Loi n°1198 du 27 mars 1998 portant Code de la Mer – articles L. 230-2 et 3.

d) La réglementation de l'introduction d'espèces (article 6 d) ;

e) La réglementation d'activités (article 6 e), 6 h) ;

f) La réglementation des activités de recherche scientifique (article 6 f) ;

La recherche scientifique marine ne peut s'effectuer qu'après avoir obtenu une autorisation délivrée par le Ministre d'Etat Article; L. 241-1 du Code de la Mer.

L'Ordonnance Souveraine n°16.456 du 7 octobre 2004 réglemente la recherche scientifique dans les zones maritimes monégasques.

g) La réglementation de la pêche, de la chasse, de la capture d'animaux et de la récolte de végétaux ainsi que du commerce d'animaux ou de parties d'animaux, de végétaux ou de parties de végétaux provenant d'aires protégées.

La pêche est interdite dans les Aires maritimes protégées (article 15 de l'Ordonnance de 1908, modifié le 29 janvier 1993 par O.S. n°10.779 et articles L. 230-2 et 3 du Code de la Mer) .

151. Concernant la planification, la gestion, la surveillance et le contrôle des aires spécialement protégées (article 7);

Indiquer et décrire brièvement quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour planifier, gérer et superviser les aires spécialement protégées.

152. Pour la protection et la conservation des espèces (article 11);

Indiquer quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour appliquer les dispositions de l'article 11 du Protocole, en particulier les mesures visant à réglementer ou à interdire: a) la capture, détention, mise à mort, le commerce, le transport et l'exposition à des fins commerciales des espèces protégées de faune, de leurs oeufs, parties et produits, b) la perturbation de la faune sauvage pendant les périodes biologiques critiques et c) la destruction ou la perturbation d'espèces de flore protégées.

La Convention de Washington sur le Commerce International des Espèces de faune et de flore Sauvages menacées d'Extinction, CITES, entrée en vigueur à Monaco en 1978 est appliquée de façon rigoureuse en ce qui concerne les échanges commerciaux.

L'Ordonnance Souveraine n° 16.720 du 21 mars 2005 rend exécutoire les amendements apportés aux Annexes I et II et à la version révisée de l'Annexe III, adoptés à Bangkok en octobre 2004.

153. Pour réglementer l'introduction d'espèces non indigènes ou génétiquement modifiées (article 13);

Indiquer quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour réglementer l'introduction volontaire ou accidentelle dans la nature d'espèces non indigènes ou génétiquement modifiées et interdire celles qui pourraient entraîner des effets nuisibles sur les écosystèmes, habitats ou espèces dans la zone d'application du Protocole. Indiquer aussi quelles mesures juridiques et/ou administratives ont été prises au cours de la période considérée pour faire en sorte que soient éradiquées les espèces nuisibles déjà introduites.

154. Pour accorder des dérogations aux mesures de protection (articles 12,18).
Indiquer quelles dérogations aux interdictions prescrites dans les annexes ont été accordées au cours de la période considérée.

XXXVIII. Application technique du protocole

155. Liste des aires spécialement protégées créées aux termes de l'article 5
Fournir une liste des aires spécialement protégées créées aux termes de l'article 5 du Protocole à la fin de la période considérée. Dans cette liste, indiquer au moyen d'annotations appropriées quelles aires avaient déjà été créées au début de cette période, et quelles aires ont été créées au cours de la période considérée proprement dite.

La Réserve du Larvotto créée par Ordonnance Souveraine du 25 avril 1978;

zone littorale balnéaire protégée couvrant 50 hectares jusqu'à 35m de profondeur.

La Réserve à Corail rouge créée par Ordonnance Souveraine du 29 août 1986;

Zone protégée dite "tombant coralligène des Spelugues" au pied de la pointe Focinane, couvrant un hectare jusqu'à 38 m de profondeur.

156. Propositions faites pour l'inscription d'aires relevant de la juridiction nationale sur la liste des ASPIM (Article 9 a)
a) Date de la ou des propositions
b) Aires proposées (liste jointe)

Fournir une liste des aires relevant de la juridiction nationale proposées pour inscription sur la liste des ASPIM au cours de la période considérée, avec la date de soumission de chacune de ces propositions.

157. Liste des ASPIM:
a) statut et état des aires sous juridiction nationale inscrites sur la liste des ASPIM (article 23 a)

Le Sanctuaire PELAGOS pour les mammifères marins créé en 1999 a été inscrit sur la liste ASPIM en 2001. Le texte juridique est entré en vigueur en février 2002.

Le plan de gestion de ce sanctuaire a été adopté dans son principe à la 2ème Réunion des Parties Contractantes à L'Accord, en septembre 2004.

- b) toute modification de la délimitation ou du régime juridique des ASPIM (article 23 b).

Fournir une liste à jour indiquant le statut et la situation des aires relevant de la juridiction nationale inscrites sur la liste des ASPIM au cours de la période considérée, et exposer brièvement tous les changements intervenus dans la délimitation ou le statut juridique des ASPIM en indiquant si elles ont été créées avant ou pendant la période considérée.

158. Toute modification dans le régime juridique des espèces protégées.
Indiquer si des changements sont intervenus dans le régime juridique des espèces protégées au cours de la période considérée. Dans l'affirmative, les exposer brièvement.

159. Nouvelles données concernant des espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages (article 13.2).
Fournir des informations sur la présence de nouvelles espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages.

160. Inventaires des éléments de la diversité biologique (article 15)
a) Date d'établissement ou d'actualisation de l'inventaire des aires contenant des écosystèmes rares ou fragiles;

Depuis 1997 un programme systématique de suivi des biocénoses marines a été entrepris par la réalisation d'inventaires des différentes espèces de la faune et de la flore présentes dans les eaux de la Principauté.

- b) Date d'établissement ou d'actualisation de l'inventaire des espèces de flore et/ou de faune en danger ou menacées;

Au cours des années 2003 et 2004 un programme d'études des invertébrés fixés sur substrats durs a été mené afin de réaliser un inventaire des spongiaires, des bryozoaires, des gorgonaires ainsi que des espèces patrimoniales de Monaco.

Il a permis en ce qui concerne les spongiaires de rajouter 22 espèces à l'inventaire précédent de 1999.

Le programme de mise à jour concernant les échinodermes est poursuivi chaque année.

Le programme relatif aux gorgonaires (*corail rouge et gorgone jaune*) a été établi pour trois ans.

Une mise à jour du dernier inventaire de la faune ichtyologique réalisé en 1998 va être entrepris par la suite .

- c) Joindre le ou les inventaires, à moins qu'ils n'aient déjà été soumis dans un rapport spécial.

« Inventaire d'invertébrés fixés de substrats durs à Monaco et suivi d'indicateurs biologiques », T.PEREZ, D.MASSIAS, J-G.HARMELIN, décembre 2004, Centre d'Océanologie de Marseille et GIS Posidonie.

- d) Inventaire utilisant le format standard de données (FSD)

Fournir des informations sur les dates d'établissement ou d'actualisation des inventaires mentionnés aux paragraphes a)à c)ci-dessus au cours de la période considérée. Joindre des exemplaires des inventaires en question

161.Dérogations accordées aux mesures de protection (articles 12,18,23 c).

Fournir une liste des dérogations aux mesures de protection accordées aux termes des articles 12,18 et 23 c au cours de la période considérée. Dans chaque cas, indiquer brièvement les raisons de la dérogation.

Aucune dérogation

162.Mise en oeuvre des plans d'action adoptés dans le cadre du PAM :

Exposer les développements intervenus au cours de la période considérée dans la mise en oeuvre des plans d'action (en cas d'absence d'action, veuillez indiquer les raisons de cette absence

- Plan d'action pour la conservation des cétacés en mer Méditerranée.

Monaco participe activement aux travaux de l' Accord pour la Conservation des Cétacés de la Mer Noire, de la Méditerranée et des eaux Atlantiques adjacentes, ACCOBAMS (CMS / UNEP).

Il prend en charge, à Monaco, le Secrétariat Exécutif qui vient notamment

d'organiser la 2ème Réunion des Parties Contractantes à Palma de Majorque du 9 au 12 novembre 2004.

La 2ème Réunion des Parties à l'Accord, la France, Monaco et l'Italie, portant création du Sanctuaire PELAGOS pour les mammifères marins s'est tenue à l'île d'Elbe, du 14 au 16 septembre 2004.

Plan d'action pour la gestion du phoque moine de Méditerranée

- Plan d'action pour la conservation des tortues marines en Méditerranée

- Plan d'action pour la conservation de la végétation marine

L'herbier de Posidonie de la Réserve du Larvotto a fait l'objet à l'automne 2004 d'une opération innovante de balisage de précision à grande échelle de sa limite inférieure, réalisée par l'Université de Nice à l'aide d'aquamètres à positionnement GPS. Ce balisage permettra le suivi de l'état de l'herbier de Posidonie notamment vis-à-vis de l'algue *Caulerpa Taxifolia*.

- Plan d'action pour la conservation des espèces d'oiseaux inscrites en Annexe II du Protocole
- Plan d'action pour la conservation des poissons cartilagineux (chondrichthyens) en mer Méditerranée.
- Plan d'action relatif aux introductions d'espèces et aux espèces envahissantes en mer Méditerranée.

La progression ou la régression de l'algue envahissante *Caulerpa Taxifolia* est étroitement surveillée notamment par des balisages de précision à positionnement GPS des herbiers de Posidonie.

21. Mise en oeuvre des autres recommandations pertinentes des Parties contractantes

Exposer brièvement la mise en oeuvre des autres recommandations des Parties contractantes se rapportant au Protocole.

XXXIX. Brève description de tous problèmes ou contraintes rencontrés dans l'application du Protocole
Consigner brièvement les problèmes ou contraintes spécifiques qui ont gêné l'application de toute mesure prise en vertu de dispositions du Protocole au cours de la période considérée. S'il y a lieu, spécifier quelles mesures ont été prises pour y remédier. Formuler succinctement d'autres remarques ou observations pertinentes d'ordre général concernant les mesures prises en vue de l'application du Protocole.

BIENNIAL REPORT ON THE IMPLEMENTATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN THE MEDITERRANEAN

To be submitted to SPA/RAC

1. Country

Serbia and Montenegro- Republic of Montenegro

2. Period covered by the Report

1st January 2002 to 31st December 2003

3. National Organization responsible for compiling report

Ministry of Environmental Protection and Physical Planning of the Republic of Montenegro

4. National Organization providing data towards the compilation of report

Institute for nature protection

Institute for marine biology

5. Assistance received from UNEP/MAP towards the compilation of the present report

In regard to the development of the Report on the Implementation of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean has been received assistance from UNEP/MAP as it is specified in Part 1-General information of the Biennial National report on the implementation of the Conventions and Protocols.

6. Legal and/or administrative measure taken under the terms of the Protocol

6.1 To protect preserve and manage and costal areas of particular natural or cultural value, and protect, preserve and manage threatened and endangered species of marine and costal flora and fauna (Article 3)

The general political and economical conditions in the region during the last decade did not provide possibilities for regular work of many actors relevant for the conservation of biodiversity in coastal area. After the decomposition of SFRYU, Montenegrin institutions devoted to the conservation of Biodiversity were excluded from the communication with relevant international institutions. On the other hand, very limited and insufficient financial resources were allocated annually for biodiversity conservation in Montenegro from a weak nationally economy with one of the smallest GDP in the region, which couldn't provide for any serious biodiversity conservation program over the past decade. However some no-funded or small fund activities were done in these conditions. Additionally, gap in knowledge couldn't overcome the difficult situation and it inhibited the implementation of numerous regional and global biodiversity conservation initiatives. Weak institutional and individual human capacities additionally blocked transposition of modern techniques and methods of work on the conservation of Coastal Area Biodiversity. Poorly organized and badly coordinated NGO's were not efficient in their biodiversity conservation activities in practice. Their activities were oriented locally and thematically.

Montenegro has no national Biodiversity Strategy and Action Plan (*BSAP*), which should be developed as a national commitment to the Convention on Biodiversity ratified by FRYU in 2001. UNDP has been appointed as an implementing agency for this project. A project proposal for BSAP is already developed and will be submitted to GEF for funding as an enabling activity, during this month.

The Programme for Biodiversity Monitoring in Montenegro conducted by the Institute for the Protection of Nature during the past two years covers only a part²² of the Coastal Zone. In fact, this Programme is an attempt to produce data on biodiversity missing so far, but it is still in the starting phase.

A plan for future activities in the field of Biodiversity is already defined in the *Economic Reform Agenda for Montenegro*²³. The biodiversity issue is addressed by at least four specific initiatives:

- Development of the Strategy (BSAP)
- Conformance with the Convention on Biodiversity (CBD) and other relevant international conventions
- Reviewing and completion of the Red List, habitats characterizations and other records, with yearly revision
- Revision of laws and regulations accordingly with above
- Elaboration of the Network of protected areas, with reviewing and revision based on regular monitoring

6.2 To establish Specially Protected marine and costal areas (Article 5)

Many valuable natural habitats on the costal zone are not ecologically evaluated to be designated as coastal or marine protected areas. Enlargement percentage/size of protected areas is required in numerous documents adopted at national and international scale. (see National Report on the technical implementation of the Specially Protected Areas Protocol section 6).

²² Velika plaza an its rear in Commune Ulcinj

²³ Adopted by Government of Montenegro at 25th of March 2003.

Identification of the new protected areas needing appropriate status of protection on the coastal zone.

6.3 To ensure protection in conformity with Article 6 in particular:

a) Strengthening of application of the other Protocols and other treaties (Article 6 a)

Presently, a comprehensive set of acts / regulations devoted to the protection of biodiversity has not been completely developed in the national legislature. However, the existing national legislature covers issues devoted to the protection of biodiversity such as:

The Law on Nature Protection protects the nature as a whole, and particularly areas of special natural values, nature landmarks and natural rarities, including protection of the areas important for plant and animal species. The Law defines the following principles, related to the protection and conservation of nature, i.e. of biological diversity:

(Article 2)

- Organization of such man nature relationship, in order to ensuring a sustainable use of nature;
- Protection of particularly valuable and virgin natural components;
- Prevention of all actions could disturb directly or indirectly natural assets and their characteristics;
- Creation of conditions as favourable as possible for conservation and maintenance of natural values;
- Implementation of other measures to ensure the continuous and sustainable use of nature;

(Article 3)

- Local self-government Units, the Republic and the citizens to take care of the nature protection;
- Interdiction of destroying and damaging of natural asset;

(Article 9)

- Provision of special protection for wild plant and animal species rare, scarce or endangered
- Interdiction of removal, damaging, destroying or chasing, disturbing, coughing or killing of plant and animal species, their nests and developmental stages
- Interdiction of damaging or destroying of plant and animal habitats

The Decree on Protection of Rare, Scarce, Endemic and Endangered Plant and Animal Species having proclaimed protected²⁴ plant (57) and animal (314) species (i.e. the Red List of species).

The Law on Forests specifies that forests, as natural reaches and assets of general interest should be renewed, maintained and used under conditions and in a manner ensuring permanent conservation and increase of their natural values and ecological functions; their continuous functional use, protection from harmful consequences affecting their values; breeding to guarantee continuous increase of growth and yield (Article 2).

On the other hand, certain legal norms related to the protection of biodiversity are given in Law on Environment. One of the basic principles of environmental protection promoted in this Law is the principle of conservation of natural assets and biological diversity (Article 7, Items 1 and 2). A large part of measures for the environmental protection is dedicated to the natural assets as well (II Part of the Law). The natural assets of interest for the Republic, which merit a special protection, include nature reserves, national parks, protected plant and animal species, nature monuments and landscapes with remarkable characteristics (Article 15).

The Law on Hunting determines breeding, protection, hunting and usage of game animals. Game animals, as natural assets and part of the biological diversity, enjoy particular protection and are exploited under conditions and in a way prescribed by the Law (Article 1).

Game animals are mammals and birds that live freely in the nature (Article 1, Paragraph 2). The protection of game animals is realized through a permanent ban of hunting, ban of hunting in a certain period (closed season), reduction of the hunting season or reduction of the number of hunting days, protection of the hunting areas, suppression of illegal hunting, decreasing of the number of unprotected game animals, rescuing from natural disasters, additional feeding and other measures (Article 12). According to the Law, a special regulation on closed season and reduction of the hunting season, or the number of hunting days is issued. In order to conserve and improve game animals and their protection, it is forbidden to destroy, catch and take over young animals, as well as to damage and destroy nests, fledged young and eggs of protected game animals (Article 16); it is forbidden to poison game animals (Article 17); it is forbidden to move around the forest for persons with guns, hunting dogs and other hunting tools, as well as to move out of the roads of general purpose, without the permission of the hunting ground user. The Law has not recognized areas of National Parks as warranted for hunting, but envisaged the possibility of organizing the hunting according to some provisions given in this Law and in the Law on National Parks and subsequent regulations.

b) Prohibition of dumping or discharge affecting protected areas (Article 6 b)

The urbanization of the coastal area and the pollution caused by it is the most important negative influence on the marine life. The main problem in the Montenegrin coast is the direct discharge of untreated

²⁴ According to the Decree, Plant and Animal Species cannot be removed from their habitats, damaged or destroyed, i.e. killed, caught or chased.

wastewaters. This causes a major problem in the Boka Kotorska Bay where the circulation and water exchange with the open sea are slow.

Eutrophication is present in Boka Kotorska Bay, especially during the summer season due to the increased tourism. Consequently, it causes the withdrawal of *Posidonia oceanica* beds, and the change of the benthos biocenosis.

Situation at the open Sea is much favourable, except for the mouth of river Bojana and the Port Milena Channel where the process of eutrophication is registered as well, especially during the summer period.

The manufacture on the Montenegrin coast is not very developed. The greatest inputs of toxic substances and inorganic pollution occur at the mouth of river Bojana bringing the wastewater from the industrial centres in the northern areas.

There is a risk of oil spills, pollution with antifouling dyes and other toxic materials, due to miss management in ports and shipyards that could cause adverse effect on the marine environment. Several cases of small-scale discharges of toxic materials occurred in the past. However, due to the lack of adequate equipment and monitoring the effects of these accidents could not be determined.

d) Regulation of the passage of ships (Article 6 c)

Not available

e) Regulation on introduction of species (Article 6 d)

Law on Marine Fishery prohibit fish stocking, introduction of non-indigenous species and other marine organisms and/or genetically modifies species. According to this Law, Ministry of Agriculture, Forestry and Water Supply issues a permit for over-catch of fish and other marine organisms, and also fish producing permit, molluscs and other marine organisms producing permits.

There are one-registered fish farms in Ljuta-Kotor (capacity about 30 tones of Gilthead Sea Bream and Sea Bass species) and about twenty molluscs farms with total capacity about 100 tones.

Till now this organizations hasn't obligation to delivery data about quantity of over-catch and fish produce, but for next year we will introduce obligatory Dairy for over-catch and fish produce.

f) Regulation of activities (Article 6 e, Article 6h)

The Coastal area covers a narrow coastal land strip and much wider sea area, however during the past period most of the human activities were concentrated on the coastal land. A great number of users and various activities (ports and harbours, ferries, yachting, surfing, water sports, fishing, aquaculture, offshore oil and gas exploration, salt-pans, ship-building and repairing zones, industrial- and tax free zones, tourist facilities, infrastructure) on the sea and land lead to severe conflicts as well as urban and ecological problems. Due to the inadequate and extensive urbanization and development of tourist, industrial and other sites the environment of the coastal land was degraded and the quality of the natural resources and ambient were deteriorated, which now represents a limiting factor for further coastal area development.

Some other existing problems in the Coastal Area were recognized such as overlapping jurisdiction of central and local authorities and different agencies, Coastal area being too narrow on the land part, ambiguous land ownership of certain locations, and the questionable purpose of sites and complexes that were used for military defence purposes. Most of the activity and land use conflict is trying to be solved through the adoption of Coastal Zone Spatial Plan for the whole coastal region in Montenegro.

g) Regulation of scientific research activities (Article 6 f)

Law on Marine fishery proscribes types of marine fishery (commercial and sports) and terms of under which fishing shall be performed, permitted manners and means as well as measures for protection of certain categorized fish and other marine animal species-young fish. Also Law proscribe regulation of scientific research activities and prohibit scientific research activities, which are usage hunting and collecting of fish and other marine organizes without permit of Ministry of agriculture, forestry and water supply.

h) Regulation of fishing, hunting, taking of animals, harvesting of plants, and trade in plants and animals and parts thereof originating from protected areas (Article 6g)

Hunting: Following Hunting organizations are active in 6 Coastal municipalities: "Sumsko gazdinstvo" (Commune Ulcinj), "Rumija" (Commune Bar), "Pastrovici" (Petrovac, Commune Budva), "Budva" (Commune Budva), "Kotor" (Commune Kotor) and "Orjen" (Commune Herceg Novi). They operate in Hunting Areas defined in a regulation adopted by Ministry of Agriculture, Forestry and Water Supply. Data presented in evidences of hunting organizations use by Ministry of Agriculture, Forestry and Water Supply in procedure of issuing of seasonal hunting permits for hunting organizations.

Fishery: Nowadays in the Montenegro there are 17 crafts for marine trawl fishing and that is fishing on the continental shelf (depth up to 200m). Boats with different fishing means (over 200 boats) are active in the Boka Kotorska Bay and in the relatively small zone of open sea (depth up to 80m). The catch of pelagic fish at the open sea and fishing on the continental slope still does not exist.

Harvest of herbs and plants for pharmaceutical use. The development of these human activities might be dangerous for *Salvia officinalis* and *Laurus nobilis*, but in future, some other species could also be of interest for medical and pharmaceutical use.

The Coastal area covers a narrow coastal land strip and much wider sea area, however during the past period most of the human activities were concentrated on the coastal land. A great number of users and various activities (ports and harbours, ferries, yachting, surfing, water sports, fishing, aquaculture, offshore

oil and gas exploration, salt-pans, ship-building and repairing zones, industrial- and tax free zones, tourist facilities, infrastructure) on the sea and land lead to severe conflicts as well as urban and ecological problems. Due to the inadequate and extensive urbanization and development of tourist, industrial and other sites the environment of the coastal land was degraded and the quality of the natural resources and ambient were deteriorated, which now represents a limiting factor for further coastal area development.

Some other existing problems in the Coastal Area were recognized such as overlapping jurisdiction of central and local authorities and different agencies, Coastal area being too narrow on the land part, ambiguous land ownership of certain locations, and the questionable purpose of sites and complexes that were used for military defence purposes. Most of the activity and land use conflict is trying to be solved through the adoption of Coastal Zone Spatial Plan for the whole coastal region in Montenegro.

Trade in animals and plants Regulation of trade in plants and animals establish by Convention on International Trade of Endangered Species of Wild Flora and Fauna (CITES). FRY has confirmed the CITES Convention by issuing the Law on Approval of the CITES Convention on International Trade of Endangered Species of Wild Flora and Fauna on November 5, 2001 ("Yugoslav Official Register", International Agreements, no. 11/2001). Ratification instruments have been submitted, but acceptance information was not yet received. Before that, FRY has applied the CITES Convention (Article X), which relates to the non-member countries as well, through issuing licenses and certificates comparable with CITES documents. It is left to depose the ratification instruments and to put into effect the Convention in SU S&MN.

6.4 Regarding planning and management of specially protected areas

Existing institutional set-up does not provide possibility for efficient work on the conservation of Coastal and marine Biodiversity in Montenegro. Actually institutions that are devoted to the protection of certain aspects of Coastal and marine Biodiversity are weak in following aspects:

Twelve years isolation from MAP (Barcelona convention) and other Mediterranean biodiversity conservation initiatives. Following institutions have certain competencies on Coastal and marine Biodiversity:

Ministry of Environmental protection and physical planning is key institution for protection of nature and protected natural resources (including biodiversity). The Ministry's major activities depend on the decisions rendered by the Government and primarily involve the following issues related to biodiversity protection: drafting and passing laws and other acts, administrative supervision in environmental affairs (regarding subordinate institutions and public enterprises), conducting inspection performance, providing funds for development and scientific projects, cooperation with international organizations.

The legal authority of the Ministry of Agriculture, Forestry and Water Supply has primarily following concerns: implementation of certain mechanisms devoted to management of nature resources, including protected areas, protected plant and animal species, forests management, fishing and hunting. However, traditional legislature puts trade and control on exploitation of wild plant species²⁵ under full competencies of Ministry of Agriculture, Forestry and Water Resources and its Forestry Directorates. This Ministry also has the jurisdiction over the fisheries and Mari culture. The newly adopted Law on Marine Fisheries regulates the commercial fishing and mariculture giving emphasis to protection of the biodiversity as well.

Government institutions with protection of biodiversity as part of their activities are as follows:

Institute for Nature Protection, located in Podgorica, operates under the provisions of the outdated Law on Protection of Nature (1989) performing the following operations: keeping inventories of protected objects of nature, studies focused on protection of certain objects of nature (natural heritage) etc.

Among the on-going projects two might be mentioned

-Research work in region of Prokletije for the establishment of National park
-Preparation of Vegetation map of Montenegro

The Institute publishes The Herald (Bulletin) so far being published in 25 volumes has achieved international recognition. It is focused on natural protection through reports of the Institutes' experts, University experts and foreign and national contributors. The funds for the Institute's work are provide by the Ministry of Culture.

The Institute for Marine Biology (IMB) founded in 1961 is the only one institute devoted to research of marine living organisms in MN and S&MN as well. Approach to the research has an ecological character, with special attention given to the Boka Kotorska Bay as a natural phenomenon. The work of IMB included a number of projects dealing with marine biodiversity and specialized works published in the domestic and foreign literature. Mostly these documents are available as hard copies, while some of them are available also in electronic version, all in local language (see www.biokotor.org). Also, the IMB possesses a collection of marine organisms, first of all molluscs, crustaceans, algae, fish...etc.

The Montenegrin Nature History Museum was founded in 1996, as one of institutions within the network of Montenegrin cultural institutions. It deals with conservation and presentation of museum stocks. Prior its establishment the present collections of flora and fauna and a geological exhibit were kept in the Institute for the Protection of Nature.

• ²⁵ so called "forests but non-timber products"

The Coastal Zone Law (CZL) established the Public Enterprise Coastal Zone Management Agency (PE CZMA) in 1992. The Law defined the Coastal Zone as the dry land belt, territorial sea, and all living and non-living resources within. The Coastal Zone is the specific area of exceptional importance for the Republic of Montenegro. The provisions of this law set the guidelines for use, protection and management of the coastal zone. Furthermore, this law envisaged the establishment of the public enterprise to manage directly the coastal zone as determined by the law. However, the provisions of this Law are broad, ambiguous and not sufficient for setting up a sound coastal management strategy on local and state levels. The PE CZMA is under the competence of Ministry of Maritime Affairs, endorsed with the implementation of the CZL. The main responsibilities of PE CZMA are as follows: protection, restoration and development of coastal and marine resources; management of coastal and marine resources; contracting and leasing of areas within the coastal zone; development and maintenance of infrastructure objects for the management of coastal and marine resources. Currently, the PE CZMA manages the use of the coastal zone with a market oriented; throw the contracted leasing of coastal areas and by investing the profits into protection and improvement of the coastal zone. There is no management plan, nor a strategy for the development and protection of the coastal zone that would for an integrated approach. In the legal policy of Montenegro, the Coastal Zone²⁶ is recognized as coastal area with defined geographical border and specific functional characteristics, which is, due to its exceptional importance and value, under the specific regime of management and use. From the geographical point of view, the coastal zone includes coastal land belt (including all natural and man made resources), territorial sea, water body and coasts of the river Bojana on the territory of the Republic of Montenegro.

6.5. For the protection and conservation of species

The fauna of the Adriatic Sea has not been fully investigated yet, but according to recently available data there are around 310 Algal species, 4 plant species, some 300 species of Hydrozoas, some 40 species of Crustacea, 530 species of snails, about 300 shellfish species, 23 Cephalopods species, 409 fish species, 318 Molluscs, 3 species of marine turtles and 4 species of dolphins. Several species of whales are also occasional visitors of the Adriatic. The biodiversity of Adriatic also includes some endemic and some boreal species. According to the high abundance of species in the Montenegrin part of the Adriatic Sea, it could be considered as a biocenter in the Northern Mediterranean. Most of the species are distributed along the littoral zone (up to 200 meters depth), but some of them are found in transitive to bathial zone (200-300 meters depth) such as economically important association *Nephrops norvegicus* & *Tenea muricata*.

The Boka Kotorska Bay biotope is ecologically important as a spawning site. Very rare molluscs *Tijsira orahoviciana* and *Mitra zonata* are registered in the Boka Kotorska Bay.

The coastal area has high level of species diversity, as well as high diversity of habitats and landscape. According to available data, in the coastal stripe more than 120 species of plants, about 55 species of invertebrates, about 30 species of amphibians and reptiles, more than 220 species of birds, and more than 37 species of mammals are registered. The terrestrial and marine biodiversity are characterized by numerous species located in small area, but with relatively low abundance. Rare and endemic species with limited range of distribution are also present here, such as Skadar Oak, as well as some unusual associations, such as association *Andropogoni – Nerietum*. The Ulcinj area (beach hinterland, Stoj, Solana, swamps ("knete") and Sasko lake) is especially important as a valuable biodiversity centre in Montenegro. The value of ornithofauna in this area, as well as the natural wetland habitats, was appreciated in the past, but is in the focus now as well.

According to the Law on Nature Protection in a Article 9 defines the following principles, related to the protection and conservation of nature, i.e. of biological diversity:

- Provision of special protection for wild plant and animal species rare, scarce or endangered. Also national legislation protected plant (57) and animal (314) species (i.e. the Red List of species). The last revision of the List had been done in 1982. Animal and Plant Species included in the List were not categorized according to IUCN Red List classification for threatened species. At the present stage of biological research in Montenegro, it is necessary to be applied the IUCN Red List Categories and Criteria.

6.6. To regulate introduction of non-indigenous or generically modified species

See section 6.3 e)

6.7. To grant exemptions from protected measures

Not applicable

6.8. Brief description of any problems or constrains in implementation of the Protocol

Regional and sub-regional agreements have particular importance for the protection of coastal and marine biodiversity in Montenegro. Among them, most relevant is Protocol on Specially Protected Areas and Biological Diversity in Mediterranean.

²⁶ In fact, the narrow coastal stripe has been defined as "Coastal Zone" that doesn't referring to the standardised definition of the Coastal Zone / Coastal Area

NATIONAL REPORT ON THE TECHNICAL IMPLEMENTATION OF THE SPECIALLY PROTECTED AREAS PROTOCOL

To be submitted to SPA/RAC

1. Country : Serbia and Montenegro-Republic of Montenegro
2. Period covered by Report : 1st January 2002 to 31st December 2003
3. National Organization responsible for compiling report
Ministry of Environmental Protection and Physical Planning of the Republic of Montenegro
4. National Organizations providing data towards the compilation of report
Institute for nature protection
Institute for marine biology
5. Assistance received from UNEP/MAP towards the compilation of the present report
In regard to the development of the Report on the Implementation of the Protocol concerning specially protected areas and biological diversity in Mediterranean has been received assistance from UNEP/MAP as it is specified in Part 1-General information of the Biennial National report on the implementation of the Conventions and Protocols.
6. List of Specially Protected Areas established in terms of Article 5 (unless already covered by national biennial report on implementation of Convention and protocols)
The List of Protected Areas relevant for Coastal Area proclaimed by national legislation:
 1. Protected Areas of International Importance
 - a) UNESCO World Natural and Cultural Heritage sites
 - Kotor – Risan Bay. Commune: Kotor, Area: 15.000 ha, Altitudes: 0-766m above the sea, UNESCO site since 1979
 - Town Kotor. Included on the List of Endangered World Natural and Cultural Heritage (UNESCO) since 1979
 - b) Ramsar sites
 - Skadar Lake
 2. National parks
 - Lovcen
 3. Special Nature Reserves - Ornithological Reserves
 - Manastirska tapija - flooded forest near Vranjina on Skadar Lake,
 - Pancova oka and Crni žar - marshlands on Skadar Lake,
 - Grmožur island and Tanki rt cape on Skadar Lake and
 - Botanical reserve Laurel-Oleander association above Sopot near Risan
 4. Natural Monuments
 - Trebjesa hill in Niksic (156 ha)
 - Botanical Garden in Grahovo
 - a) Natural Sand Beaches
 - Velika ulcinjska beach (600 ha)
 - Mala ulcinjska beach (1,5 ha)
 - Beach Valdanos (3 ha)
 - Velji pijesak beach (0,5 ha)
 - Beach Topolica (2 ha)
 - Beach in Sutomore (4 ha)
 - Lucice Beach (0,9 ha),
 - Beach Canj (3,5 ha),
 - Beach Pecin (1,5 ha),
 - Beach Buljarica(4 ha),
 - Beach in Petrovac (1,5 ha),
 - Drobni pijesak beach (1 ha)
 - Sveti Stefan beach (4 ha),
 - Milocer beach (1 ha),
 - Becici beach (5 ha),
 - Slovenska plaza beach (4 ha),
 - Mogren beach (2 ha),
 - Beach Jaz (4 ha)
 - Przno beach (2 ha)
 - b) City Parks:
 - "13 jul" (3,63 ha) and Njegošev park (4,20 ha) on Cetinje,
 - Park near hotel "Boka" in Herceg Novi (1,20 ha);
 - City park in Tivat (3,00 ha);
 - Park of the Castle on Topolica in Bar (2,00 ha)

c).Caves:

- Lipska cave near Cetinje;
- Globocica, Babutuša and Špilja near Trnovo village -Virpazar;
- Duboki do hole in Njeguši – Cetinje

d). Recreational Area

- Savinska dubrava hill in Herceg Novi (5 ha)

e) Protected Landscapes / Seascapes:

- Spas hill near Budva (131 ha),
- Ratac Cape including Zukotrljica (30 ha),
- Stari Ulcinj island (2,5 ha)

5. Proposal made for inclusion of areas under national jurisdiction proposed in SPAMI list (Article 9 (a))

a) Date of proposal/s

Not applicable

b) Areas proposed (attach list)

Not applicable

6. SPAMI list:

a) The status and state of the areas under national jurisdiction included in the SPAMI list (Article 23 (a))

Not applicable

b) Any changes in the delimitation or legal status of such SPAMIs (Article 23 (b))

Not applicable

7. Any changes in the delimitation or legal status of protected species

Not applicable

8. New records of non-indigenous or genetically modified species likely to cause damage (Article 13.2)

Not applicable

9. Inventories of components of biological diversity (Article 15)

a) Date of compilation or updating of inventory of areas containing rare fragile ecosystems

Existing inventories are not completed, information are fragmented and mostly outdated. GIS doesn't exist in any software platform.

Inventories for areas important for conservation i.e. Protected areas are not fully completed. Most of inventories for Protected areas on the Coastal stripe were established in 1968 and poorly maintained. The loss of interest for regular updating of these inventories by Institute for the Protection of Nature can be explained by the change of the formal (previously established) status / regime of protection for these protected areas.

b) Date of compilation or updating of inventory of threatened or endangered flora and or fauna

The waters of Adriatic Sea have a high level of biological diversity, but relevant data are widely spread in specialized institutional and national periodicals and publications. The following species are recognized as most endangered or rare, i.e. species are important for protection and conservation:

Coastal Biodiversity

Halophyte vegetation on dunes (Velika Plaza), sand - gravel beaches (Buljarica) and clay-mud soil (Solila)

Forest fragments of Skadar Oak (*Quercus robur scutariensis*) in Stoj (in the rear of Velika Plaza, Ulcinj)

Migratory bird species, endangered by hunting on the following locations: Ulcinj (Stoj, Spatula, Sasko lake), Buljarica and Solila.

Marine Biodiversity

Posidonia oceanica is very rare and its bed are endangered at all locations.

Also, following species are considered as threatened or endangered i :

Angiospermae: *Zostera noltii*

Algal: *Cystoseira spinosa*

Porifera: *Aplysina sp.*, *Axinella cannabina*

Echinodermata: *Ophidiaster ophidianus*

Molluscs: *Lithophaga lithophaga*, *Luria lurida*, *Mitra zonata*, *Pinna nobilis*,

Pisces: *Acipenser naccarii*, *Acipenser sturio*, *Cetorhinus maximus*, *Carcharodon carcharias*,

Hippocampus hippocampus, *Huso huso*, *Mobula mobular*

c) Attach inventory/inventories, unless already previously submitted in ad hoc report

Not applicable

10. Exemptions granted from protection measures (Article 12, 18,23(c))

Not applicable

11. Implementation of the action plans treated species adopted within the framework of MAP

Within the framework of MAP, National SAP BIO Correspondent and two national experts National Report (NR) has been prepared jointly National Report of status, problems and conservations of costal and marine biodiversity in Montenegro (NR) engaged by RAC/SPA. The consensus on the final version of the document was achieved through a consultative process that included representatives from relevant departments in the Ministry for Environmental Protection and Physical Planning.

The NR is supposed to constitute a major input for preparing the SAP BIO on the regional level and at the same time it should present a list of processes and priority actions to be carried out at national level.

NR is supposed to be one of the essential tools for governmental bodies, scientific institutions and NGO's in the planning and implementation of conservation activities on Montenegrin Coastal Area. Also, the NR should be used by local communities in their planning process as well as by all the different local companies running their activities on the Coastal area. At the same time, outputs of the NR need to be integrated in the forthcoming process of preparation of BSAP for Montenegro, scheduled for the year 2004.

12. Implementation of the relevant recommendations of Contracting Parties not already included in national biennial report on implementation of Convention and Protocols

Appendix to the Report on the technical implementation of the Specially Protected Areas Protocol

Report on Specially Protected Areas of Mediterranean Importance (SPAMIS) under the jurisdiction of more than one country

Not applied in Serbia and Montenegro, up to the present, all protected areas are subject to the exclusive jurisdiction of State Union of Serbia and Montenegro and not to the jurisdiction of more than one country.

XL. General information

1. Country
Republic of Slovenia
2. Period covered by the report
1st June 2003 to 28 February 2005.
3. National body responsible for drawing up the report.

Institute of the Republic of Slovenia for Nature Conservation, Regional Office Piran, Tartinijev trg
12, 6330 Piran, R Slovenia

- Robert Turk, M.Sc., Head of the Regional Unit Piran, NFP for SPA
4. National body and other organisations and/or institutions that provided data for the establishment of the report.

XLI. Legal and/or administrative measures taken under the terms of the Protocol²⁷

163. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

During the period under review, several legal and administrative measures have been promulgated in the framework of nature conservation, that have a direct or indirect influence on marine and coastal areas, their habitat types and species. To be mentioned especially the updated Nature Conservation Act (August 2004). Its provisions define that the areas with a particular natural value as well as proper conservation measures, have to be included in all physical plans adopted on state or municipal level. The other legislative measures to be mentioned are the Decree on Habitat Types (November 2003), Decree on Ecologically Important Areas (April 2004), Decree on Natura 2000 Sites (April 2004), Decree on protected animal species (April 2004), Decree on protected plant species (April 2004) and finally the Regulation on the protection of valuable natural features (October 2004).

164. To establish marine and coastal specially protected areas (article 5);
During the period under review a new governmental decree on the establishment of the Strunjan Landscape Park was adopted. The decree replaces and upgrades the existing municipal decree, adopted in 1990. The Park includes also the Nature reserve Strunjan and the Nature reserve Strunjan-Stjuža. The first is a marine and coastal reserve while the second one (proposed Natura 2000 site) encompasses a coastal lagoon (Stjuža) and the Strunjan salinas. The provisions of the new decree define new conservation measures, monitoring and what is most important they provide the legal basis for the management of the protected area.

165. To provide protection (article 6) :
The protection measures, which are listed in article 6 of the Protocol and should be implemented in specially protected areas, are included in the existing legal acts on the establishment of the Slovene coastal and marine protected areas. The mentioned legal acts were adopted mainly in 1990 and 1991. The implementation of the protection, provided for in the legal acts differs from one area to another and it depends mainly on the existence of a management body. However, all the protection measures referred to in the article 6 are included in the adopted legal acts on the establishment of single protected areas.

166. Concerning planning, management, supervision and monitoring of the specially protected areas (article 7);
*The planning, management, supervision and monitoring measures for the specially protected areas that do not have a management body are partly included in the guidelines that the Institute of the Republic of Slovenia for Nature Conservation is drafting in the spatial planning process. In order to be adopted, the spatial plans have to include the nature conservation measures, defined in the guidelines. However due to the absence of concrete management of these areas, the efficiency of the above mentioned measures is not satisfying.
There are currently two protected areas that do have a management body – the Škocjanski zatok Nature reserve (brakish lagoon) and the Sečoveljske soline Landscape Park (salt-works). They both have a conservation and development plans that include development, conservation and monitoring measures as well as activities concerning the involvement of local communities*

²⁷ In the case of legal measures, it is requested that a copy of the enacted law be attached to this report or handed in during the meeting of National Focal Points.

and populations and regulation of activities that could have a negative impact on nature conservation.

167. For the protection and conservation of species (article 11);
As stated above in paragraph 6, two governmental decrees were adopted during the period under review – the Decree on protected animal species and the Decree on protected plant species (both from April 2004). Both decrees include all the species that are listed in the annexes to the Protocol and regulate or prohibit among others the taking, possession, killing, trade, transport and exhibition for commercial purposes of protected species, their eggs, parts and products, the disturbance of wild fauna during critical biological periods and the destruction or disturbance of species of protected flora.
168. To regulate the introduction of non-indigenous or genetically modified species (article 13);
The introduction of non-indigenous or genetically modified species is regulated by the Nature Conservation Act, adopted by the Slovene parliament in August 2004. According to the mentioned act the introduction of non-indigenous animal or plant species is prohibited. The introduction might be permitted in case that it does not have a negative impact on the elements of biodiversity.
169. To grant exemptions from protection measures (articles 12,18)

XLII. Technical application of the protocol

170. List the specially protected areas established under the terms of article 5.
*Cape Madona Natural Monument
 (marine; established in 1990),
 Debeli rtič natural monument
 (marine and coastal; established in 1991 by the Municipality of Koper)
 Sečovlje salt-works Landscape Park
 (coastal; established in 1990 by the Municipality of Piran; new governmental decree in 2001; Ramsar site from 1993; proposed Natura 2000 site)
 Strunjan Landscape Park
 (coastal and marine; established in 1990 by the Municipalities of Piran and Izola; new governmental decree in 2004)
 Strunjan Nature Reserve
 (marine and coastal; part of the Strunjan Landscape Park; established in 1990 by the Municipalities of Piran and Izola; new governmental decree in 2004),
 Strunjan - Stjuža Nature Reserve
 (coastal and marine; part of the Strunjan Landscape Park; established in 1990 by the Municipality of Piran; new governmental decree in 2004),
 Škočjanski zatok Nature Reserve
 (coastal; established in 1998, law by the Slovene Parliament)*
171. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9a)
No proposals were made up to now to include any of the above listed areas on the SPAMI list although some of them certainly meet the requested criteria. A proposal for the inclusion of the Strunjan Landscape Park on the SPAMI list is foreseen in the forthcoming biennium.
172. SPAMI list :
173. Any modification to the legal status of protected species.
No changes have been made to the legal status of protected species during the period under review.
174. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).
No information on the presence of new non-indigenous or genetically modified species, liable to be harmful, is available during the period under review..
175. Inventories of the components of biological diversity (article 15).
Beside the protected areas, listed under chapter III., paragraph 13, there are other areas containing rare or fragile ecosystems listed either in the Decree on Ecologically Important Areas or in the Regulation on the protection of valuable natural features (see chapter II., paragraph 6). In this way all the areas of conservation interest are listed in at least one of the above mentioned

legal acts. Beside that, activities are been carried out in order to complete the inventory of sites of conservation interest using the standard data format. The inventory should be completed before May 2005.

176. Exemptions granted to protection measures articles 12, 18, 23 c).

177. Implementation of the action plans adopted within the framework of MAP:

- Action plan for the conservation of cetaceans in the Mediterranean sea

There are currently three NGOs working on dolphins and there was a first meeting in order to define the basis for a national Action Plan. The NGOs are working mainly on the status of the dolphin population in the Slovene waters and on raising public awareness. In 2004, a visit of a representative of the ACCOBAMS was organised by one of the NGOs.

- Action plan for the management of the monk seal in the Mediterranean

No activities were undertaken since there are no monk seals in the Northern Adriatic.

- Action plan for the conservation of sea turtles in the Mediterranean

In the period, covered by this report, the activities were mainly the same as in the previous biennium: gathering information's on turtles caught by fishermen, their tagging and their release. Beside that an exhibition on Mediterranean marine turtles was put up in December 2004 and will be moved throughout Slovenia in 2005. The activities were carried out by the Piran Aquarium in collaboration with the Institute of the Republic of Slovenia for Nature Conservation, Regional Unit Piran and the Marine Biology Station. New developments are foreseen in 2005, including telemetry, thanks to the continuation of the financial support of the company Petrol. The data achieved through this project will allow the drafting of a national Action Plan.

- Action plan for the conservation of marine vegetation.

No national Action Plan was drafted yet. However important activities were carried out concerning *Posidonia oceanica*. A Memorandum of Understanding concluded between the Principality of Monaco, RAC/SPA and the Institute of the Republic of Slovenia for Nature Conservation, enabled the Institute of the Republic of Slovenia for Nature Conservation to carry out activities in 2003 concerning research, cartography, marking of the lower limit of the meadow, monitoring and awareness. In 2004 activities were started in order to achieve DOF for the whole Slovenian coast in order to be able to elaborate a first draft of the marine habitat types.

- Action plan for the conservation of cartilaginous fish (condrichthyans) in the Mediterranean sea

No activities were undertaken on the subject yet. A first evaluation of the status of the endangered species of cartilaginous fish still has to be done in order to define activities to be included in the Action Plan (see also Chapter IV)

- Action plan concerning the introduction of species and invasive species in the Mediterranean sea

No major activities were undertaken concerning the drafting of an action Plan. A draft list concerning introduced species has been elaborated and there are activities concerning ballast waters in the framework of the Adriatic-Ionian Initiative (see also Chapter IV)

- Action Plan for the conservation of birds listed in Annex 2

No specific activities were undertaken in the period covered by this report. Beside the general problems mentioned in chapter IV, it has to be underlined that the Republic of Slovenia is a Contracting Party to all the relevant conventions concerning bird species protection and that is already implementing the due conservation measures.

178. Implementation of other recommendations pertinent to the Contracting Parties

XLIII. Brief description of all problems or constraints encountered in the application of the Protocol

The problems and constraints concerning the application of the Protocol and the Action Plans adopted within, have very different causes, among them also the reorganisation of the field of nature conservation that started in 1999 and was successfully concluded in 2003. However they are almost entirely due to the lack of personnel that would be able to work constantly on the issue.

As it was already discussed during the 5th and the 6th NFP meetings, the activities needed to be carried out in the framework of the Protocol are simply too numerous and too pretentious to be regarded only as an addition to the ordinary, everyday work of the institution (person) in charge for the implementation of the Protocol. The importance of the implementation of the Protocol and the Action Plans for the future of the Mediterranean calls for a different approach or status of the NFP or the institution in charge. A status that would allow greater intensity and continuity of different activities, including national and international coordination and cooperation.

NATIONAL REPORT OF SYRIAN ARAB REPUBLIC ON THE APPLICATION OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN THE MEDITERRANEAN
PREPARED

BY; DR. AKRAM ISSA DARWISH, DIRECTOR OF BIODIVERSITY AND PROTECTED AREAS DIRECTORATE, MINISTRY OF LOCAL ADMINISTRATION AND ENVIRONMENT, GENERAL COMMISSION FOR ENVIRONMENTAL AFFAIRS

XLIV. General information

1. Country **Syrian Arab Republic**
2. Period covered by the report. : The biennium covered by the report 2003- 2004.
3. National body responsible for drawing up the report.. .

Ministry for Local Administration and the Environment, General Commission for Environmental Affairs (Directorate for Biodiversity and Protected Areas).

4. National body and other organisations and/or institutions that provided data for the establishment of the report.

* Ministry of Agriculture and Agrarian Reform.

* Higher Institution for Marine Research (Teshrin University- Lattakia city).

XLV. Legal and /or administrative measures taken under the terms of the Protocol.

5. To protect, preserve and manage marine and coastal areas with a particular natural or cultural value, and to protect, preserve and manage endangered or threatened species of marine and coastal fauna and flora (article 3);

* It is worth noting here that the Environmental Law which was passed by parliament and ratified by the president in 2002, and issued as Law No. 50 allows for the establishment of specially protected areas, and authorizes the General Commission for Environmental Affairs (Directorate for Biodiversity and Protected Areas) to formulate guidelines for their establishment, management and supervision.

* Ministry for Local Administration and the Environment (Former Ministry of State for Environmental Affairs)/ Directorate for Biodiversity and Protected Areas, in cooperation with concerned national stockholders prepared the conditions of establishment of protected areas including the coastal and marine ones. In 2003 the Higher Council for Protection of Environment ratified these conditions and distributed it to all national institutions for the application.

* Furthermore the Ministry of Agriculture and Agrarian Reform (MAAR) in cooperation with concerned national institutions specially Ministry for Local Administration and the Environment / General Commission for Environmental Affairs/ Directorate for Biodiversity and Protected Areas issued several regulations in 2002 and 2003 which contributed to the protection and preservation of threatened and endangered species of marine and coastal flora and fauna. These include the following:

1- Decree No. 50, 2003, which set the minimum dimension of the mesh size opening by 25 millimeters during a transitional period of 2 years beginning 1/10/2003. Starting from 1/10/2005, the standard dimension of 25 mm will be adopted.

The decree also prohibits the following:

- The operation of Trawling fishing vessel in depths less than 50 meters
- The use of multiple trawls.
- Trawling fishing from May 1st, to September 30th each year.
- Trawling fishing in the Syrian territory starting from the beginning of 2006.

Note: In response the directions of the Higher Council for the protection of Aquatic organisms the Ministry of Agriculture and Agrarian Reform (MAAR) issued in 2004 the Decree No. 15 banning fishing by trawlers in the Syrian territory starting from the beginning of 2005 instead of 2006).

2- In response the directions of the Higher Council for the protection of Aquatic organisms the Ministry of Agriculture and Agrarian Reform (MAAR) issued in 2003 the Decree No. 51 which set the maximum cages that the fishing vessel can carry at 10 cages. The decree also set the dimension of the cage opening at 35 mm, and specifies the allowable period of cages' fishing to be from June 1st to October 31st each year. It also prohibits the use of diving equipments in placing the cages or retrieving them, and prohibits the use of any floating objects to mark the cages which may hinder maritime traffic.

3- In response the directions of the Higher Council for the protection of Aquatic organisms the Ministry of Agriculture and Agrarian Reform (MAAR) issued in 2003 the Decree No. 52, which regulates fishing using fixed nets in the Syrian territories. It sets the minimum permissible mesh dimension at 16 mm till the end of

2003, to become 20 mm for a two - year's transitional period afterward. The standard dimension of 25 mm will be adopted from the beginning of 2006.

4. In response the directions of the Higher Council for the protection of Aquatic organisms the Ministry of Agriculture and Agrarian Reform (MAAR) issued in 2003 the Decree No. 53, which regulates floating-fish fishing (sardines and the like). The decree specifies the fishing domain of large fishing gears that use fishing nets with heights between 50 and 100 meters in waters more than 40 meter deep. The decree allows small fishing gears with fishing nets less than 50 meters in height to operate more closely to the shore in waters not less than 25 meter deep. The fishing nets should in no circumstances touch the sea bed. The decree also specifies fishing hours for this type of fishing to be from sunset to sunrise every day. It also prohibits this type of fishing from March 15 to April 30th and from July 16 to August 15th of every year.

5. in response the directions of the Higher Council for the protection of Aquatic organisms the Ministry of Agriculture and Agrarian Reform (MAAR) issued in 2003 the Decree No. 54, which prohibits fishing using land-based sweeping nets starting from the beginning of 2004.

Note: The Higher Council for the protection of Aquatic organisms consists of the representatives of main scientific, administrative and executing Ministries and Institutions that have a role in protection of Aquatic organisms.

179.To establish marine and coastal specially protected areas (article 5);
The following marine and coastal protected areas have been established:

Name of Protected area	Type and Character	Area (hectares)	Legal Situation	Location
Om Al Toyour	Coastal and Marine	1000	Ministerial Decision T/15/ 13/5/1999	Lattakia Governorate
Ras Al Bassit	Coastal and Marine	3000	Ministerial Decision T/26/ 29/5/1999	Lattakia Governorate
Fanar Ibn Hani	Coastal and Marine	1000	Ministerial Decision T/23/ 19/7/2000	Lattakia Governorate

It is worth mentioning here, however, that according to the Ministry for Local Administration and the Environment/ General Commission for Environmental Affairs / Directorate for Biodiversity and Protected Areas, no new ministerial decision has been issued yet to specify the actual designated area for protection during 2003 – 2005.

Note: As the results of the Med MPA Project there are some proposal sites for the declaration in the near future.

180. To provide protection (article 6):

a) Strengthening the application of the other Protocols to the Convention and other treaties (article 6 a);

- As a general Syrian Arab Republic began to implement the regional and international conventions, agreements and protocols related to the protection of Biodiversity components (including Marine species) that have been signed and ratified, including Barcelona Convention, These are:

1- Convention on Biological Diversity (CBD).

2- Convention on the Conservation of Migratory Species of Wild Animals (CMS).

3- Convention on The International Trade in Endangered Species of Wild Fauna and Flora (CITES).

4- RAMSAR Wetland Convention.

5- The African-Eurasian Migratory Water-birds Agreement (AEWA).

6- Cartagena (Bio-safety) Protocol.

7- Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS).

8- Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

b) Prohibiting the dumping or discharge of wastes liable to harm the protected areas (article 6 b);

As a general rule, any legislation declaring certain regions in Syrian territories as specially protected marine or coastal areas include provision that prohibits dumping of any kind of wastes within the area.

c) Regulating the passage of ships (article 6 c);

As a general rule, any legislation declaring certain regions in Syrian territories as specially protected marine or coastal areas include provision that prohibits the passage of ships within the protected area.

d) Regulating the introduction of species (article 6 d) ;

The Ministry of Agriculture and Agrarian Reform (MAAR) and Ministry for Local Administration and the Environment, General Commission for Environmental Affairs (Directorate for Biodiversity and Protected Areas) prohibit the introduction of any marine species not indigenous to the Syrian Mediterranean Territories. It also prohibits the introduction of any genetically modified species that may pose a threat to the marine environment. It is worth mentioning here that although this ban is currently practiced, special committees discuss the draft of some Legislations and Law that regulate this issue, the expectation is during the 2005 these legislation tools will be issued.

e) Regulating activities (article 6 e), 6 h) ;

As a general rule, any legislation declaring certain regions in Syrian territories as specially protected marine or coastal areas include provisions that prohibit any potentially harming activity involving the exploration or modification of the soil or of the exploitation of the subsoil of the land part, the seabed or its subsoil. It also prohibits any other activity or act likely to harm or disturb the species.

f) Regulating scientific research activities (article 6 f) ;

As a general rule, any legislation declaring certain regions in Syrian territories as specially protected marine or coastal areas include provisions that restrict scientific research activities within the areas. A license is required from the institution that administers the protected area.

g) Regulating fishing, hunting, the taking of animals, and the harvesting of plants as well as the trade in animals or parts of animals, of plants or parts of plants coming from the protected areas.

As a general rule, any legislation declaring certain regions in Syrian territories as specially protected marine or coastal areas include provisions that prohibit the above mentioned activities within the protected areas including commercial fishing, hunting, etc.

181. Concerning planning and management of the specially protected areas (article 7);

No legislative or administrative measures have been taken so far for the planning, management and supervision of specially protected areas.

From two months ago, management plans were being formulated by the Ministry for Local Administration and the Environment/ General Commission for Environmental Affairs/ Directorate for Biodiversity and Protected Areas for each protected area, starting with Om Al Toyour and Ras Al Bassit protected area. These plans, include provisions for the management and supervision of the protected areas, as well as the role of national parties and local communities in this process. This process was one result from the Med MPA project which had been implemented by supervision of RAC/SPA and in cooperation with some international institutions and scientific Centers.

182. For the protection and conservation of species (article 11);

In general, any legislation declaring certain regions in Syrian territories as specially protected marine or coastal areas include provisions that prohibit all potentially harming activities including (a) taking, possessing, killing, transporting and commercial exhibition of protected species of fauna, their eggs, parts or products, (b) the disturbance of wild fauna during sensitive periods, and (c) the destruction or disturbance of protected species of flora.

183. To regulate the introduction of non-indigenous or genetically modified species (article 13);

In general, any legislation declaring certain regions in Syrian territories as specially protected marine or coastal areas include provisions that prohibit the intentional or accidental introduction of non-indigenous or genetically-modified species.

There are no records of any harmful species that had been introduced in the past.

Note: The national and international marine experts recorded some non-indigenous species in the marine ecosystem that came especially from Red Sea.

184. To grant exemptions from protection measures (articles 12,18)

No exemptions have been granted in this regard.

6. Technical application of the protocol

185. List the specially protected areas established under the terms of article 5.

The following protected marine and coastal areas have been established:

Name of Protected area	Type and Character	Area (hectares)	Legal Situation	Location
Om Al Toyour	Coastal and Marine	1000	Ministerial Decision T/15/ 13/5/1999	Lattakia Governorate
Ras Al Bassit	Coastal and Marine	3000	Ministerial Decision T/26/ 29/5/1999	Lattakia Governorate
Fanar Ibn Hani	Coastal and Marine	1000	Ministerial Decision T/23/ 19/7/2000	Lattakia Governorate

186. Proposals made to include the areas subject to national jurisdiction on the SPAMI list (Article 9a) No areas under Syrian jurisdiction have been proposed for inclusion in the SPAMI list during the period under review, or before.

187. SPAMI list :

No areas under Syrian jurisdiction have been included so far in the SPAMI list.

188. Any modification to the legal status of protected species.

No identification of protected species has been made so far. A list of marine species of flora and fauna is still under preparation. Endangered species will be extracted and determined from this list once completed.

189. New data concerning non-indigenous or genetically modified species liable to be harmful. (Article 13.2).

No such records are available.

190. Inventories of the components of biological diversity (article 15).

In 1995-1996 the first list of marine species was prepared. It was based on earlier studies, researches and references. In 2002-2003, a study of the marine species in the sea area opposite to Om Al Toyour and Ras Al-bassit protected areas was initiated. A field survey was done in this location as a part of formulating a management plan for the protected area.

191. Exemptions granted to protection measures articles 12, 18, 23 c).

No exemptions were granted

192. Implementation of the action plans adopted within the framework of MAP:

- Action plan for the conservation of cetaceans in the Mediterranean sea
- Action plan for the management of the monk seal in the Mediterranean
- Action plan for the conservation of sea turtles in the Mediterranean
- Action plan for the conservation of marine vegetation.
- Action plan for the conservation of cartilaginous fish (condrichthyans) in the Mediterranean sea
- Action plan concerning the introduction of species and invasive species in the Mediterranean sea.

One of the SAP-Bio project's activities was the preparation of National Action Plans, At the end of 2004 Ministry for Local Administration and the Environment (MLAE), General Commission for Environmental Affairs (Directorate for Biodiversity and Protected Areas in cooperation with Higher Institution for Marine Research (Teshrin University, Lattakia City), prepared four action plan, Two of them mentioned above:

- National Action Plan concerning the introduction of species and invasive species.
- National Action Plan for the conservation of sea turtles in the Mediterranean Syrian Coast.

Syrian Arab Republic in cooperation with RAC/SPA hosted a meeting for the preparation of an action plan for the protection of monk seal on the Mediterranean level.

A national workshop was organized in cooperation ACCOBAMS secretariat and with the support of the Italian Ministry of Environment on the establishment of national network for the monitoring of stranding of cetaceans.

193. Implementation of other recommendations pertinent to the Contracting Parties.

Three training courses on the management of protected coastal and marine areas were organized.

The National Strategy and Action Plan for the protection of marine biodiversity (SAP-BIO) has been prepared in 2002. The strategy was officially adopted in April 8, 2004 in a National Workshop attended by concerned National Institutions, Ministries and stockholders.

7. Brief description of all problems or constraints encountered in the application of the Protocol.

The Ministry of Local Administration and Environment listed the following difficulties that face the implementation of the protocol despite of the Government's eagerness for the protection of Marine Biodiversity and Aquatic Organisms:

- Lack or weakness of public awareness.
- Lack of training for national staff on the management of marine and coastal protected areas.
- Financial difficulties.

Application du Protocole relatif aux aires spécialement protégées et à la diversité biologique en Méditerranée:

1. Mesures juridiques et/ou administratives prises aux termes du Protocole:

1.1 pour protéger, préserver et gérer les espaces marins et côtiers ayant une valeur naturelle ou culturelle particulière, et pour protéger, préserver et gérer les espèces de la faune et de la flore marines et côtières qui sont en danger ou menacées (article 3)

La législation tunisienne relative à la préservation des espaces marins et côtiers est notamment constitué du code forestiers et de la loi de création de l'APAL. Ces deux textes n'ont pas fait l'objet de changement pendant la période couverte par le présent rapport. Par ailleurs des dispositions juridiques ont été prises pour assurer la protection de sites naturels marins et côtiers d'intérêt particulier. Les textes évoqués ci-dessus sont:

- La loi n° 68-4 du 8 mars 1968, relative à la protection des phoques dans les eaux territoriales tunisiennes.
- Les article 207 à 217 de la loi n° 88-20 du 13 avril 1988, portant refonte du Code forestier.
- Parmi les espaces naturels créés en Tunisie il y a quelques espaces marins et côtiers :
- le décret n° 77-340 du 1er avril 1977, portant création du parc national des îles de Zembra et Zembretta.
- -le décret n° 80-1608 du 18 décembre 1980, portant création du parc national de l'Ichkeul.
- l'arrêté du ministre de l'Agriculture du 18 décembre 1993, portant création d'une réserve naturelle aux Iles de Kneiss de la délégation de Graiba du Gouvernorat de Sfax.
- l'arrêté du ministre de l'Agriculture du 18 décembre 1993, portant création d'une réserve naturelle à la Grotte de Chauve-Souris de la délégation d'El Haouaria du Gouvernorat de Nabeul.
- l'arrêté du ministre de l'Agriculture du 18 décembre 1993, portant création d'une réserve naturelle à l'Ile de Chikly de la délégation de Bab Bhar du Gouvernorat de Tunis.

Un projet de cadre juridique pour la création et la gestion des aires protégées marines et côtières est en cours d'élaboration. Pendant la période couverte de ce rapport (2002-2003), de larges concertations sur le contenu de ce texte ont été menées, mais à la fin de la dite période, ce projet n'avait pas été encore finalisé.

1.2 pour créer des aires spécialement protégées marines et côtières (article 5)

Bien qu'aucune création d'aires protégées marines et côtières n'est intervenu en Tunisie pendant la période couverte par le présent rapport (2002-2003), plusieurs projets de création d'aires protégées marines et côtières sont en cours. Ils concernent *les îles Kuriat, la partie nord est de Kerkennah et le littoral se trouvant entre Cap Negro et Cap Serrat*.

Les plans de gestion des 3 ASPIM tunisiennes (l'Archipel de la Galite, Zambra – Zambretta et les îles Kneiss) ont été élaborés et fournis officiellement lors de la réunion des points focaux de 2003 au CAR/ASP. Un travail de renforcement du plan de gestion de l'Archipel de Zembra a été lancé dans le cadre du projet MedWetCoast pour la partie terrestre et le projet MedMPA du CAR/ASP pour la partie marine.

1.3 pour assurer la protection conformément à l'article 6

La Tunisie a entrepris dans le cadre de sa législation sur les zones sensibles (article 8 de loi 72-95 relative à la création de l'Agence de protection et d'Aménagement du Littoral des études de schémas de gestion pour plusieurs sites naturels remarquables dont l'ASPIM des îles Kneiss, les futurs Parcs marins et côtiers de Kerkennah, les îles Kuriat et la zone côtière Cap Negro-Cap Serrat.

Les dispositions de l'Article 6 du Protocole sont couvertes en Tunisie par les mesures générales applicables aux déversements et rejets dans le milieu récepteur ainsi que celles applicables à la chasse, la pêche et l'introduction des espèces. En outre les textes de création et de gestion des aires protégées couvrent au niveau de chaque aire protégée la plupart des mesures de protection préconisées par les paragraphes a) à h) de l'article 6 du Protocole. Les textes pertinents à ce sujet sont:

- La loi n° 75-16 du 31 mars 1975, portant promulgation du Code des eaux, telle que modifiée par la loi n° 87-35 du 6 août 1987, la loi n° 88-94 du 2 août 1988 et la loi n° 2001-116 du 26 novembre 2001.
- La loi portant création de l'ANPE (la loi n° 88-91 du 2 août 1988, telle que modifiée par la loi n° 92-115 du 30 novembre 1992 et la loi n° 2001-14 du 30 janvier 2001 et notamment son article premier).
- La loi n° 93-41 du 19 avril 1993 relative à l'Office Nationale de l'Assainissement (ONAS) telle que modifiée par la loi n° 2004-70 du 2 août 2004.

- La loi n°96-41 du 10 juin 1996 relative aux déchets et au contrôle de leur gestion et de leur élimination telle que modifiée par la loi n°2001-14 du 30 janvier 2001.
- Le décret n° 85-56 du 2 janvier 1985, relatif à la réglementation des rejets dans le milieu récepteur.
- Le décret n° 94-1885 du 12 septembre 1994, fixant les conditions de déversement et de rejet des eaux résiduaires autres que domestiques dans les réseaux d'assainissement implantés dans les zones d'intervention de l'Office National de l'Assainissement.
- Le décret n°97-1102 du 2 juin 1997, fixant les conditions et les modalités de reprise et de gestion des sacs d'emballage et les emballages utilisés, (modifié par le décret n°2001-843 du 10 avril 2001).
- Le décret n°2000-2339 du 10 octobre 2000, fixant la liste des déchets dangereux.
- Le décret n°2002-693 du 1^{er} avril 2002 relatif aux conditions et aux modalités de reprise des huiles lubrifiantes et des filtres à huile usagées et de leur gestion.
- D'autres projets de décrets relatifs à la gestion des pneumatiques usagées, à la gestion des piles et batteries usagées, et à la gestion des déchets électroniques sont en cours d'élaboration.

1.4 concernant la planification et la gestion des aires spécialement protégées (article 7):

Pendant la période couverte par le présent rapport les actions suivantes ont été réalisées en matière de planification et de gestion des aires protégées marines et côtières:

Les plans de gestion des de la Galite a été réalisé et soumis pour approbation par le comité de pilotage créé à cet effet. La mise en œuvre du plan de gestion de la Galite a bénéficié d'un accord officiel de financement de la part du Fonds Français pour l'Environnement Mondial.

Le projet plan de gestion de Zembra Zembretta a été élaboré dans le cadre des projets MedWetCoast (APAL) et MedMPA (CAR/ASP) et des réunions d'information et de concertation sur les options proposées ont été organisées.

Élaboration du plan de gestion des îles Kneiss dans le cadre d'un projet européen INCO-DC. Sa mise en œuvre est assurée par une ONG locale (APNES) à travers une convention. La mise en œuvre du plan de gestion est prise en considération dans le projet de protection du Golfe de Gabès financé par le FEM.

1.5 pour la protection et la conservation des espèces (article 11);

La conservation des espèces est régie en Tunisie par les textes suivants:

- La loi n° 68-4 du 8 mars 1968, relative à la protection des phoques dans les eaux territoriales tunisiennes.
- Les articles 207 à 217 de la loi n° 88-20 du 13 avril 1988, portant refonte du Code forestier tel que modifié par la loi n° 2001-28 du 19 mars 2001.

Des actions de protection des espèces ont été engagées dans le cadre de plusieurs projets dont particulièrement :

- le projet de conservation des zones humides et des écosystème côtiers dans le bassin méditerranéen (MedWetCoast) financé par le GEF
- le projet de protection des parcs nationaux au niveau du parc national de l'Ichkeul financé par le GEF
- le projet de protection du Golfe de Gabès financé par le GEF
- projet de protection des zones sensibles mené par l'Agence de protection et d'Aménagement du Littoral

1.6 pour réglementer l'introduction d'espèces non indigènes ou génétiquement modifiées (article 13)

Cet aspect est couvert par les textes mentionnés au paragraphe 1.5 ci-dessus

1.7 pour accorder des dérogations aux mesures de protection (articles 12,18).

Aucune mesure législative n'a été prise pendant la période couverte par le présent rapport pour accorder des dérogations aux mesures de protection des espèces.

2. Brève description de tous problèmes ou contraintes rencontrés dans l'application du Protocole et des mesures prises pour y faire face

La mise en œuvre des dispositions de ce Protocole implique des moyens importants et une panoplie de mesures. Il n'est de ce fait possible d'obtenir des résultats tangibles qu'à travers la mise en place d'une stratégie intégrée axées selon les priorités les plus pressantes. Ainsi, la Tunisie a mené un processus national d'analyse de la situation de la biodiversité marine et côtière, ce qui a permis d'identifier des priorités et d'élaborer des plans d'actions selon ces priorités. Ce travail a été réalisé dans le cadre du projet PASBIO.

**Rapport national sur l'application technique
du Protocole «aires spécialement protégées»**

1. **Pays.: Tunisie**
2. **Période couverte par le rapport.**
1er janvier 2002 au 31 décembre 2003.
3. **Organisation nationale chargée de l'établissement du rapport.**
Agence Nationale de Protection de l'Environnement (ANPE)
4. **Organisations nationales ayant communiqué des données en vue de l'établissement du rapport**

Les données ci-après ont été fournies par membres de la structure focale nationale du CAR/ASP :
Agence de Protection et d'Aménagement du littoral
Institut National des Sciences et Technologie de la Mer
Direction Générale de la Pêche et de l'aquaculture
Direction Générale l'Environnement et de la Qualité de la Vie

5. **Assistance reçue du PAM/PNUE en vue de l'établissement du présent rapport.**
Le PAM/PNUE a mis à la disposition de la Tunisie une contribution financière, ce qui a permis à la structure focale d'avoir l'appui d'un consultant pour l'élaboration du rapport national sur la base des contributions des points focaux nationaux.
6. **Liste des aires spécialement protégées créées aux termes de l'article 5**
Parc National de Zembra
Parc National d'Ichkeul
Réserve naturelle des îles kneiss
Réserve naturelle d'île Chikly
7. **Propositions faites pour l'inscription d'aires relevant de la juridiction nationale sur la liste des ASPIM (Article 9 a)**
Archipel de la Galite (proposée en novembre 2001)
Parc national de Zembra (proposée en novembre 2001)
Réserve naturelle des îles kneiss (proposée en novembre 2001)

8. **Liste des ASPIM:**
a) statut et état des aires sous juridiction nationale inscrites sur la liste des ASPIM (article 23(a))

ASPIM	Statut	Etat
Archipel de la Galite	La partie marine est soumise à une protection légale. Un régime de protection plus élaboré est en cours d'étude pour la mise en place d'un parc national marin	Bon état de conservation Menaces potentielles toujours présentes d'où la nécessité de maintenir la protection
Parc national de Zembra	La partie terrestre et la partie marine sont soumises à une protection légale	Bon état de conservation
Réserve naturelle des îles kneiss	Les îles et les zones d'estran sont soumises à la protection légale	Bon état de conservation Des projets sont en cours pour introduire plus d'intégration des aspects socioéconomiques dans les objectifs de l'aire protégée

- b) toute modification de la délimitation ou du régime juridique des ASPIM (article 23 b)).
Aucune modification n'a été opérée sur les délimitations des trois ASPIM sus-indiquées
9. **Toute modification dans la délimitation ou le régime juridique des espèces protégées.**
Pas de changement dans le régime juridique des espèces protégées en Tunisie au cours de la période considérée..
10. **Nouvelles données concernant des espèces non indigènes ou génétiquement modifiées susceptibles de causer des dommages (article 13.2).**
Dans le cadre du projet Pas Bio la Tunisie a élaboré un plan d'action sur les espèces marine invasives. Ce rapport a démontré la présence d'un nombre relativement important d'espèces d'origine lessepsienne et atlantique (voir annexe, ci-après)
11. **Inventaires des éléments de la diversité biologique (article 15)**
Les inventaires suivants ont été effectués:
96- 99 : Inventaires des espèces dans le cadre de l'élaboration de la stratégie nationale de biodiversité (Inventaire national)
99 – 2002 : Inventaires d'espèces et des habitats dans le cadre des études spécifiques de caractérisation des zones naturelles sensibles (25 sites)

96- 2001 : Inventaires de zones naturelles sensibles dans le cadre des schémas directeurs d'aménagement du territoire tunisien (frange littorale).

12. Dérogations accordées aux mesures de protection (articles 12, 18, 23c)).

Aucune dérogation n'a été accordée pendant la période concernée par le présent rapport

13. Mise en œuvre des plans d'action pour des espèces menacées adoptés dans le cadre du PAM.

14. Mise en œuvre des autres recommandations pertinentes des Parties contractantes

PLAN D'ACTION STRATEGIQUE POUR LA CONSERVATION DE LA DIVERSITE BIOLOGIQUE EN REGION MÉDITERRANÉENNE

PROJET MEDMPACe produit concerne 6 pays méditerranéens. Il vise L'élaboration du plan de gestion des sites d'intérêt méditerranéen dont le site de Zambra en Tunisie

La mise en place de ce projet se fera selon les étapes suivantes:

Durant la période couverte par le rapport :

- Participation à l'élaboration du plan de gestion de la partie marine du parc National de Zembra Zembretta et consolidation de ce plan de gestion avec le plan de gestion de la partie terrestre élaboré dans le cadre du projet MedWetCoast
- La réunion du comité de pilotage du parc national de Zembra Zembretta a eu lieu fin mars 2000 a permis la validation de ce plan de gestion.
- Participation à l'atelier de formation sur le suivi des aires protégées en juin 2003 qui a eu lieu en Tunisie dans la parc urbain d'Ennahli.

**Annexe Rapport national sur l'application technique
du Protocole «aires spécialement protégées»**

Section 1: Espèces non-indigènes

1 Mollusques exotiques

Pinctada radiata : neuf ans après l'ouverture du canal de Suez en 1869, la pintadine *Pinctada radiata*, mollusque bivalve de la famille des Pteriidae, d'origine indopacifique fait son apparition en Méditerranée en Alexandrie. Environ 15 ans après, elle était présente dans le golfe de Gabès puis dans le golfe de Tunis (Dautzenberg, 1895). Elle était citée comme abondante dans la région du golfe de Gabès. Elle est toujours commune à très commune dans le médio et l'infra littoral.

Crepidula fornicata : ce Mollusque introduit est présent en Tunisie, dans la région du golfe de Gabès (Fehri-Bédoui, 1986). Il est originaire de l'Atlantique nord américaine.

fulvia fragilis (Forsskål in Niehbur, 1775) : Ce bivalve est introduit en Méditerranée progressivement à travers le canal de Suez . Il a été signalé en Tunisie dans le golfe de Gabès (Passamonti, 1996). Les dernières prospections (printemps 2002) montrent l'abondance de cette espèce dans cette même région (données non publiées).

2 Crustacés exotiques

Alpheus crassimanus : cette espèce lessepsienne de Crustacé de la famille des Alpheidae est apparue en Tunisie depuis les années 50 (Forest & Guinot, 1956).

Trachypenaeus curvirostris : cette espèce de crevette Penaeidae est lessepeienne, elle est pêchée commercialement en Méditerranée orientale, particulièrement en Egypte et en Turquie. Elle est apparue dans la région du golfe de Gabès en 1993 (Zaouali, 1993) où elle est pêchée au chalut benthique (1 Kg par trait de chalut de 2 heures). Elle est sans valeur commerciale pour le moment (Bradai, 2000).

Cette espèce est pêchée régulièrement dans le golfe de Gabès en même temps que l'espèce commerciale *P. kerathurus*. Cette cohabitation pourrait avoir des effets de compétition négatifs surtout que cette espèce a dominé la crevette royale en Egypte.

Metapenaeus monoceros (Famille Penaeidae) : espèce lessepsienne à distribution spatiale limitée, en Méditerranée, aux côtes les plus orientales. Elle est apparue en Tunisie en 1994-1995, dans la région du golfe de Gabès (Missaoui & Zaouali, 1995 ; Enzenross & Enzenross, 2000). Depuis, elle est devenue très abondante surtout de Mahrès à Skhira par des profondeurs allant de 20 à 50 m.

Nous avons réalisé en automne 1998, 74 traits de chalutage benthique expérimental (107 heures) dans la région du golfe par des profondeurs allant de 20 à 50 m. Dans la production commerciale, nous avons enregistré 1012 Kg de crevettes (9,5 Kg / h) dont 504 Kg de crevette royale *Penaeus kerathurus* et 508 Kg de crevette blanche *Metapenaeus monoceros* (Bradai, 2000).

La valeur commerciale de cette nouvelle espèce est de loin moindre que celle de la crevette autochtone *Penaeus kerathurus*.

Eucrate crenata De Hann, 1835 (Famille Goneplacidae) : une espèce d'origine indopacifique, signalée en Egypte en 1924 et qui a émigré, d'une façon relativement récente, dans le golfe de Gabès, vraisemblablement autour de 1985 (Zaouali, 1992).

Libinia dubia H. Milne Edwards, 1834 (Famille Majidae) : ce crabe est une espèce originaire des côtes américaines, les limites de sa distribution vont de Massachusetts jusqu'à Floride et Texas, aux Bahamas et Cuba.

Il n'a pas été signalé auparavant en Méditerranée. Il a été décrit pour la première fois dans les eaux tunisiennes, au golfe de Gabès, par des profondeurs allant de 5 à 25 m, principalement entre Zarrat et Mahrès (Enzenross & Enzenross, 2000)). Il serait introduit dans la région dans les eaux de ballast des pétroliers.

00. De nouvelles prospections effectuées au mois de mars 2000 ont montré que cette espèce gagne du terrain dans la région du golfe de Gabès. Elle a été en effet, observée en abondance au Nord de Sfax à Sidi Mansour par faible profondeur. Sur 15 kg de déchets benthiques ramenés par le mini chalut (Kiss) opérant sur l'herbier de Posidonie, nous avons isolé un échantillon de 2 Kg de ce crabe renfermant 46 individus (31 femelles et 15 mâles) (Bradai, 2000).

3 Végétaux exotiques

Caulerpa racemosa : cette algue verte, d'origine tropicale, a été signalée en Tunisie dans le port de Sousse (Hamel, 1926), à Mahdia et dans le golfe de Gabès par 15 m de profondeur (Ben Alaya, 1971), à Salakta sur les blocs rocheux du port (Ben Alaya, 1971 ; Ben Maiz, 1984 ; Ben Maiz et al., 1987), au large de Monastir dans l'herbier de Posidonie (Ben Mustapha & Hattour, 1992) et aux alentours des îles Kuriat (Bradai & Jribi, 1997).

Nous l'avons observée également dans la région du golfe de Gabès par des profondeurs importantes (72 m) formant des pelouses sur fond sableux avec des débris coquilliers et mélobésiers (Hamza et al., 1995) et plus récemment (juillet 2000) à la Chebba et dans le port d'El Ataya à Kerkennah (Bradai, 2000). L'espèce prend un caractère envahissant et sa distribution a atteint les côtes nord (Langar et al., 2001).

Caulerpa taxifolia : Les premières signalisations de cette espèce invasive remonte au mois de mars 2000 dans la rade de Sousse (Langar et al., 2000). Les zones touchées actuellement sont La rade de Sousse, El Kantaoui, marina de Monastir, Sidi Daoud (données non publiées). La présence de *Caulerpa taxifolia* dans une rade et dans son voisinage suggère son introduction à travers l'ancrage des bateaux. Le caractère envahissant de cette algue et sa présence dans cette région de la Méditerranée (température plus élevée qu'en Méditerranée nord occidentale) devraient nous inciter à renforcer le contrôle de notre littoral.

4 Poissons exotiques

***Stephanolepis diaspros* (Fraser – Brünner, 1940) (Monacanthidae)** : les premières mentions de cette espèce dans la région du golfe de Gabès datent dans les années 1965 – 1966 (Chakroun, 1966). Actuellement, ce baliste est commun par faible profondeur dans toute la région du golfe de Gabès. Les tailles, pour un échantillon de 133 individus pêchés au chalut benthique en décembre 1998, varient de 35 à 200 mm (moyenne de 95,4 mm) (Bradai, 2000).

***Siganus luridus* (Rüppell, 1828) (Siganidae)** un spécimen de *S. luridus* a été capturé pour la première fois le 20 décembre 1969 dans le golfe de Tunis (Chakroun & Bouhlel, 1971). Le 20 novembre 1974, un autre spécimen a été observé au marché de Sfax (Ktari & Ktari, 1974). De 1986 à 2001, nous en avons pêché une centaine d'individus dans la région de Sfax principalement aux filets trémail et au mini-chalut opérant sur l'herbier de Posidonie. Cette espèce a été pêchée également au centre, au large de Mahdia. La longueur totale varie de 150 à 258 mm (moyenne de 190,97 mm) (Bradai, 2000). Il s'agit d'adultes, la taille de première maturité sexuelle étant de 120 à 160 mm (George, 1972). En mer Rouge (région de Jeddah) les captures commerciales sont composées de spécimens de 180 à 280 mm (moyenne de 210 mm) (Amin et Hussein, 1985).

***Siganus rivulatis* Forsskal, 1775, (Siganidae)** : un spécimen a été observé pour la première fois le 20 novembre 1974 au marché de Sfax (Ktari & Ktari, 1974). L'individu observé provient sans aucune doute de la région du golfe de Gabès. Le 6 mai 1995, nous avons observé deux individus de 256 et de 276 mm de LT débarqués également à Sfax (Bradai, 2000) et un autre individu en octobre 2001 à Kerkennah (région du golfe de Gabès).

***Priacanthus hamrur* (Forsskal, 1775) (Priacanthidae)** : un spécimen de 232 mm a été capturé pour la première fois en Méditerranée le 7 avril 1980 dans la zone Centre à Mahdia (Abdelmouleh, 1981) ;

***Sphoeroides pachygaster* (Müller et Troschel, 1848) (Tetraodontidae)** : cette espèce est considérée comme typique de la faune ichthyologique de l'Atlantique oriental tropical et subtropical et de l'Afrique de l'Ouest (golfe de Guinée) (Blache et al., 1970). 3 spécimens ont été observés dans la région du golfe de Gabès le 25 mars 1992 (Bradai et al., 1993). Trois autres individus ont été capturés dans cette même région le 3 juillet 1992, le 27 mars 1996 et le 23 mai 2000. Les longueurs totales de ces spécimens varient de 165 à 410 mm (Bradai, 2000).

***Solea senegalensis* Kaup, 1858 (Soleidae)** : elle a été observée pour la première fois en Tunisie dans le golfe de Tunis en 1979 (Goucha & Ktari, 1981). Actuellement, elle est fréquente dans la région nord de la Tunisie. Elle a été observée également dans le golfe de Hammamet (Jarboui et al., 1998).

***Seriola carpenteri* Mather, 1971 (Carangidae)** connue en Atlantique de l'Est, de l'Angola au golfe de Biscaye, a été signalée en Tunisie à Lampedusa, proche des côtes de la Tunisie (Pizzicori et al., 2000). Vu l'état de maturité des spécimens capturés, il semble que cette espèce s'adapte bien aux conditions de cette aire géographique.

***Chaunax suttkusi* Caruso, 1949 (Chaunacidae)**, connue à l'Est et à l'Ouest de l'Atlantique, a été signalée à deux reprises dans le détroit siculo-tunisien donc proche des côtes tunisiennes (Ragonese et Giusto, 1997 ; Ragonese et al., 2001).

***Seriola fasciata* (Bloch, 1793) (Carangidae)** a été capturée pour la première fois au mois de mai 1996 dans la région du golfe de Gabès à La Skhira. Il s'agit d'un individu juvénile. Quelques individus, également juvéniles, ont été capturés au centre du pays au large de Monastir en 2000 dans des pêcheries de coryphène. Cette espèce est apparemment rare dans l'Atlantique-est, elle est connue à Madère où l'espèce est abondante localement. En Méditerranée, elle a été signalée à deux reprises, le 19 octobre 1989 sur les côtes espagnoles (Massuti & Stefanescu, 1993) et également au mois d'octobre 1997 dans le golfe du Lion (Quignard & Tomasini, 2000).

***Pisodonophis semicinctus* (Ophichthidae)**, un seul spécimen de cette espèce exotique, à affinité chaude, a été capturé sur les côtes algériennes (Bauchot, 1986 ; Fischer et al., 1987). En Tunisie, nous l'avons pêchée pour la première fois au chalut benthique dans le golfe de Gabès par 15 m de profondeur le 4 juin 1998. Un deuxième individu fut pêché au filet trémail dans le canal de La Goulette (golfe de Tunis) le 2 octobre 2000 (Ben Salem, comm. Pers.). Ces deux individus mesurent respectivement 786 et 550 mm de Lt. (Bradai, 2000).

***Parexocoetus mento* (Valenciennes, 1846) (Exocoetidae)**, espèce indo-pacifique signalée pour la première fois en Méditerranée à Palestine (Brun, 1935) puis successivement à Rhodes (Tortonese, 1938), en Libye (Ben Tuvia, 1966) et en Albanie (Parin, 1986). Elle a été observée pour la première fois en Tunisie au sud des îles Kerkennah (région du golfe de Gabès) en juin 2000. Un seul spécimen de 70 mm de Lt a été examiné parmi d'autres pêchés en même temps par une madrague mobile (données non publiées) .

***Pempheris vanicolensis* (Pempheridae)**, deux spécimens de ce migrant lessepsien ont été capturés pour la première fois sur les côtes tunisiennes le 24 septembre 2001 au chalut benthique au large de Sfax. Ils mesurent 120 et 132 mm, puis deux autres individus de 125 et 115 mm de longueur totale furent observés dans des « cherfia » à Kerkennah le 7 octobre et le 24 novembre 2001 (Bradai & Bouain, 2001).

