June 2012

Galápagos & Eastern Pacific

Newsletter

Letter from the Field

Dear Friends of the Galápagos,

The world's oceans cover over two-thirds of the planet's surface and are home to an underwater world of millions of fish, extensive sea grass meadows, coastal mangrove forests and so much more.

In the last 40 years, we have had many conservation victories for the Galápagos, and we continue to ensure that the surrounding waters remain healthy and productive. Although the archipelago is a marine reserve, threats such as overfishing and pollution continue to exist in the Pacific Ocean and beyond.

As a result, this past February the World Bank announced the formation of a Global Ocean Partnership in an unprecedented endeavor to restore ocean health. Bringing science, advocacy, the private sector, and international public institutions together, the partnership will coordinate efforts to address the greatest threats to the world's oceans.

The partnership aims to restore and protect critical habitats and species required for maintaining ecosystem services and livelihoods; manage risks to ocean health; support rights-based fisheries management and sustainable aquaculture; foster global advocacy for sustainable and climate-resilient communities; and share knowledge of innovation and solutions.

WWF has joined with others in support of this partnership and we are excited about the ways in which it will enhance our work in all of our marine places, including the Galápagos. Our goal for this important island region is to maintain a marine environment that supports its diverse and abundant native species, along with the people who depend upon it for their livelihoods.

Lauren Spurrier
Managing Director

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Photo Credits. Cover: Red-footed booby on nest © Steve Morello/WWF-Canon. **Page 1:** Lauren Spurrier © WWF. **Page 2:** Aerial photo of Galápagos' coast, Ecuador © Verónica Toral-Granda/WWF. **Page 3:** Lobster fishing with traps in Galápagos, Ecuador © Mauricio Castrejón/WWF. **Page 4:** Tourists at the airport in Galápagos, Ecuador © Juan Carlos García/WWF. **Page 5:** Unloading of mahi mahi at Tarqui beach in Manta, Ecuador © Pablo Guerrero/WWF. **Page 6:** Tracking map of tagged turtle Ana © WWF. **Page 7:** Yellowfin tuna © FADIO/IRD-Ifremer/M. Taquet.

1 Evaluation of GMR Management Yields Recommendations

Eliécer Cruz, Ecoregional Director, WWF Galápagos Program; Sandra Valenzuela, Program Director, WWF-Colombia; Mario Villalta, Fisheries Resources Manager, Galápagos National Park

In 1998, the Galápagos Special Law created the Galápagos Marine Reserve—the first marine protected area in Ecuador, and one of the largest in the world. A plan was approved in 1999 to ensure the reserve's management and conservation. Because the reserve has multiple uses, the management plan was drafted within a participatory framework. Thirteen years later, the time has come to evaluate and update the plan.

The first step was to complete a management effectiveness evaluation to understand the benefits and shortfalls of the current management plan. To carry out the assessment, the Galápagos National Park (GNP) and WWF established a multidisciplinary working group under the leadership of Marc Hockings, vice chair of IUCN for marine protected areas. The group focused on five areas: legal and policy context, biophysical, socioeconomic, management and planning, and governance analysis. They worked with the main users and stakeholders of the Galápagos Marine Reserve (GMR) to gather perceptions of the management of the GMR and how it might be improved.

The evaluation lasted one year. Here are the key recommendations:

1. Integrate the management of both marine and terrestrial protected areas by including clear conservation objectives and adequate policies and strategies to address key management issues in this UNESCO World Heritage Site.

2. Revise and redesign the internal structure of the Directorate of the Galápagos National Park (DGNP) to align it with the park's mission and its new challenges.

3. Reformulate the management plan for the GMR so that it becomes part of one document comprising both terrestrial and marine management plans. It should include important emerging factors and clear, well-defined conservation objectives and strategies, as well as indicators for measuring successful management and adapting management to changes that may occur.

4. Adjust the GMR zoning to reflect newly available biophysical information, new opportunities, and emerging threats.

5. In the past, many management decisions were taken without considering technical or scientific information. This calls for the creation of an integrated database—which will include input from the Charles Darwin Research Station and other NGOs—to facilitate science-based management decisions in the future.

6. Revise and improve existing fisheries and tourism policies as they are key for the effective management of the GMR.

7. Strengthen the Participatory Management scheme by integrating other key stakeholders from the terrestrial and marine areas such as municipalities and additional private and public organizations.

8. Revise and implement the monitoring plan that is in the management plan, so that it can be an efficient tool for the management of the GMR.

9. Patrolling, control and enforcement in both protected areas should be the responsibility of one department within the DGNP, which should be in close communication with the appropriate national legal entities.

10. Because the expansion of urban settlements puts increasing pressure on protected areas and their resources, the DGNP should work with municipalities and other government entities to develop and implement a comprehensive plan toward sustainable development in Galápagos.

In 2012, the DGNP will draft the new management plan for both marine and terrestrial protected areas and will include the above findings in the plan. WWF will provide technical support and assessment during this process.

2 Lobster Traps in GMR Tested for Selectivity, Efficiency

Jorge Ramírez, Fisheries Program Officer, WWF Galápagos Program; Mauricio Castrejón, Consultant, WWF Galápagos Program

WWF has been working on innovative fisheries management in the Galápagos Marine Reserve (GMR) for several years, with the main goal of designing and implementing a rights-based management (RBM) system for the lobster fishery. As part of this effort, in 2009 WWF organized an exchange trip between fishermen from Galápagos and fishermen from Baja California, Mexico. The Mexican fishers shared how they manage their spiny lobster fishery sustainably, while promoting new commercialization schemes. After this exchange, Galápagos fishers asked for support from WWF to develop a project called "Selectivity and effectiveness of spiny lobster fishery (*Panulirus penicillatus y P. gracilis*) using lobster traps in the GMR."

As a result, five experimental surveys were carried out from 2010 to 2011 to evaluate the efficiency of traps in the Galápagos lobster fishery. Each survey trip included staff from the Galápagos National Park (GNP), the Ecuadorian Army Oceanographic Institute (INOCAR, in Spanish), and the Galápagos fishing sector. Each survey included tests of different trap sizes, baits, and depths in several sites of the GMR. Also, since 2010 WWF has been working with INOCAR on the bathymetric mapping of spiny lobster fishing sites in order to install experimental spiny lobster traps.

Overall, the lobster traps proved to be efficient for catching slipper lobster, but not spiny lobster. The main results were

1. the total catch of spiny lobster was low compared to the total catch overall, with the 34 green spiny lobsters and one red spiny lobster trapped making up only 2.8% of the total catch

2. most of the spiny lobsters where caught with medium-size traps, using skipjack tuna as bait, and in depths between 2 and 25 meters

3. the most important species caught were slipper lobster (*Scyllarides astori*, 43.3%), yellowtail grunt (*Anisotremus interruptus*, 26.1%), and nursery shark (*Ginlymostoma cirratum*, 15.3%), with the remaining percentage accounting for 19 species of fish and invertebrates of little or no economic importance

4. the total number of incidental or discard animals caught was 1,204 (including slipper lobster) with a 2% mortality rate

The low selectivity and effectiveness of traps lead us to conclude that this fishing gear is not adequate to catch spiny lobsters in the GMR. However, the traps could be used by the GNP as an effective method for monitoring slipper lobster. This species has a high socioeconomic importance in the local community of Galápagos, but its population status is currently unknown. The traps could be used to gauge the current exploitation rate and the population size and structure of the slipper lobster. This information would be an important input to the design of an effective management plan for slipper lobster.

As a next step, WWF will keep working to increase incomes for artisanal fishers by promoting a change in spiny lobster commercialization from tails to live lobster. The goal is to help fishers increase the lobster market value while encouraging them to focus on catch quality over quantity. Currently, most local fishers sell lobster tails, but live lobster is worth at least twice as much.

In October 2011, WWF, Conservation International, RARE, and the GNP designed a pilot project to commercialize live lobsters in Galápagos restaurants by providing incentives to fishers to sell live lobsters in two restaurants in Puerto Ayora. In December 2011, WWF installed a tank to maintain live lobsters in Santa Cruz. This system will be used first to conduct survival tests on spiny lobster and then as a storage center to supply the demand of local restaurants.

3 Tourism Monitoring System Implemented in Galápagos

Juan Carlos García, Program Officer, Sustainable Management, WWF Galápagos Program

The sustainable development of any tourism destination requires an adequate planning and management system. In the case of the Galápagos Islands—a protected area with a unique terrestrial ecosystem and one of the most important marine reserves in the world—it is essential. But how can the different stakeholders monitor the impact of the tourism industry, both positive and negative, and make the correct decisions in order to promote the new ecotourism model for Galápagos?

This is where the Galápagos Tourism Monitoring System, one of the four components of the new ecotourism model, plays a key role. It is a technical tool designed to produce data to be used in local and regional planning and management processes.

WWF assisted the Ministry of Tourism, the Galápagos National Park, and other stakeholders, in designing and implementing the Galápagos Tourism Monitoring System. The system started generating data in June 2011, and since then it has collected and analyzed monthly information regarding tourism demand, supply, and environmental and social indicators.

The monitoring system has a database that allows a periodic analysis of the tourism situation and identifies tendencies and development patterns of Galápagos tourism. It has also integrated other information platforms under one common database, including the Galápagos Integrated Indicator System (GIIS), which contains indicators of all social and demographic aspects of the islands, and the Visitor Management System managed by the Galápagos National Park.

The Galápagos Tourism Monitoring System is the first such system implemented in Ecuador, and has already created interest in replication in other important tourism regions such as the Ecuadorian Amazon. Thanks to this system, for the first time the economic, social, and environmental impacts of tourism in Galápagos are consistently being monitored, analyzed, and made available to all decision makers.

The system is also gradually promoting active participation from the private and public sectors, as well as from civil society, in decision-making processes. We look forward to strengthening our current work throughout 2012 by creating a dedicated website that will make the extensive database more easily and widely accessible, and by incorporating new monitoring indicators from all four inhabited islands of Galápagos.

4 Stakeholders Assess Progress of Mahi Mahi FIP

Pablo Guerrero, Marine Coordinator, WWF Galápagos Program

The mahi mahi fishery is the most important artisanal fishery in Ecuador—highly valuable from a socioeconomic viewpoint because it generates numerous sources of employment and income from export earnings. WWF worked closely with key stakeholders to develop a fishery improvement project (FIP) for the fishery in November 2009. In 2010, based on that FIP, WWF and stakeholders went on to create a National Plan of Action (NPOA), which aims to ensure the conservation and sustainable use of the mahi mahi in Ecuador. The NPOA was adopted by the Ecuadorian government in early 2011.

In March 2012, a workshop to review the progress of the mahi mahi (*Coryphaena hippurus*) FIP was held in Manta. The goal was to assess in a participatory manner the progress of various FIP activities that were included in the 2009 FIP Action Plan. The ultimate goal of the FIP is to help Ecuador's mahi mahi fishery achieve Marine Stewardship Council certification.

The workshop helped stakeholders to develop agreements among themselves, make adjustments to the FIP Action Plan, and establish priorities for the future of this project. Workshop participants heard presentations on the results of studies done to obtain information on the biology of the mahi mahi stock. Issues discussed during the workshop included (1) various measures to mitigate impacts to the marine ecosystem, (2) the management actions and best practices training that have been developed to improve fishery management, and (3) the critical problems that continue to affect the sustainability of the fishery.

The FIP is a joint effort of LAC and the WWF-US Fisheries Program, and the workshop was organized by WWF in coordination with the Vice Ministry of Aquaculture and Fisheries of Ecuador. The 77 participants were from the Under-Secretariat of Fisheries, the National Fisheries Institute, other governmental and intergovernmental agencies, NGOs, academia, fishing communities, and the private sector.

5 Tracking Turtles: Toward Bycatch Reduction in the EPO

Sandra Andraka, Manager, Bycatch Program, LAC Secretariat

In March, a new satellite tracking program to monitor both green and black turtles in the Eastern Pacific Ocean (EPO) was launched with the tagging of Ana, a nesting female green turtle. On a beach in Costa Rica, she was fitted with a satellite transmitter that records her movements so that we can learn about her behavior at sea and her potential areas of interaction with fisheries.

Since 2004, the Marine Turtle Bycatch Reduction program in artisanal longline fisheries in the EPO has carried out 2,517 trips in 631 vessels. Fishermen have volunteered to test the benefits of circle hooks versus J hooks in the mitigation of marine turtle bycatch, and 254 volunteer onboard observers have collected data in 40 ports in nine countries.

However, we need more information about the movements of marine turtles offshore and we need to fill information gaps about black marine turtles (movements of this species are poorly known). Crossing both data sources will enable WWF to make recommendations to fishery policy makers to protect marine turtles *in situ* and generate a starting point for a potential assessment of the impact of fisheries on marine turtles in the Eastern Pacific.

Ana was tagged during a training in Cuajiniquil, Costa Rica, led by NOAA's Jeff Seminoff, a marine turtle specialist. Participants included an interdisciplinary team of coastal ecologists, marine turtle scientists and fisheries experts, along with observers, fishermen, local residents and government officials.

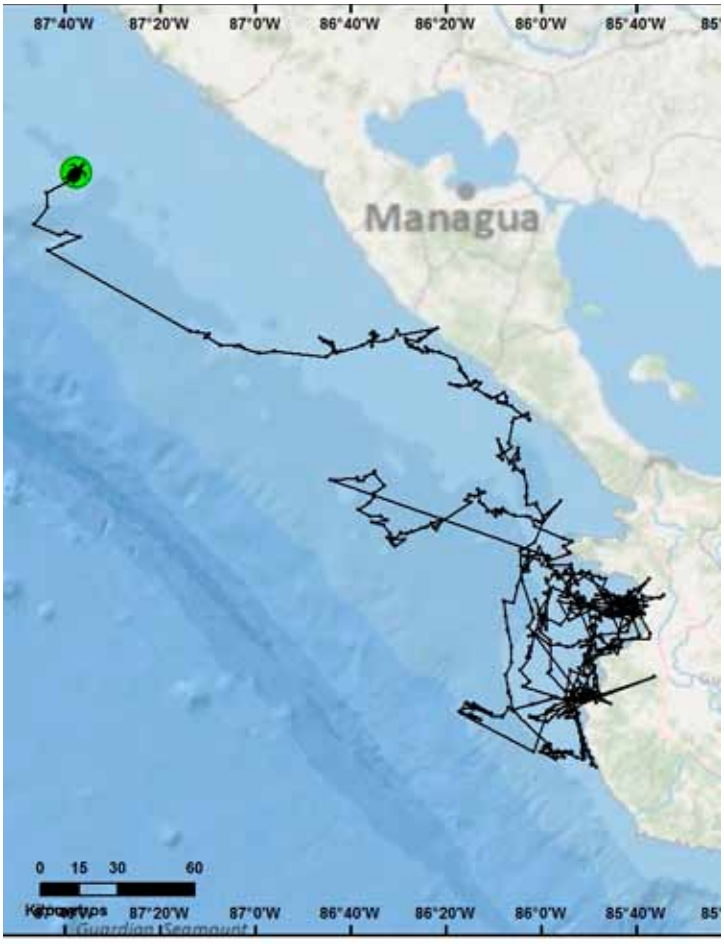
Nine remaining transmitters will be deployed to turtles from fishing vessels out at sea. This is a unique method of tagging turtles (which is traditionally done on beaches), and should provide us with critical data on turtle movements at sea.

Satellite tracking tells us that a month after being tagged, Ana left Costa Rican waters and headed north toward Nicaragua and Honduras. Her movements so far demonstrate how important collaboration among countries is, since these species travel across boundaries.

Turtle tagging is also an important education and awareness tool among fishermen, encouraging them to practice the manipulation and release techniques they have learned in the program. Efforts to deploy two more transmitters are currently being carried out in Nicaragua by our partner Fauna and Flora International.

This work would not have been possible without the help of the following: WWF Netherlands and the National Postcode Lottery, through Oceans Project; Fauna and Flora International; Jeff Seminoff; Philip Miller from the Center of Marine Research and Conservation from Uruguay (CICMAR, part of the Trans-Atlantic Leatherback Conservation Initiative, TALCIN, supported by Oceans Project); Environmental Minister of Costa Rica (Guanacaste Conservation Area); Researcher Pilar Santidrián-Tomillo and her team at Cabuyal Beach; and observers, fishermen and other WWF bycatch team members.

If you want to follow Ana, please visit http://seaturtle.org/tracking/?project_id=736 and subscribe to receive daily updates.



6 ISSF Advocates for Tuna Conservation in the Eastern Pacific

Oleg Martens, Senior Program Officer, Fisheries Program, WWF-US

Have you ever wondered where the tuna in your sandwich came from? What about sushi or that tuna burger? Much of it actually comes from the Eastern Pacific Ocean, where tunas are a keystone species. They start their life cycle as prey for larger fish, marine mammals and seabirds, but become fierce predators themselves once they reach adulthood. Further, tunas are a significant source of income for thousands of fishermen in Central and South America, and sustain the livelihoods of thousands more who provide supplies for the fishing industry and process and transport the catch.

Recognizing the high consumer demand for tunas, their regional economic importance, and the key role they play in the ecosystem, WWF partnered with eight major tuna canning companies to create the International Seafood Sustainability Foundation (ISSF – iss-foundation.org). The foundation is committed to science-based initiatives for the long-term conservation and sustainable use of tuna stocks, to reducing bycatch, and to promoting ecosystem health.

ISSF successfully convinced the Inter-American Tropical Tuna Commission (IATTC) to enact meaningful conservation measures for bigeye tuna. Some commission members were reluctant to adopt these measures, claiming it would hurt the industry, but when ISSF participating companies indicated they would "refrain from transactions in fish from this stock," they sent a clear message that even commercial interests were requesting a significant improvement in management practices.

Now comprising 20 participating companies and covering over 75 percent of the canned tuna market, ISSF continues to seek tuna conservation through a mix of direct actions, research and advocacy. Beyond its involvement at the IATTC level, upcoming work in the Eastern Pacific will include the continuation of research cruises looking into bycatch reduction techniques, and Rights-Based Management (RBM) workshops for the fishing industry.

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