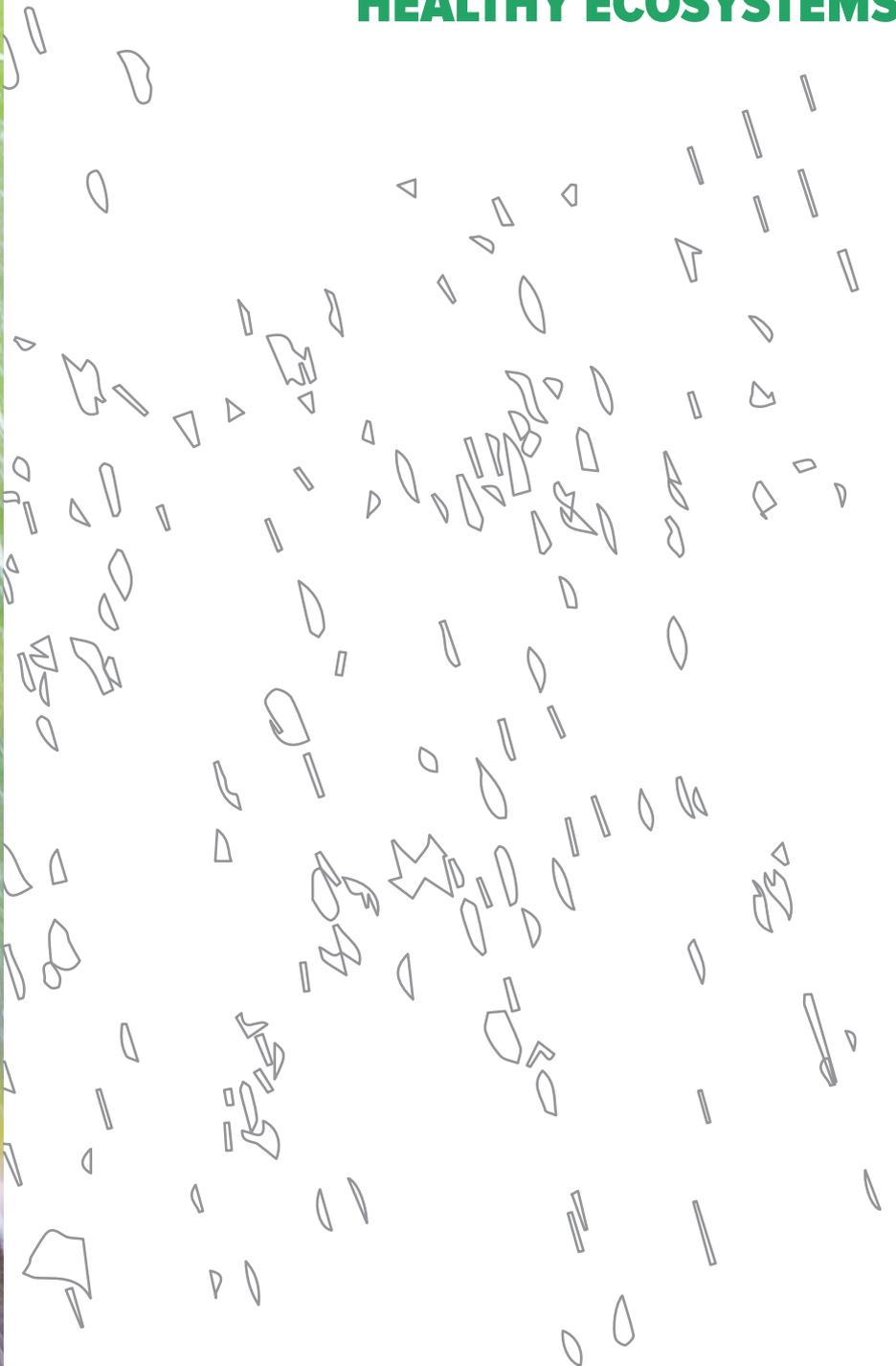




# ECOSYSTEM MANAGEMENT

**SUPPORTING HUMAN  
WELL-BEING THROUGH  
HEALTHY ECOSYSTEMS**



# ECOSYSTEM MANAGEMENT

In its work on ecosystem management, which is of particular significance to the Sustainable Development Goals on conserving and sustainably managing terrestrial and ocean ecosystems, UNEP focuses on the following areas:

- **The Enabling Environment** – Assisting countries in incorporating the value and the long-term function of ecosystems in planning and accounting frameworks.
- **The productivity of terrestrial and aquatic ecosystems** – Assisting countries to use an ecosystem approach to managing terrestrial and aquatic ecosystems.
- **The productivity of marine ecosystems** – Assisting countries to use an ecosystem approach in marine ecosystem management.



Kenya has valued its ecosystems, including the Mount Kenya water catchment area, pictured here during a forest fire in 2012. © Thomas Mukoya / Reuters

## Building knowledge and enabling conditions

Ecosystems – complex webs of living organisms and other natural resources – play a critical role in supporting human well-being and driving economic growth through the services they provide such as food, water, pollination and climate regulation. As such, their continued health will be vital to the world's sustainable development aspirations. To help create an enabling environment for countries to understand and conserve these services, UNEP assists governments to quantify and understand the value of ecosystems and how to best use that information in their national decision-making processes.

Over the last two years, 17 countries – from a total of 61 working on the subject with UNEP, including through the Economics of Ecosystems and Biodiversity (TEEB) – completed a valuation of their ecosystems. Seven countries – including Guatemala, Kenya and the United States – were able to use valuation data on priority ecosystem services in their national accounting and budgeting processes, meeting the target set for December 2015. For a good example of this work, see the In Focus feature on UNEP's flagship ProEcoServ project (page 25).

## Productivity of terrestrial and aquatic ecosystems

UNEP supported 58 countries to enable different sectors to use an ecosystem approach. The result of this support is that eight countries, over the last two years, have taken steps to integrate the ecosystem approach into sector-based natural resource management, bringing the total to 25 countries, in line with targeted results.



UNEP's Europe Director, Jan Dusik, speaks on mountain agriculture during Mountain Week in Milan. © UNEP

**17**  
**COUNTRIES**  
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**VALUATION**  
**OF THEIR**  
**ECOSYSTEMS**



## UNEP support to countries to use an ecosystem approach

| Country   | Result  |
|---|---|
| Angola  | In conjunction with the Mayombe Transboundary Conservation Agreement, Angola – which will host World Environment Day 2016 to draw attention to the fight against the illegal wildlife trade – gazetted a first protected area.                                    |
| Benin, Burkina Faso, Ghana, Ivory Coast, Mali, Togo | Finance secured for the implementation of the Strategic Action Plan for Volta Basin.  |
| Democratic Republic of Congo, Rwanda, Uganda        | Signature of the Treaty of the Greater Virunga Transboundary Collaboration, which aims to protect mountain gorillas and their landscapes, as well as the communities that depend on them through tourism, in Rwanda, Uganda and the Democratic Republic of Congo. |
| Indonesia   | The ecosystem approach was used in Sumatra to establish a spatial plan and a strategic landscapes document.   |
| South Africa  | Increased its investment by \$4 million to restore the water catchment area of the Ntabelanga Dam.  |

### Great apes survival partnership responds to Borneo fires

As fires ravaged Southeast Asia last year, the Great Apes Survival Partnership (GRASP) stepped up its support to affected great ape populations. Annual fires set to clear land for agricultural development on Borneo, where the majority of the remaining 70,000 orangutans in the wild live, were whipped beyond control by El Niño meteorological conditions, resulting in the loss of one-third of the orangutans' forests.

The fires left orangutan rehabilitation centers overwhelmed by rescued apes. The Roundtable on Sustainable Palm Oil donated \$100,000 to GRASP projects in Borneo, which were used to fund orangutan rescue and rehabilitation, fire-fighting, and habitat protection projects. Efforts in Borneo were further boosted when two new organizations joined GRASP in December: Orangutan Appeal UK, which provides direct support to the Sepilok Orangutan Rehabilitation Centre in Sabah, and the Gunung Palung Orangutan Conservation Program, which engages local

communities and governments in the conservation of wild populations in West Kalimantan. GRASP has added 21 partners since 2013, with 102 governments, research institutions, United Nations agencies, conservation organizations and private supporters committed to the protection of great apes and their habitats.

### Productivity of marine ecosystems

Country action towards addressing marine litter increased substantially over the last two years with the G7 and the Barcelona, Cartagena, Helsinki and OSPAR Conventions agreeing upon marine litter action plans. At national and sub-national levels, Brazil, Chile, Colombia, Ecuador, Nigeria, Panama and Samoa are working on action plans on marine litter.

UNEP's Regional Seas Programmes and the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) are the main vehicles UNEP utilizes to support countries in integrating the ecosystem approach in their efforts to sustain coastal and marine ecosystems.

UNEP also enabled 14 countries to use an ecosystem approach to sustain ecosystem services from coastal and marine systems. Viet Nam launched its National Integrated Coastal Zone Management Strategy, while Palau in October created the Palau Marine Sanctuary – an area in which no fishing, or other uses such as drilling for oil, will be permitted. The Bahamas, which has been supported in its endeavours by UNEP and the Global Environment Facility since 2009, also announced the creation of 24 new marine protected areas and the expansion of 3 existing national parks, thus adding around 3 million hectares to its marine protected areas and reserves system. Caribbean states signed up to the Caribbean Challenge Initiative (CCI) have agreed to a goal of protecting 20% of their coastal and marine ecosystems by 2020.

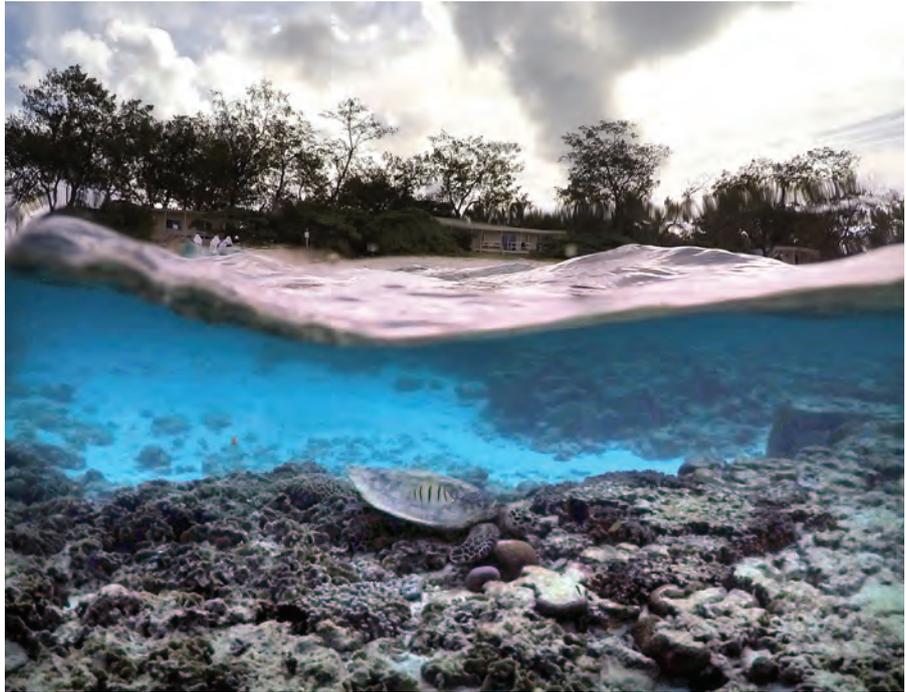
## Biodegradable plastics not the answer

To mark the 20th anniversary of the GPA, a report was released in November to highlight concerns over the widespread adoption of products labelled 'biodegradable'. *Biodegradable Plastics and Marine Litter. Misconceptions, Concerns and Impacts on Marine Environments* found that complete biodegradation of plastics occurs in conditions that are rarely, if ever, met in marine environments. There is also evidence suggesting that labelling products as 'biodegradable' increases the public's inclination to litter.

Another highlight was the adoption of the Biodiversity Protocol by the parties to the Tehran Convention, which obliges the Parties to work together beyond national borders in the conservation and restoration of the Caspian Sea. Governments also agreed to establish a permanent Secretariat of the Convention, under the administration of UNEP.

**For more information on UNEP's work on ecosystems, visit [unep.org](http://unep.org) or follow us on Facebook or Twitter.**

**500,000  
SQ / KM  
SET ASIDE FOR  
PROTECTION  
IN PALAU**



Delicate marine ecosystems were increasingly protected in 2015. © David Gray / Reuters

**“ISLAND COMMUNITIES HAVE BEEN AMONG THE HARDEST HIT BY THE THREATS FACING THE OCEAN. CREATING THIS SANCTUARY IS A BOLD MOVE THAT THE PEOPLE OF PALAU RECOGNIZE AS ESSENTIAL TO OUR SURVIVAL. WE WANT TO LEAD THE WAY IN RESTORING THE HEALTH OF THE OCEAN FOR FUTURE GENERATIONS.”**

**PALAU PRESIDENT TOMMY E. REMENGESAU JR.  
(A 2014 UNEP CHAMPION OF THE EARTH)**



## PROECOSERV PROJECT HELPING TO CONSERVE ECOSYSTEMS

**Much of Viet Nam’s mangrove forests are located in the southern Ca Mau Province, where they play a vital role in maintaining the health of ecosystems and provide services to 1.53 million people.**

Yet, over the last 30 years, large areas of mangroves – around half in the wider Mekong Delta, by some estimates – have made way for shrimp farms and other development. A continuation of this trend would lead to the decimation of the remaining mangroves, with huge implications for both ecosystems and livelihoods.

However, with the assistance of UNEP’s ProEcoServ project, which aims to integrate the economic value of ecosystems into government policies, attitudes are changing. The four-year project identified almost one billion dollars of annual benefits in four countries – including soil retention services worth \$622 million in Trinidad and Tobago and \$166 million in savings through ecosystem-based disaster risk reduction in South Africa. In Ca Mau, the Global Environment Facility-funded project showed that the economic benefits of the 45,523 hectares of mangrove forest reach up to \$2,985 per hectare per year. This value extends far beyond resource exploitation such as shrimp farming.

### Ecosystem benefits in Ca Mau province

Inshore fishing and traditional aquaculture play an important role for livelihoods in the Ngoc Hien District in Ca Mau – \$87.5 million from aquaculture in 2012. But farmers are now realizing that production will fall without the mangroves, which also provide protection from natural disasters and extreme weather events. During the period of ProEcoServ project, mangrove coverage in the area increased by 5.67%, resulting in increased aquaculture production valued at more than \$4 million.

**“Forest area in my land is less than the required 50%. Many of my shrimp died from disease, especially on the land not protected by mangrove forest. I could see then that the forest is useful for raising shrimp,” says Shrimp Farmer Van Cong To.**

ProEcoServ supported land-use planning at the Ca Mau level, helping to consolidate and protect land devoted to mangroves. Furthermore, ProEcoServ work, carried out by the Institute of Strategy and Policy on Natural Resources (ISPONRE), and the Ministry of Natural Resources and Environment in Viet Nam, provided input to the National Green Growth Strategy to 2020, and the National Strategy for Environmental Protection to 2020.

Surakit Laeaddee stands outside his sustainable shrimp farm in Thailand. Shrimp farms have eroded mangrove forests, but many across the region are now recognizing the benefits of better practices. © Athit Perawongmetha / Reuters

The concepts are also gaining traction across the Greater Mekong Subregion, an economic area bound together by the Mekong River – encompassing a population of 326 million across Cambodia, the People’s Republic of China, Lao People’s Democratic Republic, Myanmar, Thailand, and Viet Nam.

**“We recognize that natural capital lies at the heart of economic development, underpins inclusive and sustainable development and sustains the livelihoods and wellbeing of all people in the Greater Mekong Subregion, especially the rural poor,” environment ministers from the six countries said in a joint statement.**

The ProEcoServ work adds further weight to the body of evidence proving ecosystems are crucial to sustainable development, and is also changing policy in other countries. In South Africa, the role of ecosystem services is now recognized as a part of an ecological infrastructure, with an active contribution to the \$93 billion National Infrastructure Development Plan. In Chile, meanwhile, the first tourism development plan for the Municipality of San Pedro de Atacama recognizes the role of ecosystem services in sustainable and tourism management.