

## Americas: Ecuador

### *Private Incentives to Conserve Ecuador's Coast*

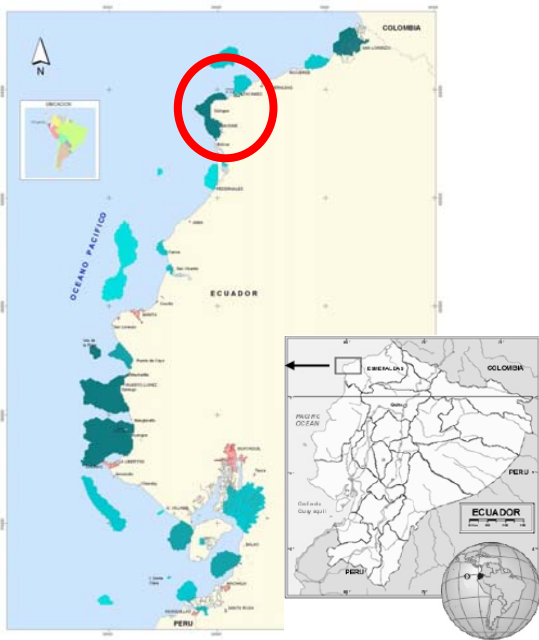
Patricia Zurita, Senior Director, Conservation Stewards Program, Conservation International  
Soledad Luna, Director, NAZCA Institute for Marine Research

#### Abstract

Conservation International (CI) has developed a programmatic approach to private conservation using incentive agreements. Conservation incentive agreements hold potential to protect a wide variety of terrestrial and marine habitats, ranging from vast tracts of Amazonian rain forest to coral reefs in the South Pacific. Under a conservation incentive agreement, national authorities, communities, or individual resource owners agree to protect natural ecosystems in exchange for a steady stream of structured compensation from conservationists or other investors. In its simplest form, a conservation incentive agreement might be modeled after a timber concession, whereby a logging company pays the government for the right to extract timber from an area of public forestland. Rather than log the concession area, the conservation investor would pay the government for the right to preserve the forest intact. A conservation incentive agreement thus presents an alternative opportunity for countries to capitalize on vast tracts of forest or other areas of high conservation value. With ultimate objectives that include long-term protection of biodiversity and economic development, this mechanism offers an alternative that conservationists, development agencies, governments, and local communities alike can support. This case study illustrates how conservation agreements between institutions and fishing communities are being used along Ecuador's northwestern coast to help establish marine reserves.

#### Background and Project Overview

The Galera-San Francisco's marine area was identified as one of the most important zones for biodiversity conservation on the coast of mainland Ecuador. A study requested by the Ecuadorian Ministry of Environment to determine the future establishment of a National System of Marine Protected Areas to fulfill commitments with the Convention of Biological Diversity (CBD) prioritized this area as key to be protected (Campos *et al.* 2007).



GAP Analysis and priority areas for Biodiversity Conservation in mainland Ecuador<sup>1</sup>

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<sup>1</sup> Campos, F. M. Peralvo, F. Cuesta – Camacho y S. Luna (eds). 2007. Análisis de vacíos y áreas prioritarias para la conservación de la biodiversidad en el Ecuador continental, Instituto Nazca de Investigaciones Marinas, EcoCiencia, Ministerio del Ambiente, The Nature Conservancy, Conservación Internacional, Proyecto GEF: Ecuador Sistema Nacional de Áreas Protegidas, BirdLife Internacional y Aves & Conservación, Quito.

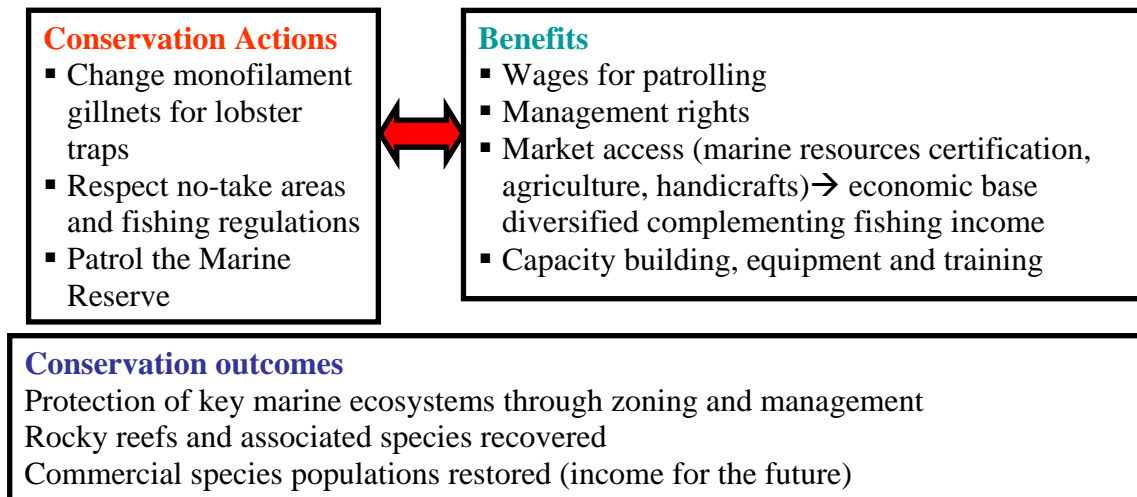
Galera-San Francisco is located in the northern coast of Ecuador in a region known as the Chocó, and is part of the Chocó-Darién-Magdalena hotspot defined by CI (Mittermeier *et al.* 2005). This area features an outstanding diversity of habitats ranging from mangroves, estuaries, rocky reefs, and coral patches to moist and dry tropical forests, with high levels of biological diversity and endemism. However, this ecosystem is threatened by overfishing, habitat destruction, deforestation, pollution and uncontrolled development. People who live in this area are strongly dependant on natural resources for their subsistence, and fishing is one of the main activities to sustain the local community. Unsustainable fishing practices (use of non-selective gear) have resulted in the collapse of marine resources, jeopardizing the biodiversity of the area and the well-being of the local community.

The creation of a marine protected area in Galera-San Francisco will help conserve the marine biodiversity of this outstanding area by promoting sustainable fishing practices and ecosystem-based resource use approaches. The result of the implementation of these practices and approaches by fishermen and the local community will result in improved socio-economic conditions for the local community. To achieve these objectives the local community will be engaged in all steps of the management of their natural resources and the conservation agreement methodology will be used to define the management basis for the area. Engaging the community from the onset and defining with them a management scheme that is beneficial to the protection of key biodiversity and to improve their well-being will facilitate the creation and establishment of the first Marine Protected Area in the continental coast of Ecuador: the “Galera-San Francisco Marine Reserve.” Additionally, this learning experience will set the precedent to contribute to the future creation of a national network of marine protected areas at the national level.

### **Using Conservation Agreements to Establish a Marine Reserve**

Conservation agreements are a novel approach that reconciles biodiversity conservation with development. Under a conservation agreement, national authorities or local resource owners agree to protect natural ecosystems in exchange for a steady stream of structured compensation from conservationists or other investors. A negotiated agreement produces visible conservation products that result from the conservation actions of resource owners and development through the investment of the compensation in what the resource owners decide is most beneficial to them. Financial mechanisms such as endowments and trusts allow for the long-term provision of the compensation and rigorous monitoring ensures that both conservation and socio-economic results are being achieved. The NAZCA Institute for Marine Research (NAZCA) and Conservation International Ecuador have proposed using the conservation agreement methodology to develop the management structure and initial rules that will inform the management plan of the Marine Reserve when created. The conservation agreement model in the Galera-San Francisco area is a novel tool that will empower local communities to manage a protected area and set up the basis of a management plan that would be implemented entirely by the local community with the political support of an inter-institutional management committee.

The conservation agreement methodology includes a series of steps that allows the conservation organization to first determine if a conservation agreement is feasible, then guides the engagement, design and negotiation process of an agreement and lastly recommends measures for the implementation and monitoring of the agreement. The Galera-San Francisco agreement is at the feasibility study stage. This step in the conservation agreement model determines the viability of establishing conservation agreements by clearly identifying threats, rights over the resources, capacity to implement conservation actions, and costs of implementing an agreement. Although a formal conservation agreement has not yet been signed, the definition of conservation actions, benefits and outcomes have been scoped and initially discussed with the communities and included below.



### Process and Issues

#### Biodiversity Importance

Galera-San Francisco is in a tropical setting of oceanographic conditions and is home to a diversity of coastal and submarine habitats and therefore a high diversity of associated marine organisms. Main representatives are soft and hard corals. Most likely the largest recovering population of black corals in Ecuador is located here. This area encompasses many commercially important benthic and migratory organisms such as spiny lobsters, goliath snapper, octopuses, mahi mahi, tuna fish and sword fish. Also the Galera-San Francisco area is home to endangered species such as five different sea turtles, 20 different species of marine mammals, sea horses and corals, plus other organisms that represent a potential for tourism (such as whale sharks and manta rays) and bio-prospecting (such as sea slugs).

#### Threats

Galera-San Francisco is threatened by over exploitation of marine resources, uncontrolled development, habitat destruction and deforestation. Poverty and open access to marine resources have led to over exploitation and biodiversity loss of this unique ecosystem. Lack of enforcement has driven the commercial and industrial fishing to this area resulting in destruction of habitat and overfishing of key commercial species.

The spiny lobster (*Panulirus gracilis*) has been traditionally fished in this area by local fishermen for hundreds of years and constitutes one of their main economic activities. However, the resource has been severely depleted by a series of factors: non-selective fishing gear, overexploitation and lack of fishing regulations. Traditionally, lobsters were caught using wooden traps. However, due to the lack of economic alternatives, fisherman switched to non-selective and highly destructive monofilament nets. At present, reduced catch sizes and low abundances are a clear sign of overexploitation. Furthermore the use of monofilament gillnets to catch lobster destroys rocky reef habitat and by-catch is high.

By-catch of sea turtles is a big threat particularly in the mahi mahi fishery, where fishermen report that a single boat can incidentally capture between 20 and 40 individuals. Like the mahi mahi fishery, swordfish fishery is resulting in high levels of shark by-catch. Thus industrial fishing boats represent one of the most important socio-environmental problems because shrimp trawlers and boats with greater efficiency to perform mahi mahi and sword fishing practices are adding higher levels of pressure to the resources already extracted by the artisanal fishermen with the added problems of by-catch of turtles and sharks.

## **Legal framework**

The legal framework of Ecuador is rather confusing and not supportive of local management of marine resources. Although Ecuadorian national law does not define specific rights over the seas, a ministerial agreement stipulates that the first eight nautical miles adjacent to the coast are of exclusive use of artisanal fisheries. However, lack of enforcement of this regulation provides the opportunity for shrimp trawlers to enter these areas since they require depths no greater than 200m.

There is a Fisheries Law that mandates no harm should be caused to areas declared as protected. However the lack of enforcement capacity of the government has made this law useless. Enforcement has been lightly charged to the Navy who plays a rather weak role controlling the follow up of the law. Thus the legal framework for artisanal fisheries and marine resource use has not been effectively implemented or enforced.

Considering the lack of enforcement by the government, the participation of local communities as additional patrollers of protected resources should be a natural decision. The work NAZCA is doing with the fishing communities of the Galera-San Francisco area will set a precedent of local management supporting the enforcement of a weak legal framework that hopefully will be strengthened by the regulations in the creation of the Marine Reserve.

## **Socio-economic Considerations**

There are about 4,400 people living in the Galera-San Francisco political division, out of which 3,000 live directly on the coastline. The main economic activities in the area are agriculture, cattle ranching and fishing.

Although the area is ecologically and biologically very rich, the levels of poverty of local communities are very high. None of the basic services such as drinking water, electricity, education, health and sanitation are provided in a satisfactory manner. Some of the local towns lack these services completely.

Poverty and lack of government attention have driven the local community to overexploit their resources to provide income for their families, even when they are aware of the decline of natural resources. They are convinced that they need to implement conservation measures that will recover the health of their natural resources, but lack of economic alternatives have prevented these practices from being implemented.

## **Engaging Decision Makers**

Designing a conservation agreement in the Galera-San Francisco area requires understanding of all the different layers of decision making and engaging the formal as well as informal stakeholders who make decisions regarding the use of resources. Local traders are often the decision makers when the relationships between fishermen and boat owners are not good. Compounding the relationship issue is the fact that local fishermen are not organized among themselves and do not have transportation facilities to take their product to markets. As a result, local traders have the power to impose prices for the marine products and thus decide the fate of the resources. In other areas where fishermen own their boats (or maintain good relationships with boat owners) and are better organized, the fishermen become the decision-makers. In order to overcome this potential conflict and ensure the formal and informal decision makers concur, boat owners as well as traders have to be involved in discussing and designing the conservation agreements.

The Galera-San Francisco area is a complex socio-political environment. In addition to the fishermen, boat owners, and local traders, there are several authorities that should be involved in the management of the area. These include the Ministry of the Environment, the Navy, the Fisheries Secretariat of the

Ministry of Agriculture, and the municipality. To promote collaboration between these different government agencies and build a strong relationship with the actual managers of the area and the community, the declared Marine Reserve will have a local Management Committee that will be legally established. The main role of this Management Committee is to discuss, analyze and make management decisions. Once the Marine Reserve is created the management plan of the area will embrace the conservation actions defined by the conservation agreement. In this sense, the conservation agreement will serve as the basis for the management plan and its implementation in the future.

### **Organization and Partner Capacity**

NAZCA is a local Ecuadorian NGO whose mission is to study the coastal and marine ecosystems in the Tropical Equatorial Pacific and promote biodiversity conservation as a worldwide value. NAZCA aims to create and constantly feed a baseline of information on the marine biodiversity of Ecuador, propose and implement the tools for its adequate characterization, in order to maintain and conserve it. The management efforts that NAZCA promotes include the development of strategies that seek human well-being that are at the same time compatible with conservation objectives.

NAZCA's staff has worked in the Galera-San Francisco area since 1999 building the biological knowledge and trust with the local communities to promote better management of the area. NAZCA has encouraged a management system for the area that would be multidisciplinary, inter-institutional and highly participatory. This is the first time in the country's history that the proposal of a protected area has been done entirely with the local community's support and using tools that would empower them to become the management entity of the area. Thus the management team of the proposed protected area is being established with members of the local community, including fishermen, but also involving local and national authorities that will provide technical advice for the management of the reserve. During the establishment of the inter-institutional committee, NAZCA provided technical support to the community and is implementing a conservation agreement that will contribute to set the basis of the management plan for the Marine Reserve. Technical support includes building capacity in the community, such as knowledge of marine ecology and governance.

### **Funding**

Funding for the establishment of the protected area and the design and implementation of the conservation agreement has been provided by The Nature Conservancy and Conservation International through the Conservation Stewards Program and the Eastern Tropical Pacific Seascape work funded by the Walton Foundation. Funding from these sources allowed NAZCA to lead the discussions for the establishment of the protected area, engage the community building the agreement as the basis for the management plan of the reserve and build the political capital to establish the inter-institutional management committee with all the different authorities involved.

The sustainability of the protected area will depend on a combination of factors. Productive markets that are in line with sustainable management of resources must be developed. Most importantly, government funding is necessary to establish a trust fund that supports the management of the area in the long-run. In this sense, it is crucial that activities in the area create a stable management and administrative regime, enabling the maintenance of the conservation agreements and thus the implementation of the management plan.

### **Conclusions**

The decline of natural resources on which the local communities of the Galera-San Francisco area depend on have increased the awareness and desire to support conservation actions in the region. The political will of the government to support the first co-managed marine protected area has opened the door to create a management mechanism entirely implemented by the local community with the support

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June 16 – 19, 2008

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of an inter-institutional management committee. The use of conservation agreements to develop the basis of the management of the area and define with the local community a set of conservation actions that will promote the protection of key resources provides the means to empower the community and create a truly participatory management system. Additionally, the provision of sound benefits in exchange for their support of the protected area management creates opportunities to improve the well-being of impoverished communities on the coast of Ecuador.

Building this challenging but very promising participatory process with the support of multiple institutions at the national and local level creates an important precedent for the development of a network of marine protected areas that the Government of Ecuador committed to under the framework of the CBD.