



December 2012

Galápagos & Eastern Pacific

Newsletter

Letter from the Field

Dear friends,

Habitat degradation, bycatch, poaching and illegal trade are grim realities that are taking a toll on sea turtles worldwide. In response, the WWF Global Marine Turtle Strategy (GMTS, 2012-2020), aims to recover and stabilize populations decimated in priority regions—including Galápagos and the Eastern Pacific. Leading strategy development for this region is the Species Program within WWF's Latin America and the Caribbean Secretariat (LAC).

To succeed, LAC must organize the resources needed to support a regionally coordinated plan. The goals are to promote long-term survival of populations, seek progressive recovery of stocks, and protect important habitats—all of which will also improve livelihood conditions for local communities that interact with marine turtles.

Our strategy defines the intervention sites at nesting beaches and aquatic habitats, as well as in areas of inter-nesting, feeding and migratory routes, where it is urgent to advance or continue conservation actions. Achievement of this requires the application of policy instruments and mechanisms at regional and international levels, focused on the protection of six of the eight sea turtle species: green (*Chelonia mydas*), black (*Chelonia agassizii*), hawksbill (*Eretmochelys imbricata*), leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*) and olive ridley (*Lepidochelys olivacea*).

Implementation in LAC calls for action plans that can be reviewed and adjusted every three years and aligned with the vision of the global strategy. The proposed objectives for LAC are (1) reduce the loss and degradation of critical habitats in the Eastern Pacific countries, Guyana, Central America and the Antilles in the Caribbean; (2) reduce the negative impact of sea turtle bycatch in longline fisheries and gillnet artisanal fleets operating in Costa Rica, Panama, Colombia, Ecuador, Peru and Chile; and (3) stop the unsustainable use and illegal trade of sea turtle products in tourism markets, with particular attention to the sale of tortoiseshell (*bekko*) jewelry.

If we meet our objectives, we expect that by 2020 sea turtle populations in LAC will no longer be at risk of extinction, but will continue to fulfill their ecological, cultural and socioeconomic roles.

Diego F. Amorocho
Species Program Coordinator
WWF Latin America and the Caribbean Secretariat



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Lessons from Lonesome George

Eliécer Cruz, Ecoregional Director, WWF Galápagos Program and Irma Larrea, Senior Program Officer, Galápagos

This summer we mourned the loss of our beloved tortoise, Lonesome George. He was the last of the giant tortoises from Pinta Island and his death received worldwide attention.

The well-known Galápagos tortoise had lived around 100 years, yet efforts to preserve his line through breeding were unsuccessful. George was fondly nicknamed “Lonesome” because of this, even though the tortoise’s life was anything but solitary. He shared a pen with other tortoises on Santa Cruz Island, where he was cared for by scientists and staff of the Galápagos National Park (GNP) and quite often admired and photographed by tourists.

Lonesome George was found on Pinta Island in 1972—a surprising discovery at a time when giant tortoises on the island were believed to be extinct due to human exploitation. The GNP staff made a tremendous effort to perpetuate the Pinta Island line, in keeping with their dedication to maintaining the existing species of Galápagos. That effort came to nothing, but under GNP’s continuous monitoring most populations of the other species of Galápagos giant tortoise are in stable condition. In general, only a few species have become extinct in the islands, thanks to the excellent conservation work of the Ecuadorian government in coordination with different organizations and agencies.

It is rare to know that we are dealing with the last individual in a line, that when he is gone his kind will be extinct. Lonesome George became



Lonesome George became a conservation symbol for the Galápagos, a lesson about what can happen when human exploitation overrides nature’s capacities.

a conservation symbol for the Galápagos, a lesson about what can happen when human exploitation overrides nature’s capacities, and how essential it is to, instead, reach a balance between people and nature.

WWF’s work in the islands heeds these lessons. We have helped to strengthen the management of both terrestrial and marine protected areas, promote better tourism and

fishing practices, and minimize the ecological footprint of tourists and inhabitants, among other activities—and we have achieved important results. We will continue this work through strong partnerships with the public and private sectors and the local community, and through efforts at the local, national and international levels. This will be our way to honor Lonesome George and his legacy.

Ecotourism and Reducing the Human Footprint

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

The ecological “human footprint” is a measure of the impact of human activities (such as crop cultivation, fishing, grazing livestock, and urbanization of land) on the biosphere. Tourism generates an ecological footprint that becomes more significant as time passes, especially in places like Galápagos. Tourism’s footprint is made up of activities that include fossil fuel usage (for transportation and electricity generation), management and contamination of the water, waste management (especially plastic waste), and use of land for tourism infrastructure.

The growing human footprint on Galápagos is a potential threat to the conservation of both terrestrial and marine protected areas and to sustainable development that supports livelihoods. Recognizing this, Galápagos is implementing its new ecotourism model, which seeks to ensure the satisfaction of visitors, the conservation of nature, and the well-being of the local population.

The new ecotourism model has created a normative regulatory framework with a series of public policies focused on controlling the growth of the tourism industry. However, there is a current need to tackle this challenge by investing in good practices, which means reinforcement of voluntary changes in tourism practices that are not considered under the regulatory framework.

In order to achieve this, WWF has led the development of the Good

Practice Program of Ecotourism for Galápagos. This program works closely with the lodging sector, tour boats, restaurants and tour operators. The idea is to promote business practices that will generate increased efficiency in the management of water resources and energy. These actions can discourage consumption of plastic products, promote consumption of local products, and encourage development of alternative choices that will lower the visitor’s carbon footprint.

Examples of such actions include collecting rain water, incorporating new technology for water and energy efficiency (dry swamps, solar panels, thermal solar heaters), promoting alternative activities for CO₂ reduction (such as kayak and bicycle use), discouraging the use of plastic bottles and bags, and highlighting the consumption of local products. (Local coffee, fruits, and vegetables have a lower ecological footprint than products transported to Galápagos from mainland Ecuador.)



Waste Management Progress on Isabela Island

Maximilian Martin, Program Officer, Environmental Management, WWF Galápagos Program

In 2006, WWF began working with the Municipality of Santa Cruz Island on waste management and recycling, and together we have achieved much success there. Our goal is to replicate the Santa Cruz experience on the other inhabited islands of the archipelago. This is an update on Isabela Island, where efforts are well under way.

Isabela Island faces many of the same waste management challenges as Santa Cruz, and WWF began providing technical assistance there in 2011. Jointly with other local NGOs, we have helped establish an integrated waste management and recycling system to reduce contamination and improve environmental management.

A crucial early step was the creation of a municipal Environmental Department and the appointment of a qualified director. Additionally, a municipal ordinance was passed to reinforce the integrated waste management system. The ordinance sets a waste collection schedule, requires the use of three color-coded waste containers (blue for recyclable, green for organic and black for nonrecyclable materials), and establishes waste service tariffs and fines for incorrectly sorting waste.

As a step toward sustainability, WWF built capacity within the municipal workforce by training workers on the classification of 15 different recyclable materials and by supporting the exchange of experiences and

training with the Municipality of Loja in southern Ecuador. We equipped the Environmental Department with a light truck with GPS, a compacting unit, and a plastic shredder.

In August 2011, the first four tons of compacted recycled materials were sent to mainland Ecuador. Currently, the municipality is compacting about four tons of recycled materials per month.

Treatment of organic waste started on Isabela in October 2011. The process involved separating organic material from other kinds of waste (such as plastic bags), mixing it with wood chips, and storing it for proper decomposing. In March 2012, the first batch of compost was delivered to farmers in the highlands of Isabela, and now the municipality is collecting and treating 10 tons of organic material per month.

The next step is to optimize the system and inform the local community about recycling, reducing waste and reusing materials. As part of this effort, in April 2012 WWF launched a recycling campaign to educate children on effectively reducing and classifying waste, and on planting vegetables with municipal compost in recycled containers.

The municipality is starting to collect additional materials (such as tires and metal scrap) to be recycled in the near future, and plans to build a sanitary landfill for Puerto Villamil, Isabela's capital city. With optimism from such great advances on both Santa Cruz and Isabela, WWF hopes to implement integrated waste management and recycling systems on all four inhabited islands of Galápagos by 2020.



Time to Take Action for Bigeye Tuna

Susan Jackson, President, International Seafood Sustainability Foundation (ISSF)

Last year in the Eastern Pacific Ocean (EPO), fishing vessels landed 82,500 tons of bigeye tuna. By any measure, current catch trends are unsustainable and action must be taken to prevent bigeye from once again falling into an overfished state.

A primary reason bigeye tuna is on the decline is the capture associated with Fish Aggregating Devices (FADs), man-made floating objects that attract fish. Smaller tuna tend to aggregate beneath FADs, and when vessels target skipjack, they also catch small bigeye. As the *ISSF Status of the World Fisheries for Tuna* report notes, 70% of the bigeye catch in the EPO is made with this fishing method.

According to scientific analyses, the management measures put in place by the Inter-American Tropical Tuna Commission (IATTC) will not end overfishing. Scientists have advised that a longer purse seine fishing closure is needed, or that additional measures specific to bigeye, such as individual vessel limits on bigeye catches, should be adopted. Fishing nations in the EPO are in a unique position to adopt such a progressive measure due to the region's onboard observer coverage and the robust sampling that takes place in port and in processing facilities.

ISSF has spent a considerable amount of time in the Eastern Pacific region, working with researchers and fishers to find techniques to reduce the catch of bigeye associated with FADs in the purse seine tuna fishery. We began with a research



cruise in May of 2011 and have continued with a series of workshops with purse seine skippers focused on sharing best practices in bycatch mitigation. The latest was held in Manta, Ecuador, this past September.

Ultimately, the IATTC should adopt limit reference points and harvest

control rules—management tools that would prevent tuna stocks in the region from becoming overfished in the first place. ISSF, along with its partners in industry and at WWF, will continue to advocate for nations to take a step toward sustainability and adopt the measures necessary to protect all tuna stocks in the Eastern Pacific Ocean.

CBD Focuses on High Seas Conservation

Mauricio Gálvez, WWF Regional Fishery Coordinator for the Southern Cone

In August, WWF representatives from Chile and Galápagos took part in a workshop called by the UN Convention on Biological Diversity (CBD) and supported by the Permanent Commission for the South Pacific. This workshop was part of the CBD's ongoing efforts to facilitate the identification and description of Ecologically or Biologically Significant Marine Areas (EBSAs) as a tool to support management and conservation of the high seas. The areas identified validate and support WWF's strategic conservation initiatives in the Eastern Pacific.

More than 30 scientists, coming mostly from Latin America, debated issues around EBSAs for the Eastern Tropical Pacific. They identified 21 areas covering more than 8.3 million square kilometers, including WWF priority areas such as the Galápagos Islands, the Chiloense Ecoregion, and the Nazca, Salas and Gómez Submarine Mountain Range.

A future CBD meeting in the region will require Latin American countries to support inclusion of these results

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in the CBD Conference of the Parties Portfolio, and make necessary recommendations to the countries and the international organizations involved. The challenge is to acknowledge that



Eliécer Cruz, Ecoregional Director, WWF Galápagos Program

within the 21 areas, livelihoods such as fishing, and other activities, will require special treatment to be sustainable.

Another key step in ocean conservation was achieved at an October CBD meeting in Hyderabad, India. There, governments agreed on a way forward to protect oceans

and initiated a process to improve conservation standards for marine areas beyond national jurisdiction. The success came as delegates agreed to send reports on EBSAs



Mauricio Gálvez, WWF Regional Fishery Coordinator for the Southern Cone

of the high seas to the UN General Assembly. If UN agencies take action to ensure shipping and other activities do not harm these important areas, this could lead to better management of ocean environments beyond national borders.

WWF works on marine protected areas worldwide as a way to contribute to ocean protection. About 350 million jobs around the world are linked to the ocean. Well-designed and managed marine protected areas can ensure these jobs last well into the future. Focusing on specific steps to safeguard a blue planet, WWF's efforts are specifically designed to provide global support and accelerate regional and national marine protected area establishment efforts.

'Turtle Lights for Gillnets' Yields Promising Results

Mike Osmond, Senior Program Officer, Markets-Fisheries, WWF-US

The winner of a runner-up prize in the 2011 International Smart Gear Competition, Turtle Lights for Gillnets is a device designed to reduce the bycatch of sea turtles in gillnets—and it is a solution that could have global implications.

The gillnet is a flat net suspended vertically in the water with meshes that allow the head of a fish to pass, but entangle the gills upon withdrawal. Coastal gillnet fishing is one of the most common forms of fishing in the world, and it is particularly problematic because it is so non-selective.

Gillnet fisheries are associated with significant sea turtle bycatch rates. For example, the gillnet fishery based in Lopez Mateo, Baja California Sur, Mexico, is estimated to catch up to 800 loggerheads (*Caretta caretta*) per year. Developing techniques to reduce such heavy bycatch in coastal gillnets has become a priority for fishers, fishery managers, and conservationists.

Turtle Lights for Gillnets uses widely available fishing lights (LED or chemical lightsticks) to illuminate gillnets. The lights allow the turtles to detect the net and avoid becoming entangled in it. This has been shown to reduce sea turtle captures by 40% to 60% without affecting target fish catch or market value. Building on this initial work, WWF funded additional testing to be carried out during 2012.

These experiments found a 40% decrease in green sea turtle (*Chelonia mydas*) capture rates when UV

illuminated nets were used. When tested in commercial gillnet fisheries based in Bahia de los Angeles, Baja California Norte, the UV illuminated nets did not affect the overall target catch rates nor the overall catch value. Interestingly, however, analysis of the catch composition found a 45% increase in the catch of the primary target species, California halibut (*Paralichthys californicus*).

At Lopez Mateo, Baja California Sur, the overlap of gillnet fisheries with a loggerhead foraging hotspot produces one of the highest marine turtle bycatch rates documented worldwide. Therefore, experiments were also run at Lopez Mateo to compare loggerhead bycatch rates, non-turtle bycatch rates, and target catch rates when using illuminated

nets versus conventional (control) nets in both daytime and nighttime.

Among the results, it was found that loggerhead bycatch rates were 74% lower in illuminated nets set during the night than in control nets set during the day. Target catch rates were not significantly different under any of the treatments. Overall, the results suggest that illuminated gillnets might mitigate loggerhead bycatch in the Lopez Mateo fisheries, but would need to be enhanced through complementary mitigation strategies.

WWF hopes to continue to support this promising work, and also to fund some testing with leatherback turtles (*Dermochelys coriacea*), the most endangered of all sea turtle species.



Partnerships Are Key to Tuna Management in EPO

Pablo Guerrero, Regional Tuna Coordinator, LAC Secretariat

The Eastern Pacific Ocean (EPO) is the second-largest tuna fishing area in the world. Among the most relevant issues to be addressed here are the condition of the main tuna stocks, the impacts of fishing operations on the marine ecosystem, and the need for significant improvement in international cooperation to ensure sustainable management of this highly migratory resource.

One of the issues that requires special attention is the excessive fishing capacity of the many vessels equipped with advanced technology for more efficient operation. Currently, a sort of competition has been established among large and powerful fleets looking to capture the greatest amount of tuna in the

shortest period of time and attain satisfactory economic results.

This situation weakens the governance role of the Inter-American Tropical Tuna Commission (IATTC) the regional organization responsible for the conservation and management of tuna fisheries in the Eastern Pacific—and also has a direct and damaging impact on the status of tuna populations. Eventually, it may lead to overexploitation of stocks, thus hurting the very fishing industry that depends on a healthy natural resource for its operation. At the same time, there is a growing uncertainty among tuna fishermen about future access to the resource and the increasingly strict bans and complementary management measures.

A substantial improvement in tuna fisheries management is not an easy task to accomplish, nor something that one organization can achieve alone. WWF is working on promoting and facilitating the formation of strong strategic partnerships with governments, industry, scientists and other stakeholders to work collaboratively within the IATTC. As partners, we could build a framework for intergovernmental cooperation and define common management strategies and mechanisms. This would ensure an effective and highly technical management system for tuna fisheries in the EPO. Only then, would we be able to create the right conditions for tuna fisheries to operate within a sustainable framework with both social and economic benefits.





Contact Information

Eliécer Cruz

Ecoregional Director, Galápagos

593-5-252-6053

eliecer.cruz@wwfgalapagos.org.ec

Pablo Guerrero

Regional Tuna Coordinator, LAC Secretariat

593-9-9920-4147

pablo.guerrero@wwfgalapagos.org.ec

Irma Larrea

Senior Program Officer, Galápagos

Newsletter Coordinator

202-495-4644

irma.larrea@wwfus.org

Lauren Spurrier

Managing Director

202-495-4449

lauren.spurrier@wwfus.org

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