PACIFICO CONSERVATION PLAN

2016

ENVIRONMENTAL FUNDS

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PACIFICO is a coordination PLATFORM made up of national funds from Forever Costa Rica Association (Costa Rica), the Action Fund and Natural Heritage Fund (Colombia) and Natura Foundation (Panama), whose purpose is to seek financial sustainability for actions in the Tropical Eastern Central Pacific.

Photo credits by Zdenka Piskulich

CONTENTS

LIST OF ACRONYMS

CBD	Convention on Biological Diversity
CC	Climate Change
CCAD	Central American Commission on Environment and Development
CMAR	Tropical East Pacific Marine Corridor (Corredor Marino del Pacífico Este Tropical)
CMR	Connectivity and Management of Resources
CONCATRAM	Central American Commission for Maritime Transport (Comisión Centroamericana de Transporte Marítimo)
CPPS	Permanent Commission of the South Pacific (Comisión Permanente del Pacífico Sur)
EBSAs	Ecologically or Biologically Significant Marine Areas
EEZ	Exclusive Economic Zones
ENSO	El Niño-Southern Oscillation
EP	Eastern Pacific
EPB	Eastern Pacific Barrier
FC	Capacity building
IATTC	Inter-American Tropical Tuna Commission
IBAS	Important Bird and Biodiversity Areas
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
MAD	Alternative Production Models (Modelos de Producción Alternativos)
MPA	Marine Protected Area
NGO	Nongovernmental Organization
OLDEPESCA	Latin American Organization for Fishery Development (Organización Latinoamericana de Desarrollo Pesquero)
OSPESCA	Central American Fisheries and Aquaculture Organization (Organización del Sector Pesquero y Acuícola del Istmo Centroamericano)
SICA	Central American Integration System (Sistema de Integración Centroamericano)
SSC	South-South Cooperation
TECP	Tropical Eastern Central Pacific
TEP	Tropical Eastern Pacific
WHSRN	Western Hemisphere Shorebird Reserve Network

1. INTRODUCTION

PACIFICO is a coordination platform made up of four environmental funds, whose purpose is to seek financial sustainability for actions in the Tropical Eastern Central Pacific (TECP). The national funds that make up the PACIFICO Platform are the Action Fund and Natural Heritage Fund (Colombia), Natura Foundation (Panama) and Forever Costa Rica Association (Costa Rica).

The PACIFICO Platform seeks to mobilize financial resources, administer them and build an endowment fund, with the goal of providing resources and funding for implementation of actions for the conservation of coastal-marine resources in the TECP. The PACIFICO Platform was created in 2012 with the signing of a letter of intent by all of its members.

PACIFICO Conservation Plan is the technical instrument for the PACIFICO Platform. This plan identifies the needed investment to conserve coastal-marine resources and guides the funding actions to achieve an impact in the region. The global scope of the PACIFICO Conservation Plan is to facilitate ecosystem-based management and implementation of an ecosystem approach for sustainable management of goods and services associated with the shared conservation targets in the TECP. Because of the challenges to natural resource sustainability in the TECP, the PACIFICO Conservation Plan has been developed with a horizontal planning of 25 years, defining a series of short-term results (year 1 to 5), medium (year 6 to 20) and long term (more than 20 years). The estimated cost to foster the PACIFICO Conservation Plan is US$58,355,000 (fifty eight million three hundred five-five thousand American dollars).

The geographic scope of the PACIFICO Conservation Plan encompasses two areas of intervention: direct and indirect. The area of *direct intervention* corresponds to the exclusive economic zones of Costa Rica, Panama, Colombia and Ecuador and is known as the Tropical Eastern Central Pacific. The area of *indirect intervention* is an area of interconnection with the Gulf of California (Mexico) that extends through the Central American Pacific. Both zones make up the Tropical Eastern Pacific (TEP).

PACIFICO Conservation Plan was developed at a broad scale, with selection of eight conservation targets that correspond to species or systems widely distributed in the marine and coastal area. For conservation targets, it is important to work in planning both in the area of direct intervention as well as indirect intervention, because of the ecological relationship throughout these areas. Of the eight conservation targets, two correspond to ecological systems and the remaining five to the following species: corals, mangroves, turtles, great whales, sharks, migratory shorebirds, migratory sea birds and great pelagics.

Development of the PACIFICO Conservation Plan involved three phases of work. (1) A compilation and review of scientific and technical publications and gray-literature documents relevant to the TEP was carried out. (2) Then, each conservation target was assessed, addressing its condition, landscape context and measure of threat. In addition, an analysis was made, through consultations with specialists, of the main active threats in the region, following an adaptive-management approach that recognizes the importance

of addressing the root causes of environmental degradation. (3) Workshops were held with local experts to discuss and validate the results.

This enabled identification of relevant stakeholders to interview and to identify the PACIFICO Platform's niche of work. Later, visits were made to each one of the eight countries involved: Ecuador, Colombia, Costa Rica, Panama, Nicaragua, El Salvador, Guatemala and Mexico-Gulf of California. In each country semi-structural interviews were done to obtain pertinent information to 1) identify the stakeholders, 2) identify national projects, 3) identify relevant gaps to be addressed, and 4) identify potential risks.

A total of 259 interviews were carried out, including the following groups of stakeholders: local, national and regional civil society organizations, international civil society organizations, academia and research centers, government agencies and international cooperation agencies, among others.

Finally, seven working workshops were held with PACIFICO Platform partners. The goal of these workshops was to identify and define the direct and indirect areas of intervention, the conservation targets, the intervention strategies and the goals to achieve, all of which make up the Plan for Conservation and Use of the PACIFICO Platform presented here.

2. CONTEXT ANALYSIS

2.1 Characteristics of the Region

A) Biophysical Context

Eastern Pacific

The Eastern Pacific is an extensive region that covers some 20 million km^2 of territorial waters, exclusive economic zones and island territories belonging to 13 countries[1]. In addition, it includes an extensive zone of open seas that goes beyond national jurisdictions. A variety of tropical, subtropical and temperate ecosystems exist in this vast area, with complex systems of marine currents and other large-scale permanent and seasonal oceanographic processes.

The Humboldt Current extends along the coasts of Chile and Peru, which is a current of cold water rich in nutrients and with areas of intense upwelling near the coast, with an average productivity between 150 and 300 gC/m^2-year (Heileman, *et al*., 2008). Some of the most important fisheries are in this region, whose production reaches 19% of total marine catches in the world (FAO, 2010).
The outer zone of the Gulf of Guayaquil in Ecuador is also an area of high productivity. This is caused by the freshwater input of the most important estuary on the west coast of South America and by the formation of the Equatorial front, where there are masses of water from the cold Humboldt Current from the south and those of the Panama current from the north (Cucalón, 1996).

The central zone of the Eastern Pacific is considered a zone of high productivity (>300 gC/m^2-year), with zones of upwelling all along Central America and important contributions of nutrients from runoffs in the southern part (Bakun, *et al.*, 1999; Kessker, 2006; Heileman, 2008). In contrast, the northwest zone all along the California Current is considered to be a zone of low productivity (<150 gC/m^2-year) (Aquarone and Adams, 2008). Off the coast of Central America is the Costa Rican thermal dome, an area of high productivity some 300–500 km in diameter located at 9°N and 90°W, which has been identified as an area important to blue whales and common dolphins (Reilly and Thayer, 1990; Fielder, 2002).

[1] Canada, United States, Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Ecuador, Peru and Chile.

Tropical Eastern Pacific

Within the Eastern Pacific, it is possible to define the boundaries of the marine biogeographic region known as the Tropical Eastern Pacific (TEP) (Figure 1), which covers the continental coast that extends from the southern part of Magdalena Bay (~ 24°N and 110°W) in Mexico, all along the outer coast of southern Baja California, passing for all of the Gulf of California and continuing the continental coastal line toward the south to about Cabo Blanco (~ 4°S and 81°W) in the northern part of Peru. This region also includes a series of oceanic islands and groups of islands: the Revillagigedos, Clipperton Island, Cocos Island, Malpelo Island and the Galápagos islands.

Figure 1. Delimitation of the Tropical Eastern Pacific (TEP) Biogeographic Region.
Source: taken from http://biogeodb.stri.si.edu/sftep/es/pages/generalinfo

The TEP is one of the youngest ocean bodies, with a depth of up to 3,600 meters. It is the most important region for fisheries in Mexico and Ecuador and one of the most observed marine conservation sectors at the world level (Lluch-Cota, et al., 2007). This region is vulnerable to the effect of the southern oscillation of El Niño, which affects productive activities, infrastructure, natural resources and the environment in general. In the rainy season (May–September), rivers discharge large volumes of freshwater and increase the quantity of suspended particulates in the coastal area (Windevoxhel et al., 2000). The continental platform is very narrow and steep, reaching great depths very close to the coast (Large Marine Ecosystems of the World, 2009).

From a functional point of view, TEP is a closed system. The cold currents from the north (California Current) and the south (Humboldt Current) generate pronounced thermal gradients in the area (Figure 2) that act as isolating barriers for entry of a majority of the fauna of the temperate regions of the coastal zone of North and South America. To the west is the Eastern Pacific Barrier (EPB), considered the largest biogeographic barrier in the world (Ekman 1953, Grigg and Hey 1992), made up of a vast, deep and uninterrupted water mass between 4,000 and 7,000 km wide between TEP and the Western Indo-Pacific biogeographic region. To the east, TEP is isolated from the western Atlantic by the bridge of Central America. The result of all of this is that at the biogeographic level, TEP constitutes an isolated system for some taxonomic groups, which gives it a special character for levels of endemism (Vega *et al*., 2012).

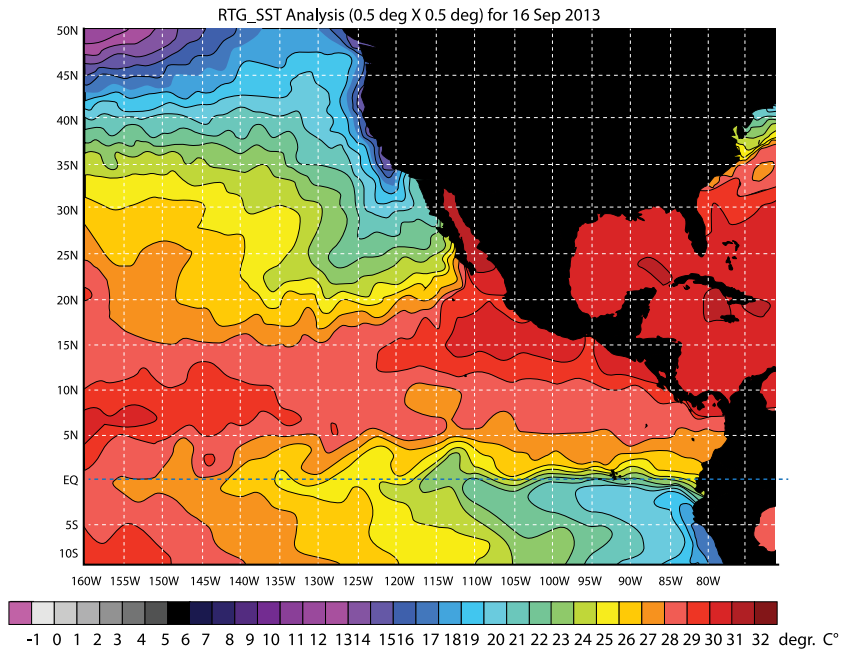


Figure 2. Modeling of the sea temperature for TEP, showing the thermal gradients.

Source: NOAA Marine Model for September 16, 2013. http://www.nodc.noaa.gov/

Tropical Eastern Central Pacific

Three climatic zones can be found in PET: equatorial, tropical and subtropical. The equatorial section extends from Costa Rica to Ecuador and corresponds to the Tropical Eastern Central Pacific (TECP). It is the most complex part of the region in terms of the currents close to the coast, variations in conditions due to upwelling or no-upwelling, the degree of impact by El Niño-Southern Oscillations (ENSOs) and the variation due to a mixture of large-scale habitat types: rocky coasts and soft bottoms, strong variation in rainfall patterns, presence of large, active estuaries and mangrove areas, and the presence of complexes of islands near the coast.

This equatorial portion pertains to one of the biogeographic provinces with the highest indexes of endemism in the world, known as the Panamanian Province (Briggs 1974). It has a high degree of ecological interconnection and complex oceanographic characteristics, mainly because of the convergence of multiple marine currents that facilitates dispersion of marine larvae (corals, crustaceans, echinoderms, mollusks, fish and affects the migrations, movements and distribution of many regional and global species, such as tuna, sharks, marine turtles, whales and seabirds. The global importance of the region is evident since it currently has four World Heritage Sites: Galápagos Islands in Ecuador, Cocos Island in Costa Rica, the Coiba Island in Panama and Malpelo Island in Colombia.

A high marine biodiversity exists in TEP, above all in the central portion (Ecuador, Colombia, Panama and Costa Rica), where at least 6,714 taxa of species have been reported in coastal waters. The most diverse taxa in the region are the polychaetes (1,894 species), fish (1,212 species), crustaceans (863 species) and mollusks (875 species), which altogether represent 47.3% of all known biota.

The total number of endemic species in the region is 122, for the 21 taxa analyzed by Miroslavisch et al. (2011), which represents only 2.18% of the species in these groups. The low number of endemic species apparent in this region is a consequence of the wide distribution of the great majority of the species beyond the Central American coastal region. Nevertheless, at the global scale, the endemism in TEP is among the highest of any of the marine biogeographic regions in the world (Briggs 1974). For example, of the nearly 1,300 species of fish registered in TEP, almost 71% are endemic.

This is an area of particular interest because of the following:

- It contains five of the 10 Ecologically or Biologically Significant Marine Areas (EBSAs) described by the CBD for the TEP.
- The coastal areas show highly complex ecological interactions of endemic species and migratory birds due in part to the continental overlay: established routes of tropical weather and the convergence of powerful ocean currents that affect the migration and distribution of a large number of species.
- The region belongs to a biogeographic province with one of the greatest indexes of endemism in the world, known as the Panamanian Province. It has a high level of ecological interconnection and complex oceanographic characteristics, due mainly to the convergence of multiple marine currents, which facilitates dispersion of marine larvae (corals, crustaceans, echinoderms, mollusks, fish) and affects the migrations, movements and distribution of many regional and global species, such as tuna, sharks, marine turtles, whales and seabirds.
- It currently contains four World Heritage Sites: Galápagos Islands in Ecuador, Cocos Island in Costa Rica, Coiba Island in Panama and Malpelo Island in Colombia.
- Two of the three great seasonal upwelling areas of the TEP occur here.
- It contains almost 98% of TEP's total insular territory.
- It contains 92% of TEP's coral reefs and represents a unique biogeographic group, with very particular characteristics because of its development in extreme conditions, climatic variability from El Niño, upwelling areas and enormous areas of freshwater discharge. The zone presents the most suitable conditions for coral development in the Eastern Pacific.
- The most developed mangroves are found here because of the convergence of high levels of precipitation and mesotidal and macrotidal ranges that enable the dominant vegetation in the mangroves to attain large size and structural development. It possesses the greatest quantity of mangrove areas.
- The area from Costa Rica to Panama has the highest level of richness of fish species in the TEP.
- It is the only site in the world frequented by two populations of humpback whales (populations from the northern and the southern hemisphere), although at different times of the year.
- There is a zone for reproduction of the humpback whale population from the southern hemisphere—offspring are seen in 58% of the sightings.
- Many pelagic and coastal pelagic species in TEP migrate throughout the region at different times of the year. Evidence indicates connectivity between marine areas, with various examples of movements of hammerhead sharks and several turtle species between Cocos, Malpelo and the Galapagos Islands.
- Various species of seabirds are found that because of such restricted ranges of distribution are on the IUCN Red List as in critical danger of extinction (CR).
- It is the only ocean that has four species of the genus

bobo; one is endemic and the other three species have the largest colonies in the world.

- The region serves as a feeding site for circumpolar seabirds. It is also much used as a feeding area for seasonal resident seabirds that reproduce elsewhere. For example, of the 13 species of Pterodroma petrels commonly registered in TEP, only two reproduce on the islands where they are found.
- The region has 16 sites identified as important for seabirds (IBAs)[2] .
- It contains three of the seven sites declared important for the Shorebird Reserve Network in southern Mexico, one being of hemispheric importance and two of regional importance
- The zone hosts important percentages of migratory shorebirds during the same time period—as much as 30% of the world's population of western sandpipers.
- The association of tuna-dolphin-seabirds has been observed, which is a multispecies association among the yellow-fin tuna (Thunnus albacares), spotted and spinner dolphins and a number of relatively large species of seabird through which all manage to get their food.
- The area contains some of the highest indexes of biodiversity in the Eastern Pacific.

B) Geopolitical Context

The geopolitical reality of the region is strongly influenced by the policy systems and governance arrangements, binding or not, that have been established through the years. All of them make up an intricate scenario where the states associate with each other and form links to establish harmonious relations. Some of these identified arrangements follow:

- Tropical East Pacific Marine Corridor (CMAR)
- Permanent Commission for the South Pacific (CPPS)
- Central American Integration System (SICA)
    - Central American Commission for Environment and Development (CCAD)
    - Central American Commission for Maritime Transport (CONCATRAM)
    - Central American Fisheries and Aquaculture Organization (OSPESCA)
- Pacific Alliance
- Latin American Organization for Fishery Development (OLDEPESCA)
- Inter-American Tropical Tuna Commission (IATTC)

C) Social Context

Based on an analysis by CPPS/UNEP (2012), an estimated 37 million people live in within a 50-km strip along the coast of the Eastern Pacific.

This population is highly dependent on the goods and services supplied by the marine environment, including provision of services such as food (for example, protein from the fisheries), energy, wood and bioprospection; regulation services such as beach stabilization, flood prevention, protection from storms, climate regulation, water services, capture of nutrients and carbon, pollution control and waste disposal; cultural services and entertainment, such as a feeling of ownership and tourism and recreation opportunities; and support services such as providing habitat, nutrient cycling, primary productivity and soil formation. Some of the key economic activities in the countries in the area include tourism, construction (to a large part related with tourism), navigation and fishing.

[2] Important Bird and Biodiversity Areas

2.2 Baseline Analysis

A) Governance

The cross-border element makes it difficult to manage, control and protect the coastal marine area. In addition, the different institutional structures that each country has complicate the processes of coordination and approval that might arise.

Table 1: Theory of change outlines for the different areas of the Tropical Eastern Pacific, according to existing government arrangements: vision of success, expected results, interventions and challenges.

Area	Vision of success	Results	Interventions	Challenges	Key message to stakeholders for impact:
Gulf of California	"Guarantee the sustainability of fish populations (sardines, shrimp, squid, scaleless fish) that represent 70% of national production"	• Have 100% of the Gulf of California as a protected area • Achieve sustainable fisheries (quotas and concessions) • Certification of fisheries	• Interinstitutional coordination (alignment of conservation and production administrations, alignment of state and national policies) • Multisectorial integration (producers and civil society) • Decree for protection of the area	• Capacity building of different sectors (at national, state and local levels) • Compliance with regulations (including socialization and preparation of management plan) • Sustainable financing	"The Protected Marine Area of the Gulf of California should be achieved through a consensual process with all sectors and should obey the principles of a natural protected area"
Pacific Ocean-Central America:	"We are a region with integrated management of coastal-marine areas, with strategies and actions that translate into sustainability of resources for current and future well-being of the population"	• Common agenda built • Proposal for regulations • Sources of financing identified	• Regional organizations facilitating the platform • Cooperation agencies supporting processes • Creation of national platforms	• Establish a common agenda based on strategic objectives • Approval of regulations • National management platforms that contribute to the regional • Financial mechanisms	"In the face of resource degradation, the Regional Fishery and Environment Agenda will contribute to sustainable development and food security"
Tropical East Pacific Marine Corridor	"Integrated management of marine resources"	• Harmonized policies • Standardized strategies and tools • Existence of mechanisms for regional coordination	• Regional strategic planning • Prioritization of CMAR indicators • Design of policies harmonized at a regional scale	• Redefine the model of regional development to achieve the vision	"Our national security is weakened because crime in the sea is organized at an international scale and our countries are not"

Source: Workshops

B) Threats

The dependence of the TEP countries on marine ecosystems and their associated living marine resources, combined with their high environmental vulnerability, underlines the importance of ecosystem conservation (and their restoration in some cases) and the sustainable exploitation of associated marine resources. This is even more relevant in the context of global climate change (a situation over which the countries of the region have little or no control), which requires that implementation of solutions for sustainable management of the ecosystems and their resources be verified in terms of their robustness in the face of the uncertainties associated with climate change (CC) and in terms of their contributions to improvement of the general resilience of TEP's socioecological systems.

Based on the analysis of the documents in the region, on all of the ecoregional assessments done by TNC for the zone (2007 and 2008), on the interviews carried out and the working workshops held, three key interrelated problems that have severe socioeconomic impacts in the entire TEP region were identified: 1) unsustainable fishery that generates overexploited and reduced fish populations; 2) degradation of habitat and modification of communities; and 3) marine contamination. It is clear that in the absence of measures of mitigation and adaptation, the impact of these problems will be exacerbated as a result of CC and the associated rise in sea level, creating a potentially profound environmental-economic crisis in the TEP region.

C) Root causes

Within the conceptualization of the PACIFICO Platform and following the adaptive management approach, the importance of addressing the root causes of environmental degradation is fully recognized. While tackling the direct causes can generate results at the local level in the short term, this approach is neither sustainable nor effective in terms of costs if the identified root causes are not eradicated or controlled at a broader level for the entire region. Therefore, it will be necessary to address the root causes at the ecosystem level in order to achieve sustainable impacts and results that are globally relevant for the entire region.

The following cross-cutting roots were identified:

i. Weak governance (including legal and institutional frameworks)
ii. Limited human and financial resources
iii. Weak management of protected marine areas
iv. Inadequate data and information/knowledge (or lack of access to them)
v. Little public knowledge and participation
vi. Insufficient consideration of the value of ecosystem goods and services
vii. Population and cultural pressures
viii. Limited surveillance and control plan

Attending to these root causes represents a central element to long-term resolution of key environmental problems and their associated socioeconomic problems in the TEP and has been one of the priorities for development of the PACIFICO Platform strategy.

D) Barriers to success

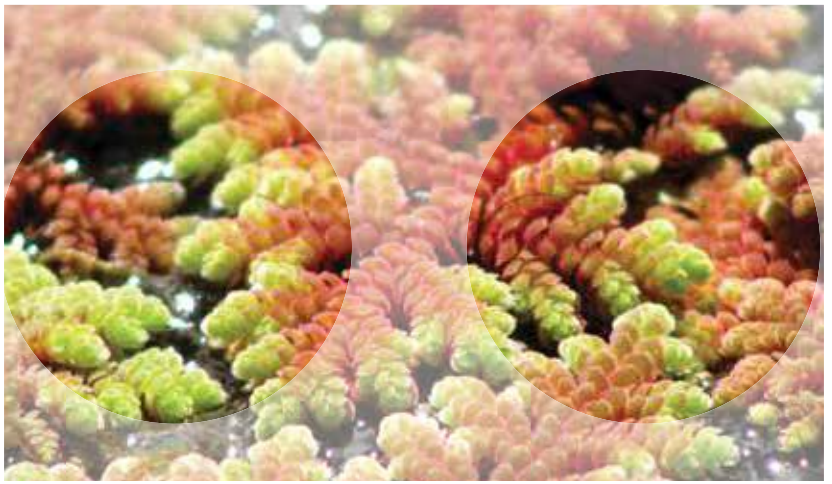
The geopolitical complexity of the TEP region is based on the highly cross-border nature not only of the ecosystems and marine habitats and the variety of living marine resources and population of fishes but also on the priority environmental problems identified.

The dependence of peoples and economies of TEP on the goods and services provided by these threatened ecosystems and habitats is clear. To successfully address both the direct causes and the root of these problems requires high levels of coordination and collaboration among the countries of TEP as well as of organizations with an interest in the marine environment.

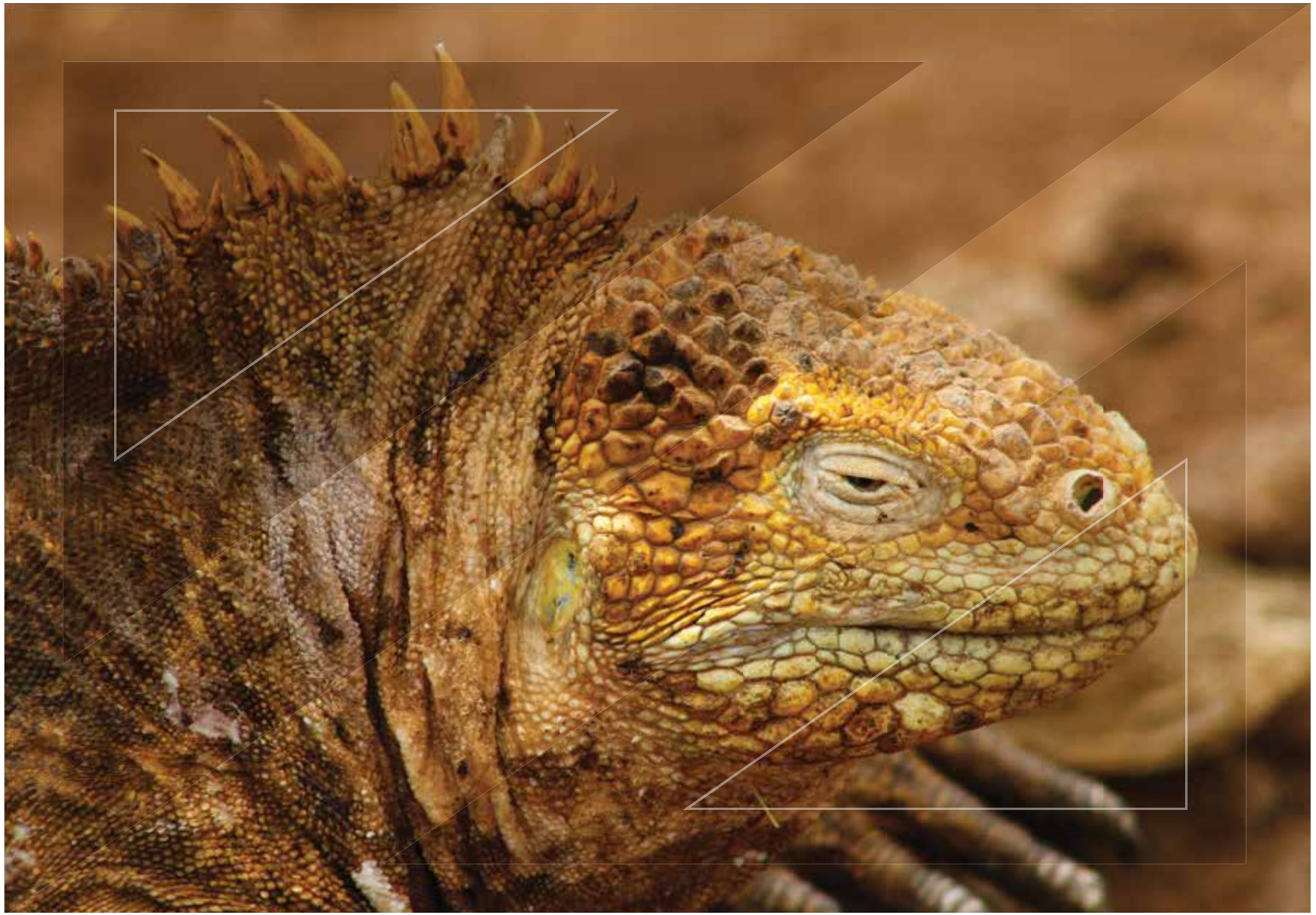
The limitations in terms of human and financial resources represent an important root cause. Also, the lack of interest at the governmental level and of support for coordination would represent a substantial barrier for catalyzing change in the region and therefore to achieving the objectives, results and expected products.

Another barrier is insufficient communication, coordination and information among key stakeholders of the TECP and among projects, activities and existing and planned initiatives in the region, constituting a significant barrier to fully achieving the social and environmental benefits expected to be obtained from the various investments.

Finally, CC could offset the potentially positive results of the actions that address the priority problems identified. Not incorporating adaptation to CC in the decisions of governance and management of marine resources would then represent a major potential barrier to attaining the sustainable results from implementation of the PACIFICO Conservation Plan.



3. PACIFICO PLATFORM



3.1 Fundamentals of the Platform

A) Intervention Area

The two areas of intervention were defined. The area of direct intervention of the PACIFICO Platform encompasses the Exclusive Economic Zones (EEZs) of Costa Rica, Panama, Colombia and Ecuador (Figure 1), which is called TECP.

However, to achieve a greater intervention impact, the PACIFICO Platform will also carry out specific interventions in the Central American Pacific (El Salvador, Guatemala and Nicaragua) and in the Gulf of California, considered as an area of ecological interconnection existing at the level of the proposed conservation targets.

B) Vision

The following vision has been defined for the PACIFICO Conservation Plan:

> *To contribute to the integrated sustainable management of marine and coastal ecosystems in the Tropical Eastern Central Pacific through actions that ensure sustainable use of resources and the economic and social well-being of the peoples of the region.*

C) Scope

The global scope of the PACIFICO Conservation Plan is to facilitate ecosystem-based management (EBM) and the implementation of the ecosystem approach for sustainable management of the goods and services associated with shared conservation targets in the TECP.

Given TECP's complexity, the PACIFICO Conservation Plan has been developed with a horizontal planning of 25 years, with a series of short-term results (year 1 to 5), medium (year 6 to 20) and long term (more than 20 years).

D) Conceptual Model

The PACIFICO Conservation Plan seeks to show global benefits, advocating for management approaches based on ecosystems, for sustainable use of coastal and marine ecosystem services and sustainable fisheries and alternative forms of sustenance. Legal reforms and political initiatives, both institutional and legal, including strategic alliances, will help achieve the goals of recuperating fisheries and making them sustainable, among other things. Actions to restore preserve and manage habitat, such as effective governance of fishery, marine management areas and support for alternative and sustainable forms of sustenance will reduce the pressure on ecosystems and fish populations.

The PACIFICO Platform has been visualized as a financial mechanism that incorporates the concerns of the governments of the four countries, the NGOS and organized civil society on relevant marine and coastal conservation issues for the TECP.

The objective is to create a permanent platform for raising funds and effecting financing for integrated management of marine and coastal ecosystems in TECP.

E) Focal Points (Conservation Targets)

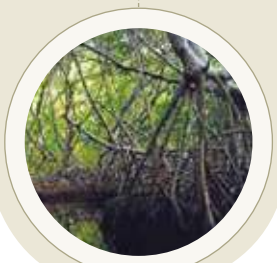
The consolidation of the implementation plan of the PACIFICO Platform is based on the identification of conservation targets that represent the biodiversity within the proposed intervention area. This is a way to facilitate focusing resources and efforts to work effectively over the long term.

The elements of biodiversity selected as conservation targets fulfill the following requirements:

1. Their distribution covers a great portion of the territory within the intervention area.
2. They are representatives that cover both key species and ecological processes in crucial sites at a regional level.
3. They are being affected by the main threats identified for the intervention area.
4. They have the possibility of being charismatic species.

Based on the guidelines established and then consultations with experts and review and adjustments from primary and secondary information, the following conservation targets were defined for the PACIFICO Platform:

• **Coral Reefs.** From a global perspective, the TEP reefs can be considered unique if the restrictive environmental conditions in which they have developed are taken into consideration. The disturbances are frequent, the bioerosion is intense and recovery seems to be extremely slow, which determines a limited biological diversity.



• **Mangroves.** The mangroves in TEP are discontinuous, but they offer areas for feeding and protection to an infinity of organisms, such as shorebirds.

• **Turtles.** The four species of marine turtles that nest in the TEP are listed on the IUCN Red List as species threatened with extinction.

• **Great Whales.** Four species of whales are regularly seen in the TEP: 1) humpback whale *(Megaptera novaeangliae)*, populations of the Pacific northeast and southeast; 2) blue whale *(Balaenoptera musculus),* populations of the Pacific northeast and Pacific; 3) Bryde's whale *(Balaenoptera bryde = edeni)*; y 4) sperm whale *(Physeter macrocephalus)*.

• **Sharks.** These are especially vulnerable to fishing activity because of their extremely slow reproduction rate and the length of time required to reach sexual maturity. This means that shark populations need considerable time to replace the individuals captured in fishery activities.

• **Migratory Shorebirds.** Marine shorebirds are characterized by the enormous distances they travel, mainly in response to the changes in climate that occur at their reproduction sites and in search of better feeding conditions. During their annual migration, these birds concentrate in great numbers in a few nonreproductive sites. The migratory shorebirds are considered as a conservation target since they have large resting places in the TECP and are globally protected by the Western Hemisphere Shorebird Reserve Network (WHSRN).

• **Migratory Seabirds.** Oceanic seabirds are all of those birds that have their ecological niche and use the marine-pelagic habitat for the greater part of their time (about 90%); they feed, defecate and die in this area and, except for reproducing, never touch the land. Due to their low rate of reproduction and late sexual maturity, these birds are highly susceptible to anthropogenic disturbances.

• **Great Pelagics.** The great majority of species of pelagic fauna are threatened by human activities in the sea and by contamination of the oceans. These organisms can serve as indicators of marine ecosystem health; they are part of the genetic diversity, transport nutrients, form part of the food chain—controlling fish populations, and can be used as a tourist attraction—an activity when carried out under adequate guidelines and consistent regulations could increase national foreign exchange and support conservation of these species.

F) Conformity of the Platform with the Policies and Strategies of the TECP Countries

In the definition of the scope of PACIFICO, the marine policies and strategies of the TECP countries—Costa Rica, Panama, Colombia and Ecuador—are taken into account. The four countries have clear guidelines on the need to conserve and adequately manage the marine and coastal ecosystems in the region and they are stated through different policies.

- National Sea Policy: Costa Rica 2013–2028[3].
- National Ocean and Coastal Spaces Policy, Colombia[4].
- Oceanic and Coastal Policies, Ecuador [5].
- National Maritime Strategy, Panama [6].

All of these elements and concerns have been taken up in the conceptualization of the PACIFICO Platform.

[3] Comisión Nacional del Mar, 2013. Política Nacional del Mar: Costa Rica 2013–2028. San José, Costa Rica. 50 p.

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3.2 Components and structure of the PACIFICO Conservation Plan

The PACIFICO Conservation Plan consists of components, subcomponents, strategies, objectives, expected results, short-, medium- and long-term goals and a budget estimate (in US dollars). The components of the Plant for Conservation and use are 1) consolidate the maintenance of biodiversity and its ecological processes, 2) climate change, 3) models for development of sustainable production, 4) capacity building and 5) South-South Cooperation.

The five components are complemented and interrelated among each other and reflect the fundamentals and strategies of the PACIFICO Conservation Plan. Each component addresses a particular thematic aspect; that is, a specific type of action or need. Many of the actions proposed by the PACIFICO Conservation Plan focus on addressing the root causes of the problems in the region that respond to the cross-border elements of the conservation targets. In this context, the need for structural changes and greater management capacity is recognized as a precondition.

The PACIFICO Conservation Plan will combine actions tending to offer structural changes in the institutional, political and legal frameworks (Component 1) and to increase human and institutional capacities and technical/scientific knowledge (Component 4), with progressive implementation of "tension-reduction" measures, innovative demonstrations and initiatives to replicate/expand early results (Component 3), which will enable testing of methods, technologies and techniques and identify the best practices, document them and share them as lessons learned.

In addition, processes will be supported that allow integration of measures for adaptation to climate change in marine-coastal planning (Component 2). Synergies with other projects and initiatives in the TECP region will also be promoted through interchange of the knowledge developed and implemented under Component 4 and coordination with government agencies and regional initiatives (Component 5) through South-South interchange.

The components are divided in 18 subcomponents and 14 intervention strategies. The following table presents the structure associated with the component-subcomponent strategy.

Table 2. Components, subcomponents and intervention strategies of the PACIFICO Conservation Plan.

Component	Subcomponent	Intervention Strategy
CMR: Contribute to consolidating maintenance of existing biodiversity and ecological processes as a way to ensure connectivity of marine and coastal ecosystems.	**CMR-I.** Contribute to establishing a regionally harmonized management plan for responsible extraction of fishery resources, development of the tourism activity, use of navigation routes and use of wetlands important for migratory birds.	1. Facilitate funding to generate inputs for the regional discussion on harmonizing policies and regulations in the areas of tourism, fishing, maritime transportation and use of wetlands.
	CMR-II. Contribute to substantially improving management effectiveness of the marine protected areas (MPAs) relevant to the TECP.	2. Help improve management effectiveness of the MPAs to contribute to ecological integrity of TECP ecosystems.
	CMR-III. Contribute to establishing regional planning processes that respond to a shared vision of the TECP conservation targets.	3. Contribute to regional planning of activities and uses of marine and coastal resources.
	CMR-IV. Contribute to consolidation of surveillance and control mechanisms in TECP.	4. Financially supplement a regional surveillance and control plan agreed on by the governments.
	CMR-V. Contribute to improving prevention and control systems for invasive species that affect TECP conservation targets.	5. Attention to invasive species.

CC: Support the processes that enable integration of measures for adaptation to climate change in marine and coastal planning and management.	**CC-I.** Identify the adaptive capacity of the ecosystems vulnerable to CC and extreme weather events, together with related potentially viable mitigation measures. **CC-II.** Finance CC adaptation measures. **CC-III.** Help consolidate financial mechanism for compensation and restoration related to CC.	6. Development of dynamic and adaptive mechanisms related to climate change.
MAD: Foster the design and development of Alternative Production Models for key marine and coastal areas and islands.	**MAD-I.** Foster economic evaluation of marine ecosystems.	7. Design of alternative models of development.
	MAD-II. Promote process of community self-management and learning that allow integration of the many users of the marine and coastal zones in their sustainable management.	
	MAD-III. Contribute to development of financial mechanisms that help generate sustainability in the TECP.	8. Development of financial mechanisms.
FC: Strengthen the technical and financial capacities of relevant stakeholders in the TECP.	**FC-I.** Consolidate performance processes of the PACIFICO Platform.	9. Institutional strengthening.
	FC-II. Contribute to strengthening regional agencies.	
	FC-III. Contribute to improving institutional capacities for management of marine and coastal resources.	
	FC-IV. Contribute to consolidating relevant research and databases for TECP conservation targets.	10. Support for research.
CSS: Strengthen South-South cooperation.	**CSS-II.** Establish a regional strategy for knowledge management.	11. Systematization and interchange of experiences. 12. Promotion of scientific research of national interest. 13. Consolidation of existing databases.
	CSS-III. Strengthen individual, institutional and social capacities at a multinational regional level.	14. Capacity building.

3.3 Strategies and objectives

A series of strategies have been identified to reduce threats to the TECP conservation targets and to guarantee their connectivity in accordance with the components and subcomponents of the PACIFICO Conservation Plan.

Objectives have been defined for each strategy, as well as short-, medium- and long-term results. A description of the strategies and objectives follow, while the expected results and costs are detailed in *Appendix 1*.

1) Contribute to consolidating maintenance of existing biodiversity and ecological processes as a way to ensure the connectivity of marine and coastal ecosystems (CMR Component).

Strategy 1: ***Facilitate financing to generate inputs for the regional discussion on harmonizing policies and regulations in the areas of tourism, fishing, maritime transportation and use of wetlands.***

The chain-of-effects analysis identified weak governance as one of the main root causes of the problems of conservation of cross-border marine resources in the TECP. Initiatives for regional and subregional arrangements for governance of marine resources already exist, but these require greater strengthening and integration with a long-term vision for a healthy marine environment. The key stakeholders recognize and accept the need to review, clarify, extend and/or harmonize institutional and organizational mandates, their policies and associated legal frameworks.

1

Strategy 1 objectives

CMR-1. For year 4, at a regional level, there is a consensual proposal on the policies and regulations necessary to achieve sustainable use of fishery resources in the TECP.

CMR-2. For year 4, at the regional level, there is a consensual proposal on the policies and regulations necessary to achieve environmentally responsible development of tourism activities that are based on the TECP conservation targets.

C**MR-3.** For year 4, there is a consensual proposal at the regional level on the policies and regulations necessary to achieve sustainable use of wetlands important for migratory birds in the TECP.

CMR-4. For year 3, there is a consensual proposal at a regional level for the policies and regulations necessary to achieve planning of navigation routes in the TECP.

CMR-5. For year 10, PACIFICO has contributed to establishing a regionally harmonized management plan for the responsible extraction of fishery resources, development of the tourism activity and use of wetlands important for migratory shorebirds.

The PACIFICO Conservation Plan recognizes that sustainable management of marine resources requires updating and harmonizing key aspects of policies and laws about fishery, tourism, use of wetlands and the environment. It also recognizes that the incorporation of management-based ecosystems, a preventive approach and knowledge-based management in regional policies and their associated national laws is key to defining and implementing efficient and cost-effective sustainable management plans.

Strategy 2: ***Help improve management effectiveness of the MPAs to contribute to ecological integrity of TECP ecosystems.***

The MPAs have been identified as instruments to:

1. Maintain or restore marine biodiversity and ecosystem functions.
2. Improve the region's socioeconomic conditions by increasing the benefits derived an increase in fishery production and its sustainability.

There is the possibility that radicalized environmental visions and unrealistic expectations about what the MPAs can generate could lead to the design and proliferation of MPAs in an uniformed manner and without a general objective. This would jeopardize many efforts and investments aimed to protect marine resources.

The MPAs generally have difficulties in achieving their objectives because of a reduced number of personnel, low budget, lack of technical and logistical support, lack of scientific information, and insufficient political, institutional and decision-making support. All of these factors have been identified as inhibiting the ability of the MPAs to attain their goals and objectives and to make management decisions in an informed manner.

The PACIFICO Platform seeks to strengthen and improve the management of economically and socially important ecosystems in TECP all along the coast of the four governments. Significant components of the initiative focus on an MPA network that extends throughout the TECP because of the intrinsic benefits of ecosystem-based management. The MPAs function better in theory than in reality and several of those found in the TECP are "parks on paper" because they apparently fail to comply with proposed management objectives.

It is clear that this generalization cannot be made with a high degree of confidence because there are no uniform, objective and verifiable measures of management effectiveness that apply in the region. What is certain is that it is not yet possible to speak of an operational network. The increase in quality and coordination of adaptive management in the MPAs in the TECP, considered a priority for the conservation targets, is then one of the greatest challenges for the PACIFICO Platform. Adaptive management (that is, experimental management that responds to objective feedback by modifying processes to optimize products) depends absolutely on practical methods for monitoring management effectiveness as the program progresses.

According to the survey carried out, 45 marine protected areas exist in the TECP. It is worth mentioning that most of the protected areas have been declared in the past 20 years, which indicates that they are being established at a faster rate than are their management systems. In the marine parks in the region, it has been found that self-financing can be achieved through diversified income-generating strategies but that problems such as maintenance and sustainable use cannot be ignored during the search for funds. However, most protected areas in the TECP do not receive adequate financing and only some have a specific type of income-generating mechanism.

It is for that reason that PACIFICO will support effective management in a certain number of MPAs. Those to receive support will be selected in function of their importance in maintaining the connectivity and the conservation of TECP's conservation targets. The selection criteria will also take into account the vulnerability of protected ecosystems to CC.

2

Strategy 2 objectives

CMR-6. For year 3, PACIFICO has contributed to development of Protocols for Good MPA Management Practices focused on TECP conservation targets.

CMR-7. For year 5, PACIFICO has defined the sites and investment actions to improve management effectiveness of MPAs that respond to criteria of vulnerability to CC, ecological representativeness and connectivity in the TECP.

CMR-8. For year 25, PACIFICO contributes to increasing management effectiveness to acceptable levels or higher in at least 35%of the MPAs given support to maintain representativeness and improve ecological integrity of the biodiversity under protection.

Strategy 3: Contribute to regional planning of activities and uses of marine and coastal resources.

Because of the cross-border nature of the conservation targets and the shared responsibility for their sustainable management, greater efforts among the TECP countries are clearly required. With this strategy, the PACIFICO Platform seeks to support and adopt regionally compatible and harmonized management processes for uses of shared marine resources. This will be done by defining and developing financial mechanisms that enable support to the four countries of the TECP.

Ultimately, it seeks to help the governments integrate and strengthen a system of spatial planning on use of the water column, seabed, soil, marine subsoil, continental shelf and terrestrial maritime.

3

Strategy 3 objectives

CMR-9. For year 6, PACIFICO has defined and developed the financial mechanisms to support regional planning processes for uses of shared marine resources in the TECP.

CMR-10. For year 20, PACIFICO, through a permanent funding mechanism, contributes to the regional planning processes agreed on by the countries.

Strategy 4: Financially supplement a regional surveillance and control plan agreed on by the governments.

In addition to degradation of marine ecosystems and overexploitation of their resources, there are other important global tendencies that the TECP countries cannot escape. Among them are illicit use of marine spaces for illegal movement of vessels, people and substances. This is recognized by academic, productive, public and private sectors.

It is very difficult to control and monitor foreign vessels throughout the EEZ of each country. Therefore, coordinated action with neighboring countries will enable better protection of the marine resources. Regional cooperation is vital to safeguard exclusive access of the countries to their natural resources.

With this strategy, the PACIFICO Platform seeks to support a regional plan for surveillance and control of shared marine resources in the TECP. This plan will include the definition and development of financial mechanisms from which the governments of the four countries that make up the TECP can choose.

4

Strategy 4 objectives

CMR-11. For year 4, PACIFICO has defined and developed the funding mechanisms to support a regional plan for surveillance and control of shared marine resources in the TECP.

CMR-12. For year 20, PACIFICO has helped consolidate the Regional Coordination Mechanisms for Environmental Security as mechanisms to strengthen regional capacity for marine-coastal surveillance and control.

Strategy 5: Attention to invasive species.

Invasive species are the animals, plants and other organisms transported and introduced by human beings outside the area of their natural distribution. These species have managed to establish and reproduce themselves in a new region, where they are harmful. An invasive species is harmful when it produces important changes in the composition, structure or processes of natural ecosystems, endangering native biological diversity.

In the TECP, especially on islands, invasive species have become a serious threat to conservation targets, particularly for seabirds. Cats, rats and dogs destroy nesting sites, eat the eggs and baby birds and disturb adult populations during mating, all with an affect on populations.

This strategy seeks to identify the invasive species that threaten the TECP conservation targets and define and implement an investment strategy to help improve systems for the prevention and control of invasive species in a coordinated way with the TECP governments.

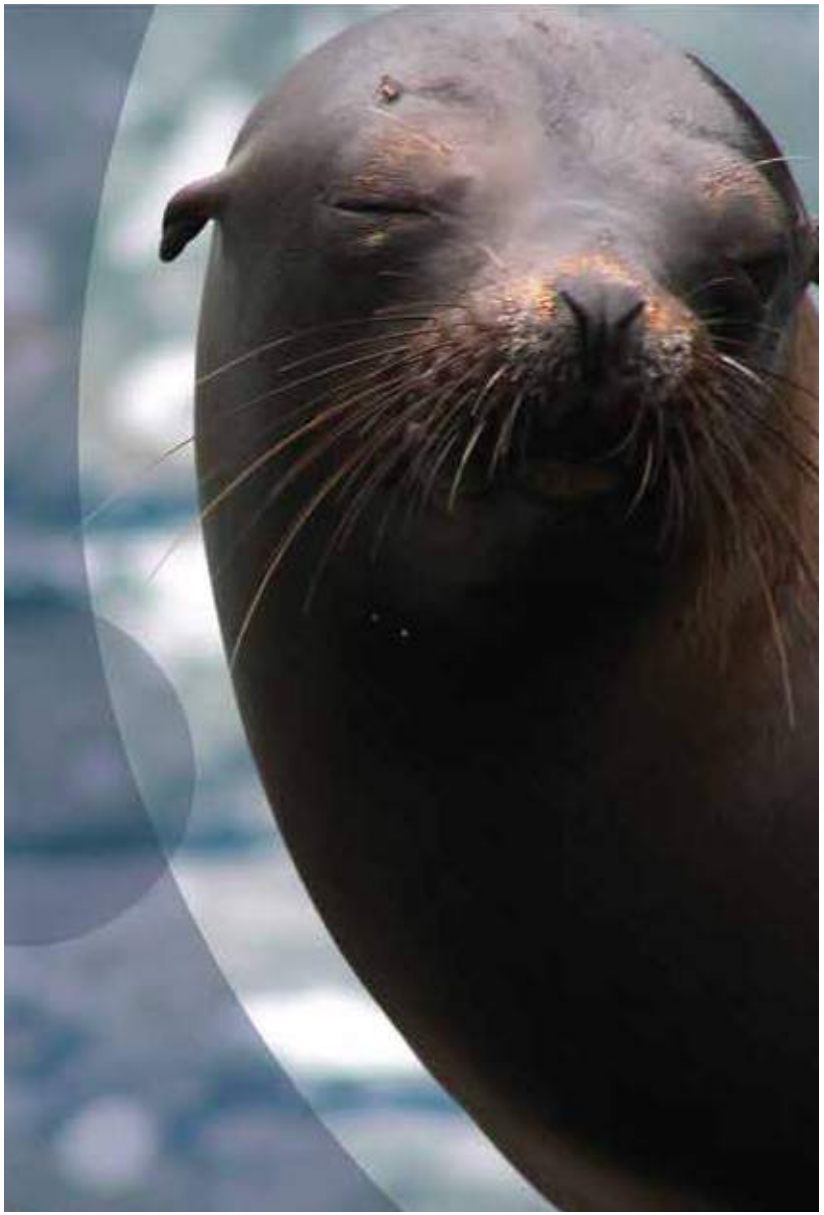
5

Strategy 5 objectives

CMR-13. For year 11, invasive species in the TECP and their effect on conservation targets have been identified and characterized.

CMR-14. For year 12, PACIFICO has an investment strategy to help improve systems for prevention and control of invasive species in a coordinated way with the governments.

CMR-15. For year 25, PACIFICO has helped improve the systems for prevention and control of invasive species.



2) Support the processes that enable integration of measures for adaptation to climate change in marine and coastal planning and management (CC Component)

Strategy 6: ***Development of dynamic and adaptive mechanisms related to climate change.***

The TECP region will suffer large-scale affects from the consequences and impacts of CC (for example, rise in the level and acidification of the sea, increase in temperatures, rainfall variations and frequency of extreme events). These effects amplify and accelerate the negative effect of classic factors such as overfishing, habitat fragmentation, sedimentation and contamination of waters and reefs.

Recent scientific findings, including those of the Intergovernmental Panel on Climate Change (IPCC) in 2013 and 2014, indicate that the global effects of CC are ever more evident. Climate change is expected to have effects on biodiversity, the quality of habitats and the life cycles of ecosystems and marine organisms. It will also affect ecosystem services, such as the potential catch of fish, income for fishers, and their means of subsistence, increasing in turn the vulnerability of marine-coastal ecosystems.

The proposed strategy has as its objective to help governments of the four countries reduce vulnerability of coastal communities to CC impacts on marine-coastal ecosystems and fishery resources and improve their technical-scientific capacity. To reach this objective, implementation of a set of adaptation measures is planned that will focus both at the national level, through institutional strengthening activities, as well as the regional level. The impacts of CC will cause additional stress to coastal ecosystems that are currently threatened by nonclimate factors, consequently affecting the livelihoods of coastal communities.

Strategy 6 objectives

CC-1. For year 4, PACIFICO will have identified and evaluated the potential impact on biodiversity and marine ecosystem services, their adaptive capacity and the viable adaptation measures for TECP conservation targets in the face of climate change and extreme weather events.

CC-2. For year 5, PACIFICO will have consolidated an investment plan for implementing adaptation measures for TECP conservation targets to the impacts expected from climate change and extreme weather events and implementation will be underway.

CC-3. For year 25, PACIFICO has contributed to adaptation of TECP conservation targets to the impacts expected from climate change and extreme weather events.

CC-4. For year 11, PACIFICO will have helped assess the potential of diverse initiatives, such as rehabilitation and compensation mechanisms related to climate change in the TECP.

CC-5. For year 20, PACIFICO will have helped with implementation of success initiatives as mechanisms for compensation related to climate change in the TECP.

3) Foster the design and development of Alternative Production Models for key marine and coastal areas and oceanic islands (MAD Component)

Strategy 7: *Design of alternative models of development.*

PACIFICO will help demonstrate the steps required to advance toward ecosystem-based management for key ecosystems and their associated fisheries in the TECP region.

Initially, the strategy aims to identify the advances already attained in the region, in particular for those initiatives for participatory management of coastal resources with a positive impact on conservation and economy of local communities involved in the TECP. It also seeks to help achieve progressive reduction in environmental stress and an improvement in means of subsistence.

In addition, it expects to help improve various of the root causes that were identified, such as weaknesses in governmental arrangements and practices, limitations in human and operational capacities, inadequate access to data and information and insufficient awareness and participation by civil society and the private sector.

The strategy also considers setting up pilots for initiatives for protection and restoration of habitats that support a greater participation by the community (especially participation of women) and management of coastal habitats, developed from successful initiatives in TECP's own region. The geographic reach of the pilot projects will be defined during the execution of PACIFICO and will be directly related to the timing of the availability of financial resources and the best practices identified. It aims to capture and disseminate best practices and lessons learned to facilitate replication and increase the scale of the efforts to implement the ecosystem-based management approach.

As a starting point for the strategy, an economic assessment of biodiversity and of ecosystem services associated with the conservation targets in TECP will be carried out. In the discussion of whether to conserve an ecosystem or not, the economic assessment makes the importance of natural resources more tangible, as well as the changes in their quality and availability. It also presents a way to quantify the value of marine protected areas. The economic assessment of ecosystem services is based on a comparison between the benefits in monetary terms and the costs generated by conservation of an ecosystem.

Strategy 7 objectives

MAD-1. For year 11, PACIFICO will have helped assess the ecosystem services provided by the TECP conservation targets as a way to support decision-making processes in the region.

MAD-2. For year 12, PACIFICO will have helped develop production alternatives that ensure the sustainability of TECP marine resources over the long term, the technological, economic and social viability of the production systems and food security for the inhabitants.

MAD-3. For year 25, PACIFICO will have provided the interchange of initiatives for participatory management of marine-coastal resources having a positive impact on conservation and the economy of the local communities involved.

MAD-4. For year 21, PACIFICO will have promoted sustainable value chains with local communities.

Strategy 8: ***Development of financial mechanisms.***

Limited financial resources were also identified as a root cause of the chain of effects. The identification and adoption by key stakeholders in the TECP of innovative and sustainable financial mechanisms for continuous operations of governance and established institutional arrangements will be key to sustainability over the long term.

The strategy seeks to identify and consolidate regional sustainable funding mechanisms to ensure operations of the improved arrangements for governance of marine resources in the TECP region in the short, medium and long term.

The PACIFICO Platform is aware that it will be necessary to ensure the long-term sustainability of the different governance arrangements established and strengthened through Components 1, 2 and 3. It therefore will provide a search for alternatives, evaluate the political feasibility and acceptability and propose sustainable regional funding mechanisms (innovative) that include the outline for proposed time periods necessary to enable governance agreements on marine resources in TECP to be financially sustainable.

Strategy 8 objectives

MAD-5. For year 12, PACIFICO will have helped define and consolidate an implementation strategy on regional funding mechanisms to create sustainability for conservation activities for the TECP.

4) Strengthen the technical and financial capacities of the relevant stakeholders in the TECP (FC Component)

Strategy 9: ***Institutional strengthening.***

Suitable governance frameworks and clear institutional mandates are prerequisites for the effective and efficient implementation of the policy cycle. Nevertheless, "to establish the arrangements" alone

will not be sufficient to ensure improved management of marine resources and socially just results. The analysis of the chain of effects pointed out deficiencies in the capacity of key stakeholders and of institutions[7] to make effective use of existing and recently created governance arrangements as another root cause of environmental degradation.

Therefore, it will be essential that institutions, organizations and key individual stakeholders have the capacity and the necessary means[8] to successfully exercise their mandates within any component of the policy cycle. Within the PACIFICO Platform, the term "capacity building" is defined as the empowerment of parties interested in the project, which encompasses their capacity, willingness and skills to initiate, plan, manage, carry out, organize, monitor/supervise and evaluate activities.

Capacity-building efforts should not be limited only to governmental organizations but also involve and empower key stakeholders of civil society and the private sector to ensure their ownership and support for decisions to be made to increase and improve their opportunities and implementation capabilities and to encourage corporate responsibility and socially just results.

Two key elements are to verify that governance processes are operational and that the key stakeholders are properly committed.

9

Strategy 9 objectives

FC-1. For year 2, PACIFICO will have defined and consolidated mechanisms for regional and national actions through establishment of necessary strategic alliances.

FC-2. For year 5, PACIFICO will have consolidated existing regional mechanisms for management and coordination relevant to the TECP.

FC-3. For year 25, PACIFICO will have helped strengthen the capacities of decision makers, local authorities responsible for management of conservation targets in TECP and other stakeholders relevant to the process.

Strategy 10: Support for research.

To support management and administration of conservation targets under the approach of ecosystem-based management and achieve the long-term vision for TEPC, it is imperative to progressively expand existing knowledge and improve its use for creation of awareness and decision making related to problems such as: ecosystem health, size of fish populations and innovative techniques to assess the environment and the populations, social and economic value of ecosystem goods and services, and the impact of management options and decisions about ecosystems and populations of shared living marine resources.

[7] In its broadest sense, and therefore not restricted to "acquired skills."

[8] Including tools and resources, knowledge and information (e.g., reference documents/guide such as action plans) and, in the case of the key stakeholders, rights to participate or influence decision making.

To promote more-effective use of the results of science for decision making in real life, activities also must be encouraged that address specific requests (in terms of current information needs) from existing advisory and decision-making agencies. To do this, PACIFICO will facilitate a better identification and communication with the scientific community, priority data, information needs and knowledge as perceived by advisors, responsible parties and policy managers. It will continue to follow the "learning by doing" approach and will strengthen the capacity of the main policymakers and resource managers in order to influence and guide the scientific agenda.

10

Strategy 10 objectives

FC-4. PFor year 25, PACIFICO will have helped consolidate research on TECP conservation targets.

FC-5. For year 25, PACIFICO will have helped consolidate the existing regional information systems on the TECP conservation targets.

5) Strengthen South-South cooperation (CSS Component)

Strategy 11: ***Systematization and Interchange of experiences.***

Systematization is a method that moves common knowledge or experience to conscious and organized knowledge. It requires observing from a certain distance, reflecting and asking questions about it. In a process of systematization, it is necessary to document successful as well as unsuccessful experiences since the overall purpose is learning.

Systematization of experiences should contain at least the following elements: 1) project overview; 2) description of the experience, ordering and reconstructing the unfoldment of the project; 3) description of the scenario where the initiative was developed (institutional, economic and political context), 4) identification of both internal and external factors for success; 5) identification of obstacles encountered during development of the experiences and analysis of factors that minimized them; 6) description of sensibility that allowed understanding of how certain variations can affect the result; 7) description of financial and economic efficiency; and 8) sources of information, etc.

11

Strategy 11 objectives

CSS-1. For year 3, PACIFICO will have established regional mechanisms for systematization of regional experiences and financial mechanisms, aligned with the common and relevant components of the conservation plan.

CSS-2. For year 5, PACIFICO will have designed and implemented at least three mechanisms for the interchange of experiences and good practices on topics related to financial sustainability, integrated management of coastal-marine resources, sustainable management of fisheries, community monitoring, alternative economic models, plans for adaptation to climate change with a gender approach, and surveillance and control.

Strategy 12: Promote scientific research of regional interest.

Existing knowledge from scientific research has great relevance for the region. Therefore, it is necessary to promote more effective use of the results from science for decision making in real life and to improve its use for creation of awareness and decision making related to problems.

The term "media" in relation to communication refers to the instrument or forms through which the communication process is carried out. Mass media delivers to a large audience. The media is designed to educate, inform and entertain the public that has access to it.

Therefore, the PACIFICO Platform will facilitate and encourage the interchange of information between the generators of data and scientific knowledge and the audiences identified as the target groups.

12

Strategy 12 objectives

CSS-3. For year 2, PACIFICO will have helped promote scientific research of regional interest.

Strategy 13: Consolidation of existing databases.

A common characteristic for many countries or regions is the amount of scientific and nonscientific information generated. The countries have databases of generated and analyzed information. Multiple scientific articles are published each year in international and national journals.

Therefore, within the strengthening of South-South cooperation, agreements are needed among the parties to identify relevant topics, provide the information in its databases, collaborate with standardization of data, and share scientific knowledge accumulated over the years.

13

Strategy 13 objectives

CSS-4. For year 2, PACIFICO will have developed agreements to share existing information and consolidated regional databases on prioritized topics (i.e., research, fisheries).

Strategy 14: Capacity building.

One of the conditions for success of South-South cooperation is building capacities. In the PACIFICO Platform, the term "capacity building" is defined as "the empowerment of parties interested in the project, which encompasses their capacity, willingness and skills to initiate, plan, manage, carry out, organize, monitor/supervise and evaluate activities."

This strategy will allow identification of needs for strengthening technical capacities at a regional level to facilitate construction of a multinational vision on the challenges to sustainable use and conservation of shared marine-coastal resources between the Gulf of California and the Tropical Eastern Central Pacific.

14

Strategy 14 objectives

CSS-5. For year 3, PACIFICO will have identified the needs for capacity building at a regional level that facilitates construction of a multinational vision on the challenges to sustainable use and conservation of shared coastal-marine resources between the area of the Gulf of California and the Tropical Eastern Central Pacific.

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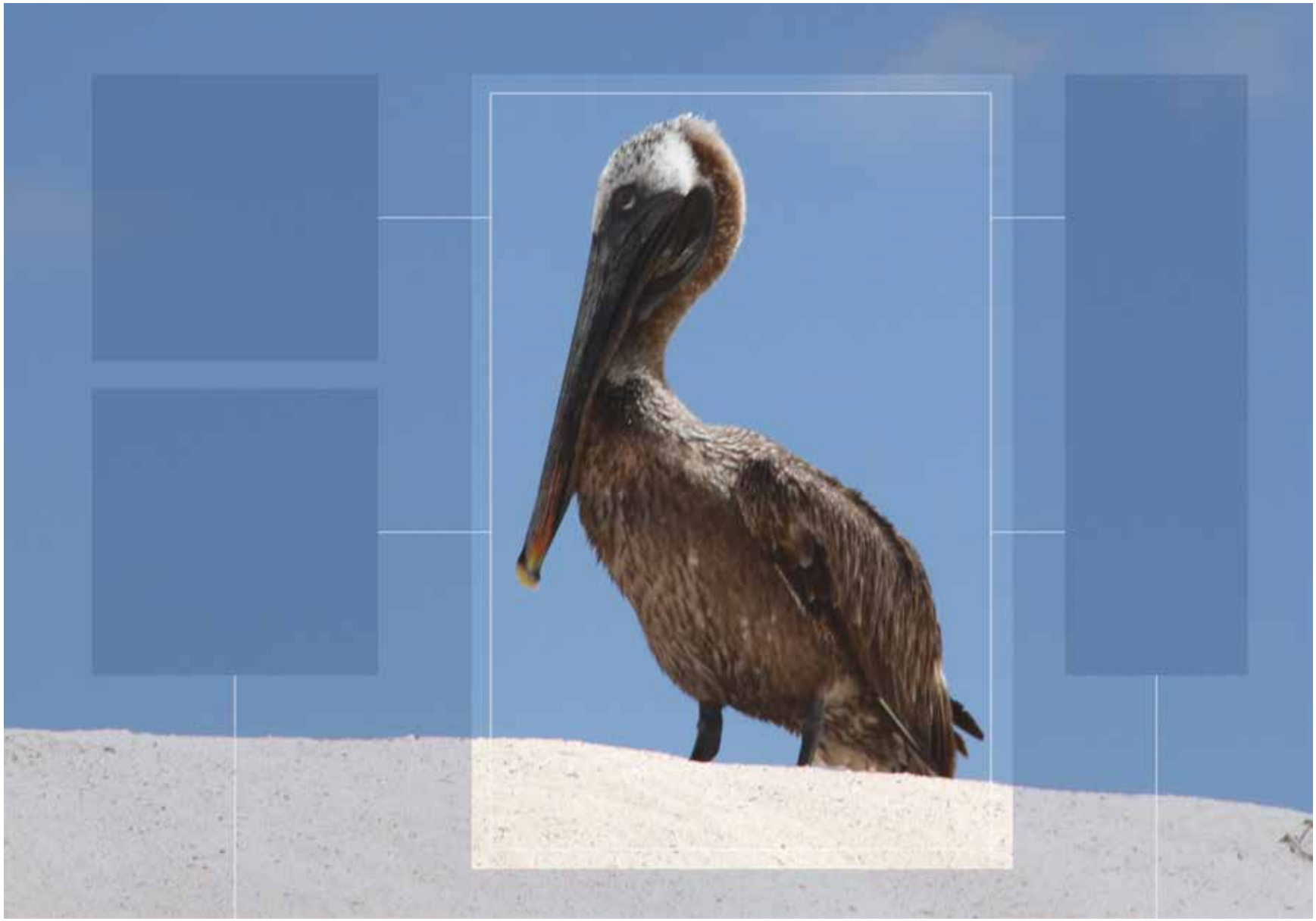
5. APPENDIX



5.1 Appendix 1: Global budget (in USD) for Short, Medium and Long Term

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
Connectivity and Resource Management				
CMR-1. For year 4, at a regional level, there is a consensual proposal on the policies and regulations necessary to achieve sustainable use of fishery resources in the TECP.	**CMR-1.1.** For year 2, an analysis has been done on the existing policies and the legal framework in the four countries that regulate fishery of the TECP conservation target species.	150,000	-	0
	CMR-1.2. For year 2, a characterization has been done of the fisheries (artisanal, industrial and sport) of the TECP conservation target species in the four countries that includes an analysis of the generation of economic resources by the activity in each country.	250,000	-	0
	CMR-1.3. For year 3, there is a regional proposal, agreed on by the four countries, for policies and scope of regulations on the sustainable use of TECP conservation targets as fishery resources (artisanal, industrial and sport) of the TECP conservation target species.	100,000	-	0
	CMR-1.4. For year 4, there is a proposal for reforms in the regulatory framework for the sustainable use of the TECP conservation target species as fishery resources, to be implemented in the short, medium and long term for each one of the four countries, encompassing artisanal, industrial and sport fishery.	75,000	-	0
CMR-2. For year 4, at the regional level, there is a consensual proposal on the policies and regulations necessary to achieve environmentally responsible development of tourism activities that are based on the TECP conservation targets.	**CMR-2.1.** For year 2, an analysis has been done on the existing policies and the legal framework in the four countries that regulate tourism activities that are developed around conservation targets in the TECP.	75,000	-	0
	CMR-2.2. For year 2, a characterization has been done of the tourism activities developed in the four countries around TECP conservation targets, which includes an analysis of the generation of economic resources by the activity in each country.	75,000	-	0
	CMR-2.3. For year 3, there is a regional proposal, agreed on by the four countries, for policies and scope of regulations on tourism activities developed around the TECP conservation targets.	100,000	-	0
	CMR-2.4. For year 4, there is a proposal for reforms in the regulatory framework to achieve an environmentally responsible development of tourism activities that are based on TECP conservation targets, to be implemented in the short, medium and long term, for each one of the four countries.	75,000	-	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
CMR-3. For year 4, there is a consensual proposal at the regional level on the policies and regulations necessary to achieve sustainable use of wetlands important for migratory birds in the TECP.	**CMR-3.1.** For year 2, an analysis has been done on the existing policies and the legal framework in the four countries that regulate sustainable use of wetlands that are important for migratory birds in the TECP.	75,000	-	0
	CMR-3.2. For year 2, a characterization has been made of the different uses made of the wetlands that are important for migratory birds in the TECP in the four countries, including an analysis of the generation of economic resources by the activity in each country.	75,000	-	0
	CMR-3.3. For year 3, there is a regional proposal, agreed on by the four countries, for the policies and scope of regulations on the sustainable use of wetlands that are important for migratory birds in the TECP.	75,000	-	0
	CMR-3.4. For year 4, there is a proposal for reforms in the regulatory framework for the sustainable use of the wetlands important for migratory birds in the TECP, to be implemented in the short, medium and long term, for each one of the four countries.	75,000	-	0
CMR-4. For year 3, there is a consensual proposal at a regional level for the policies and regulations necessary to achieve planning of navigation routes in the TECP.	**CMR-4.1.** For year 2, an analysis has been done on the existing policies and the legal framework in the four countries that regulate navigation routes.	75,000	-	0
	CMR-4.2. For year 3, there is a regional proposal, agreed on by the four countries, for policies and scopes of regulations for planning the navigation routes in the TECP, including international agreements.	85,000	-	0
	CMR-4.3. For year 3, there is a proposal for reforms in the regulatory framework for planning navigation routes in the TECP, to be implemented in the short, medium and long term, for each one of the four countries.	70,000	-	0
CMR-5. For year 10, PACIFICO has contributed to establishing a regionally harmonized management plan for the responsible extraction of fishery resources, development of the tourism activity and use of wetlands important for migratory shorebirds.	**CMR-5.1.** For year 5, there is a regional strategy to promote the process of harmonization of national policies and regulations for responsible extraction of fishery resources, development of the tourism activity and use of the wetlands important for migratory shorebirds.	50,000	-	0
	CMR-5.2. . For year 5, there is an investment plan that allows PACIFICO to support the countries in implementation of proposals to reform the regulatory framework for extraction of fishery resources, development of tourism activities, use of navigation routes and sustainable use of wetlands important for migratory shorebirds in the TECP, to be implemented in the short, medium and long term.	25,000	-	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
	CMR-5.3. For year 15, the four countries have implemented actions leading to achieving reforms in the regulatory framework for extraction of fishery resources, development of tourism activities, use of navigation routes and sustainable use of wetlands important for migratory shorebirds in the TECP, in conformance with the established plan.	-	735,000	0
CMR-6. For year 3, PACIFICO has contributed to development of Protocols for Good MPA Management Practices focused on TECP conservation targets.	**CMR-6.1.** For year 3, Protocols for Good MPA Management Practices focused on TECP conservation targets have been developed.	150,000	-	0
CMR-7. For year 5, PACIFICO has defined the sites and investment actions to improve management effectiveness of MPAs that respond to criteria of vulnerability to CC, ecological representativeness and connectivity in the TECP.	**CMR-7.1.** For year 4, the MPAs important for guaranteeing ecological representativeness and connectivity in the TECP and are considered vulnerable to climate change have been identified.	150,000	-	0
	CMR-7.2. For year 4, PACIFICO has defined the indicators that enable it to measure improvements in management effectiveness of MPAs across the region and defined a coordination mechanism for follow up.	115,000	-	0
	CMR-7.3. For year 4, agreements have been reached with entities responsible for MPA management in each country for systematic application of the indicators defined as relevant for PACIFICO, to measure management effectiveness in the MPAs identified as priorities in the TECP.	50,000	-	0
	CMR-7.4. For year 5, the indicators of management effectiveness for PACIFICO are being measured in 100% of the MPAs identified as relevant for the TECP and a baseline is established.	100,000	-	0
	CMR-7.5. For year 5, there is a regional strategy to prioritize sites and investment actions of PACIFICO for improving management effectiveness of the MPAs, which considers the baseline and the processes of adaptation to climate change.	50,000	-	0
CMR-8. For year 25, PACIFICO contributes to increasing management effectiveness to	**CMR-8.1.** For year 5, there is a proposal for improving management in the selected MPAs that allows them to overcome deficiencies and it is being implemented.	75,000	-	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
acceptable levels or higher in at least 35%of the MPAs given support to maintain representativeness and improve ecological integrity of the biodiversity under protection.	**CMR-8.2.** For year 10, 15% of the MPAs receiving support to improve management effectiveness have achieved a rating of acceptable or even higher.	-	3,523,000	0
	CMR-8.3. For year 25, 35% of the MPAs receiving support to improve management effectiveness have achieved a rating of acceptable or even higher.	-	6,596,000	2,573,000
CMR-9. For year 6, PACIFICO has defined and developed the financial mechanisms to support regional planning processes for uses of shared marine resources in the TECP.	**CMR-9.1.** For year 6, support guidelines and coordination mechanisms have been defined for implementing financial mechanisms in support regional planning processes.	-	90,000	0
CMR-10. For year 20, PACIFICO, through a permanent funding mechanism, contributes to the regional planning processes agreed on by the countries.	**CMR-10.1.** For year 7, a PACIFICO investment plan has been developed to guide support to the regional planning processes.	-	35,000	0
	CMR-10.2 For year 20, the four countries will have implemented initiatives to achieve consolidation of the agreed-on regional plan for use of marine and coastal resources in the TECP.	-	3,455,000	0
CMR-11. For year 4, PACIFICO has defined and developed the funding mechanisms to support a regional plan for surveillance and control of shared marine resources in the TECP.	**CMR-11.1.** For year 4, the guidelines for support and the coordination mechanisms to implement funding mechanisms to support a regional surveillance and control plan for shared marine resources in the TECP have been defined.	90,000	-	0
CMR-12. For year 20, PACIFICO has helped consolidate the Regional Coordination Mechanisms for Environmental	**CMR-12.1.** For year 5, a PACIFICO investment plan has been developed to guide support to the Regional Coordination Mechanisms for Environmental Security.	45,000	-	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
Security as mechanisms to strengthen regional capacity for marine-coastal surveillance and control.	**CMR-12.2.** For year 20, the four countries will have actions underway to achieve consolidation of the Regional Coordination Mechanisms for Environmental Security.	-	3,380,000	0
CMR-13. For year 11, invasive species in the TECP and their effect on conservation targets have been identified and characterized.	**CMR-13.1.** For year 11, an analysis has been done of the presence of invasive marine species in the TECP and the species that potentially affect the conservation targets have been identified and characterized.	-	200,000	0
CMR-14. For year 12, PACIFICO has an investment strategy to help improve systems for prevention and control of invasive species in a coordinated way with the governments.	**CMR-14.1.** For year 10, an assessment has been made of the policies and strategies implemented in the TECP to manage invasive species, which include prevention, control, eradication and ecosystem restoration.	-	55,000	0
	CMR-14.2. For year 10, there is a "state of the art" analysis at the global level of mechanisms for management of invasive species.	-	30,000	0
	CMR-14.3. For year 11, agreements have been reached with entities responsible for management of invasive species in each country in order to define joint actions to manage them.	-	100,000	0
	CMR-14.4. For year 12, there is a PACIFICO investment proposal for contributing to improve prevention and control systems for invasive species in the TECP.	-	60,000	0
CMR-15. For year 25, PACIFICO has helped improve the systems for prevention and control of invasive species.	**CMR-15.1.** For year 25, investments will have been made to implement the strategies and control mechanisms to help improve the prevention and control systems for invasive species, in accordance with the established and updated strategy.	-	1,282,000	507,000
	Climate Change			
CC-1. For year 4, PACIFICO will have identified and evaluated the potential impact on biodiversity and marine	**CC-1.1.** For year 3, impacts on TECP conservation targets and its ecosystem services will have been identified, along with definition of the components most vulnerable to climate change and extreme weather events.	370,000	-	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
ecosystem services, their adaptive capacity and the viable adaptation measures for TECP conservation targets in the face of climate change and extreme weather events.	**CC-1.2.** For year 4, the adaptive capacity of TECP prioritized ecosystems that are vulnerable to CC and extreme weather events will have been identified, along with potentially viable adaptation measures.	141,000	-	0
CC-2. For year 5, PACIFICO will have consolidated an investment plan for implementing adaptation measures for TECP conservation targets to the impacts expected from climate change and extreme weather events and implementation will be underway.	**CC-2.1.** For year 5, there will be an investment plan for actions that help conservation targets adapt to expected impacts from climate change and extreme weather events.	100,000	-	0
CC-3. For year 25, PACIFICO has contributed to adaptation of TECP conservation targets to the impacts expected from climate change and extreme weather events.	**CC-3.1.** For year 25, the investments necessary for implementation of actions that help conservation targets adapt to expected impacts from climate change will have been made, in accordance with the investment plan.	-	4,989,000	1,383,000
CC-4. For year 11, PACIFICO will have helped assess the potential of diverse initiatives, such as rehabilitation and compensation mechanisms related to climate change in the TECP.	**CC-4.1.** For year 3, the potential of various initiatives will have been assessed as a strategy for wetlands restoration and adaptation.	98,000	-	0
	CC-4.2. For year 11, development of four pilot projects will have been promoted regionally (one per country) as mechanisms that contribute to rehabilitation and adaption of wetlands.	180,000	660,000	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
CC-5. For year 20, PACIFICO will have helped with implementation of success initiatives as mechanisms for compensation related to climate change in the TECP.	**CC-5.1.** For year 12, the investment strategy has been developed for encouraging implementation of successful initiatives for rehabilitation and adaptation of wetlands in the TECP.	-	45.000	0
	CC-5.2. For year 20, investments will have been made for implementation of successful initiatives as mechanisms for rehabilitation and adaptation of wetlands in the TECP, in accordance with the established strategy and adjustments made to it.	-	750,000	0
Production Alternatives				
MAD-1. For year 11, PACIFICO will have helped assess the ecosystem services provided by the TECP conservation targets as a way to support decision-making processes in the region.	**MAD-1.1.** . For year 10, the principal ecosystem service provided by the TECP conservation targets will have been identified.	-	75,000	0
	MAD-1.2. For year 10, the TECP ecosystem services whose economic valuation would provide relevant elements for the levels of decision making will have been defined jointly with the four countries.	-	60,000	0
	MAD-1.3. For year 11, an economic assessment will have been done of the TECP ecosystem services relevant for those who make political decisions.	-	130,000	0
MAD-2. For year 12, PACIFICO will have helped develop production alternatives that ensure the sustainability of TECP marine resources over the long term, the technological, economic and social viability of the production systems and food security for the inhabitants.	**MAD-2.1.** For year 11, a socioeconomic characterization will have been done of the present coastal communities and their production systems that make use of the TECP conservation targets, identifying the relevant communities and processes in order to ensure their prioritized conservation and connectivity.	-	220.000	0
	MAD-2.2. For year 12, production alternatives will have been identified that help ensure the sustainability of TEPC resources over the long term—that are technologically, economically and socially viable and contribute to food security of the region's inhabitants.	-	150,000	0
	MAD-2.3. For year 12, participatory and agreed-on proposals will have been designed and developed on systems of production alternatives for key coastal zones and oceanic islands that take into account the coastal communities' rights of access to marine resources and that incorporate, where relevant, the collective territories and indigenous reserves.	-	115,000	0
MAD-3. For year 25, PACIFICO will have provided the interchange of initiatives for participatory management of marine-coastal resources having a positive impact on conservation and the economy of the local communities involved.	**MAD-3.1.** For year 13, successful experiences in management of marine and coastal resources will have been systematized and a campaign prepared for dissemination.	-	195.000	0
	MAD-3.2. For year 25, processes for interchange of experiences and initiatives for participatory management of marine and coastal resources will have been carried out.	-	679,000	485,000

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
MAD-4. For year 21, PACIFICO will have promoted sustainable value chains with local communities.	**MAD-4.1.** For year 16, an investment plan will have been consolidated to help encourage sustainable value chains and at least two pilot projects developed per country linked to TECP conservation targets.	-	195,000	0
	MAD-4.2. For year 21, at least two pilot projects linked to TECP conservation targets will have been developed and promoted.	-	1,400,000	350,000
MAD-5. For year 12, PACIFICO will have helped define and consolidate an implementation strategy on regional funding mechanisms to create sustainability for conservation activities for the TECP.	**MAD-5.1.** For year 2, an analysis of regional financial mechanisms existing in the TECP and on the "state of the art" of regional systems at the international level and an assessment of their replication in the region will have been carried out.	65,000	-	0
	MAD-5.2. For year 6, development of pilot projects on regional funding mechanisms to generate sustainability for conservation actions in the TECP will have been promoted regionally.	415,000	145,000	0
	MAD-5.3. For year 7, a strategy will have been prepared for development and consolidation of successful regional funding mechanisms in the countries of the TECP.	-	42,000	0
	MAD-5.4. For year 12, investments will have been made to implement successful initiatives as regional funding mechanisms to generate sustainability for conservation activities in the TECP.	-	488,000	0
Capacity Building				
FC-1. For year 2, PACIFICO will have defined and consolidated mechanisms for regional and national actions through establishment of necessary strategic alliances.	**FC-1.1.** For year 1, members of the fund will have standardized their internal administrative and financial processes for implementation of PACIFICO.	65,000	-	0
	FC-1.2. For year 1, the PACIFICO coordination mechanisms will have been identified and designed with the political levels of each country.	95,000	-	0
	FC-1.3. For year 2, strategic alliances will have been created with stakeholders relevant to implementation of PACIFICO.	75,000	-	0
FC-2. For year 5, PACIFICO will have consolidated existing regional mechanisms for management and coordination relevant to the TECP.	**FC-2.1.** For year 16, the existing regional mechanisms for management and coordination of regional incidence will have been identified and characterized, as well as the gaps and needs for strengthening related to implementation of PACIFICO.	45,000	-	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
	FC-2.2. For year 16, the necessary strategic alliances will have been established with entities of regional incidence.	60,000	-	0
	FC-2.3. For year 2, consensual development of the necessary regional mechanisms will have been done.	100,000	-	0
	FC-2.4. For year 5, collaborative mechanisms to promote regional initiatives together will jointly have been identified and consolidated.	200,000	-	0
FC-3. For year 25, PACIFICO will have helped strengthen the capacities of decision makers, local authorities responsible for management of conservation targets in TECP and other stakeholders relevant to the process.	**FC-3.1.** For year 3, institutional stakeholders relevant to the TECP will have been identified, along with their needs for strengthening based on their responsibilities in management of marine and coastal resources, and a strengthening plan will have been developed.	95,000	-	0
	FC-3.2. For year 3, there will be an investment plan that responds to the strengthening plan developed and its implementation initiated.	25,000	-	0
	FC-3.3. For year 2, consensual development of necessary regional mechanisms will have been fostered.	366,00	1,929,00	676.000
	FC-3.4. For year 25, the interchange of good practices under the framework of South-South cooperation will have been promoted.	230,000	1,350,000	450.000
	FC-3.5. For year 25, the strategy for communication and dissemination of PACIFICO results will have been implemented, along with development of material relevant to strengthening the capacities of different TECP stakeholders.	308,500	975,000	325,000
FC-4. For year 25, PACIFICO will have helped consolidate research on TECP conservation targets.	**FC-4.1.** For year 11, a strategy for research on TECP conservation targets will have been developed jointly and an action plan for its implementation, which identifies priority gaps to help consolidate regional connectivity and key indicator species related to the functioning of the regional ecosystem.	-	69,000	0
	FC-4.2. For year 12, protocols have been standardized for gathering and analysis of research data at a regional level.	-	70,000	0
	FC-4.3. For year 25, investments necessary to implement the action plan for the research strategy have been made, through the support of at least four research lines on the subject of TECP conservation targets.	-	1,980,000	1,100,000

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
FC-5. For year 25, PACIFICO will have helped consolidate the existing regional information systems on the TECP conservation targets.	FC-5.1. For year 11, existing regional databases will have been identified, along with definition of standardized protocols for data gathering and analysis.	-	65,000	0
	FC-5.2. For year 25, investments necessary to consolidate existing regional information systems on the subject of TECP conservation targets will have been made.	-	782,500	425,000
South-South Cooperation				
CSS-1. For year 3, PACIFICO will have established regional mechanisms for systematization of regional experiences and financial mechanisms, aligned with the common and relevant components of the conservation plan.	**CSS.1.1.** For year 3, mechanisms for the systematization of regional experiences and financial mechanisms have been established.	90,000	-	0
CSS-2. For year 5, PACIFICO will have designed and implemented at least three mechanisms for the interchange of experiences and good practices on topics related to financial sustainability, integrated management of coastal-marine resources, sustainable management of fisheries, community monitoring, alternative economic models, plans for adaptation to climate change with a gender approach, and surveillance and control.	**CSS.2.1 .** For year 5, at least three mechanisms for interchange of experiences will have been implemented.	115,000	-	0
CSS-3. For year 2 PACIFICO will have helped promote scientific research of regional interest.	**CSS.3.1** For year 1, a document will have been published containing relevant scientific research.	33,000	-	0

Objective	Goal	Short Term (1–5 years)	Medium Term (6–20 years)	Long Term (21–25 years)
CSS-4. For year 2, PACIFICO will have developed agreements to share existing information and consolidated regional databases on prioritized topics (i.e., research, fisheries).	**CSS.4.1** For year 2, a database to compile regional information on prioritized topics is underway.	30,000	25,000	0
CSS-5. For year 3, PACIFICO will have identified the needs for capacity building at a regional level that facilitates construction of a multinational vision on the challenges to sustainable use and conservation of shared coastal-marine resources between the area of the Gulf of California and the Tropical Eastern Central Pacific.	**CSS-5.1** For year 7, a plan for building technical capacities at the regional level will have been implemented.	575,000	500,000	0
Administrative operations		1,250,000	3,750,000	1,250,000
Subtotal per term		**$7,456,500**	**$41,374,500**	**$9,524,000**
Total			**$58,355,000**	

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