

North East Pacific Region

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1 About

1.1 Overview

The Central American coastline of the North-East Pacific hosts a variety of tropical and subtropical habitats including mangrove swamps, productive fishing grounds, and species-rich forests that extend to the water's edge. Millions of people depend on these ecosystems and their resources for food, construction materials and income from tourism-related industries.

Over 70% of the population of Central America lives on this drier Pacific side, and so it is here where the environmental pressures are the greatest. Forest clearance, over-exploitation of resources, continuous exhibition and high risk to the effects of extremes natural events, limited answer capacity and high vulnerability, expanding maritime trade, rapid development and political conflict are rampant. The result has been widespread loss of plant and animal species, degraded and eroded soils, destruction of biodiversity-rich mangrove areas, pollution of both coastal and inland waters and high levels of poverty.

Pollution from the land is made potentially even more damaging in the region because of the numerous sheltered bays and gulfs where the natural dispersal of oil and toxic chemicals is limited and some time inhibited. The region is also an important shipping route for vessels sailing from Panama to Alaska, and much of the oil transported from Alaska to the east coast of America transits the Panama Canal or the Laguna de Chiriqui oil pipeline.

Moreover, the region still has a troubled legacy to overcome. In the 1980s, Central America was gripped by a profound political and economic crisis marked by an accumulated 18.3% decline of per capita gross domestic product. The end of the Cold War a decade ago may have ended the major conflicts afflicting the region, but its legacy of poverty endures.

These problems present a formidable challenge which the countries of the region are determined to meet. In February 2002, history was made with the signature in La Antigua Guatemala City, Guatemala, of the Convention for Cooperation in the Protection and Sustainable Development of the Marine and Coastal Environment of the North-East Pacific (The Antigua Convention).

The governments also approved an Action Plan detailing how the countries concerned will improve the environment of the North-East Pacific for the benefit of people and wildlife. Key parts of the plan will include an assessment and crackdown on the high levels of sewage and other pollutants being discharged from cities and other sources into the Pacific Ocean, compromising the health of bathing waters and risking outbreaks of water-borne diseases such as cholera. Other priority issues include physical alteration and destruction of coastal ecosystems and habitats; overexploitation of fishery resources; and the effects of eutrophication. Yet another priority will be to assess the risks from oil pollution and evaluate the availability of clean-up equipment and personnel to deal with them. The Action Plan's secretariat COCATRAM (Central America Marine Transport Commission) will seek financial support for its implementation and explore ways to work with their neighbour, the Caribbean Action Plan, which shares many members.

This new Convention and Action Plan mark an important step towards improving the health of the North-East Pacific environment and the lives of its people. It should also further heal the wounds of a troubled and insecure time.

1.2 Key Dates

29-31 March, 1996	The Government of Panama hosted a meeting of an ad hoc group of experts with the aim of examining possible mechanisms for the elaboration or adjustment of a plan for addressing the Central American Pacific region. At that meeting the experts designated by the Governments of Central American countries agreed on the imperative need to establish a regional plan of action for the north-east Pacific with the assistance of the UNEP.
19-23 March 2001	The draft of the plan was presented at the second session of the meeting of high-level government-designated experts for the proposed north-east Pacific regional seas programme, held in Managua, Nicaragua, which agreed to incorporate as a component of the plan the work programme modified by that meeting for the period 2001-2006 and requested UNEP to prepare a strategy which would incorporate the components of the plan as an integral part of the plan document.
6-9 August 2001	At the third session of the Meeting of High-Level Government-Designated Experts, held in Panama, the experts reviewed a third draft of the proposed Convention and approved the draft, as amended. The Meeting also approved the text of the Plan of Action, without amendments.
18 February 2002	Antigua Convention and the Plan of Action in La Antigua Guatemala signed.
19-22 February 2002	The first Intergovernmental Meeting of the Plan of Action for the Protection and Sustainable Development of the Marine and Coastal Environment of the Northeast Pacific, held in Guatemala City. The high-priority activities were identified and the preparation of proposals of projects was approved for those priorities
6-7 March 2003	The Second Intergovernmental Meeting of the Plan of Action for the Protection and Sustainable Development of the Marine and Coastal Environment of the Northeast Pacific, held in Managua, Nicaragua. It approved the initiation of oriented activities to attend the Governments in their answers against oil marine pollution, the prevention and reduction of the coastal pollution from land based sources. Also accept the offer of Guatemala to be headquarters of the Regional Coordination Unit of Action Plan, and take charge to COCATRAM like UCR of the Plan for Fiducary Trust Fund administration.
29-30 April 2004	Work Shop of Experts for the regionalisation of the contingency plans against oil pollution the Northeast Pacific. The workshop recommended to the Intergovernmental Meeting of the Plan the preparation of a strategy for the regionalisation of the national plans of contingency, where the training is outstanding.

1.3 Geographic and General Information

Region: North East Pacific

Participating States: Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama

Large Marine Ecosystems: LME #11: Pacific Central American Coastal

GIWA Region: Subregion 65: Eastern Equatorial Pacific

1.3.1 Oceanographic Information

The oceanography of the Northeast Pacific Marine Region is influenced either by the cool North Pacific Drift or the warm Equatorial Counter Current. The cool water mass of the North Pacific Drift flows eastward across the North Pacific Ocean mid latitudes and splits into northward and southward flowing cool temperature currents upon encountering the continental shelf of North America. The northward flowing portion, (the Alaska Current), and the southward flowing portion, (the California Current), dominate coastal regions and spread cool temperate water across a usually narrow continental shelf in a long arc from Point Conception in Southern California to the westernmost Aleutian Islands in Alaska (Croom et al 1995).

Cold temperate water also influences the extensive continental shelf area of the eastern Bering Sea from the Aleutian Islands all the way to the northern boundary of the Northeast Pacific Marine Region at Bering Strait. While the eastern Bering Sea shelf is associated with the Region, temperatures in this northern latitude area are sufficiently cool that seasonal ice cover occurs. Far to the south, an extension of the Equatorial counter Current flows northward along the coast of Central America and brings warm tropical water up the coast of Mexico to the mouth of the Gulf of California and the southern tip of Baja California Sur. There, it is diverted mostly away from North America to become part of the North Equatorial Current. A portion of this warm water, however, continues northward along the Baja California coast as far as Southern California, forming a gyre in the Southern California Bight that is bounded to the west by the cool California Current that flows past Point Conception. Except for pockets of cool water upwelling just south of the United States+Mexico border, coastal waters from Point Conception to the southern tip of Baja California Sur and the entire Golfo de California are warm temperate (Croom et al 1995).

The waters of this Region are characteristically quite warm, averaging 20°C or more year round. Salinities average 32-35 parts per thousand (Croom et al 1995). The cyclonal and anticyclonal gyres taken place by the intercession of the currents from California to the north and the Equatorial to the south, the surges and the thermal dome of Costa Rica and the resulting feathers of the blooming, constitute the more excellent oceanographic characteristics of the North East. The surges and the coastal run-off provide to the region a relatively high productivity (Escobar, 2001).

1.3.2 Coastal Geography and Geology

The continental platform is in general narrow and very inclined, with width average 20 km with some developments in Panama Bay and Gulf of Fonseca. High depths are seen very near the coast. A steep coast is highly developed in Costa Rica and partially in El Salvador, Nicaragua, in the Gulf of Fonseca and Panama. In Guatemala the coast does not present cliffs. The active margin of subduction of the Coco Plate under the Caribbean plate runs parallel to the coast of the Pacific, from Acapulco in Mexico, until the Peninsula of Nicoya in Costa Rica. The coasts in Guatemala are in general deep about 4.000-5.000m, what is known as "Guatemala fossa." In El Salvador, the coast extends from the River La Paz outlet until the Gulf of

Fonseca in the east. The exit of Honduras to the Pacific corresponds to its sector in the Gulf of Fonseca that constitutes the biggest estuary in the region. In Nicaragua, the coast Pacifico is characterised to be narrow with a bank between the 200-500 m. In Costa Rica, the western coast, four gulfs have formed, including many bays and several tidelands, ends and peninsulas, with steep and rocky areas (Escobar, 2001).

The main coastal accidents are: the Gulf of Fonseca, shared by three countries (Honduras, Nicaragua and El Salvador) that is an ecosystem 60 km wide and 50 km long with 409 km of coast line and an aquatic area of 2015 Km². On this coastline settles a population of 715.000 inhabitants. The Gulf of Panama occupies almost half of the coast of that country and it harbours his 80% of population. In general, located on the Pacific coast of Panama and Central America is about 70% of the population. The Pacific coast of Colombia stretches for 1,392 km. To the north of Cape Corientes the coast is high and mountainous with occasional gorges and fjords. To the south the coast is flat with sandy beaches and mangrove areas and extensive estuaries formed by the discharge of numerous rivers, some of which are of considerable size (San Juan, Patia). Islands are present off the coast, some of which (such as Malpelo and Gorgona) are volcanic in origin while others are associated with the deltas of major rivers (Hurtado 1995, Escobar 2001).

1.3.3 Ecosystem Diversity

The north-east Pacific is notable in that it represents all the known tropical and subtropical environments and also for its wealth of biological diversity (UNEP 2002). Ecosystems of importance to overall marine biodiversity that are found within the Northeast Pacific Marine Region include tidal marshes and eelgrass beds; sand and mudflats; upwelling and mixing areas; and intertidal, subtidal, benthic, nearsurface and midwater habitats. In the central parts of the region ecosystems grade from temperate to subtropical types, becoming tropical in the south of the region along the coast of Mexico, where ecosystem diversity generally is extremely high. Within the southern provinces of the Region, tropical habitats such as mangroves, coral reefs, rocky shores, sandy beaches, oceanic valleys and canyons, estuaries and coastal lagoons provide habitat for a striking variety of species (Croom et al 1995).

In general there are high rates of endemism. There are species characteristic of the Neotropico of the South and Central America and species of the Neartico of North America. In the biogeographics classification species of the Panamanian faunistic province and Mexican are presented. The range of the Panamanian province occupies the whole territory of the region, species of the Indopacific are presented and species pan-Pacific and some coming from the Peruvian province- there are two countries classified as megadiverses (Colombia and Mexico) (Escobar, 2001).

1.3.3.1 Mangroves and Wetlands

Mangroves are numerous along the sheltered regions of the Pacific coast of Central America. The following species are found within the region: red mangroves (*Rhizophora mangle*, *R. harrisonii*), black mangroves (*Avicennia germinans*, *A. bicolor*, *A. tonduzzi*), seed mangrove (*Pelliciera rhizophorae*), *Connocarpus erectus*, white mangroves (*Laguncularia racemosa*) and cork oaks (*Mora oleifera*, *Mora megistosperma*) (UNEP 1999).

Mangrove forests, rich in biological diversity and productivity, extend from Mexico to Colombia. Mangroves are the coastal ecosystem best represented in the region, and account for approximately 9.6 % of the world's total mangrove stands and 17 % of the mangrove forests of Latin America, with a range of species common to the region. In some countries of the north-east Pacific, as much as 90 % of the total fish harvest depends on mangroves, and practically all the coastal aquaculture, especially marine shrimp farming, is carried out entirely in mangrove areas. Mangroves are associated with wetlands (UNEP 2002).

11 coastal wetlands in Central America and Mexico are recognized as being of international importance, 10 of these are found in the north-east Pacific region; all the coastal wetlands of the region harbour mangroves and a wide variety of wildlife. Although there are no very extensive coral reefs in this region, there are still some coral beds in Colombia, Costa Rica, and 2 in Mexico and Panama. The coral occurs in discontinuous form, in patches and in larger formations, from the island of Gorgona in Colombia to the Gulf of California in Mexico, which represents the northern extremity of this subtropical coral fauna (UNEP 2002). The mangrove and wetlands of the region have a high number of endemic marine birds with a high diversity. The diversity of corals hermatípicos is very low as that of mollusks, shrimps and lobsters. The diversity of sharks is very high with some cases of endemism (Escobar, 2001)

1.3.4 Species Diversity

1.3.4.1 Benthos

The sea urchins (*Echinometra vanbrunti*, *Eucidaris thouarsii*, *Tripneustes depressus*, and *Diadema maxicanum*), the starfish (*Tamaria strae*, *Ophicoma aethiops*, *Mitheodia bradlevy*, *Narcissia gracilis*, *Leiaster callipeplus* and *Nidorella armata*) and the basket starfish (*Astrodictym panamense*) are found on Malpelo Island, Colombia. 78 mollusc species are found to be associated with the coral (*Quoyola monodonta*). Also living at the base of coral are the porcelain snails (*Cyprea albuginosa*, *C.isabellamexicana*, *C.cervinetta*, *C.arabacula*, *C.robertsi*, *C. teres*) and the cones (*Conus didama*, *C.dalli*) (UNEP 1999).

1.3.4.2 Fish and Shellfish

The region together with Mexico and part of Colombia, includes the whole of FAO fisheries area 77 (Central Eastern Pacific). Most of the Region is characterized to be tropical very oligotróphicy, where important and dominant resources are the tuna and of other medium and small pelagic, while in waters near to the coast dominates the shrimp fisheries. The contribution of the region to the global world capture of fishing is discreet. A rich up-welling off-shore Panama exists that supports an important population of *anchoveta centengraulis mysticetus* of the Central Pacific. This resource together with other, are completely over exploited or near their maximum sustainable yields WCMC (1996 cited by Escobar 2001). Many species of demersal fishes are captured through by-catch and by artisanal fishery of shark that operates in El Salvador and Guatemala (IOC/UNESCO, 2002, cited by Escobar 2001). This

Region accounts for between 35-42 % of the commercial species in the maritime fisheries of the countries in it, and between 60-80 % of all their fishing activities.

Throughout the region coastal fishing is very important both economically and socially, and in some coastal communities it is the only economic activity and the sole source of food. As with industrial fishing, which takes place in open waters, both activities raise problems of overuse of resources, deterioration of the habitat and pollution (UNEP 2002). In Colombia the harvesting of saltwater shrimp is exploited with an area of 39,500 ha. The dominant species are *Penaeus stylirostris* and *Macrobrachium rosenbergii*. (UNEP 1999). Other species of fish found in the region include; Chinook salmon (*Oncorhynchus tshawytscha*), Sockeye salmon (*Oncorhynchus nerka*) and Delta Smelt (*Hypomesus transpacificus*) (Croom et al 1995).

1.3.4.3 Reptiles

Four species of turtle are found in the Region; Green sea turtle (*Chelonia mydas*), Leatherback sea turtle (*Demochelys coriacea*), Loggerhead sea turtle (*Caretta caretta*) and Olive Ridley sea turtle (*Lepidochelys olivacea*). Breeding colonies of the Green and Olive Ridley turtle are found on Pacific coast of Mexico (Croom et al 1995). In addition the lizard (*Phyllodactylus*) is an important species found on Malpelo Island, Colombia (UNEP 1999).

1.3.4.4 Birds

The Malpelo Island in Colombia has a large nesting colony of boobies (*Sula*) represented by two colonies the masked booby (*Sula dactylatra granti*) and the red footed booby (*Sula sula*). There are also small nesting colonies of frigate birds (*Fregata magnificiens*) and tropic birds (*Pterodroma phaeopygea*). Other birds found are the *Pterodroma phaeopygea* and *Puffinus pacificus* (UNEP 1999).

1.3.4.5 Marine Mammals

The diversity of cetaceans and pinnipeds is high. Marine mammal species found in the North East Pacific Region include; harbor porpoise (*Phocoena sinus*), Southern sea otter (*Enhydra lutris nereis*), Steller's sea lion (*Eumetopias jubatus*), Guadalupe fur seal (*Arctocephalus townsendi*), Blue whale (*Balaenoptera musculus*), Bowhead whale (*Balaena mysticetus*), Finback whale (*Balaenoptera physalus*), Grey whale (*Eschrichtius robustus*), Humpback whale (*Megaptera novaeangliae*), Right whale (*Balaena glacialis*), Sei whale (*Balaenoptera borealis*) and Sperm whale (*Physeter macrocephalus*) (Croom et al 1995).

1.3.5 Information on Participating States

1.3.5.1 El Salvador

Total Population: 6,587,541 (CIA 2004)
GDP purchasing power parity: \$30.99 billion) (CIA 2004)

Maritime Claims:

Territorial sea: 200 NM (CIA 2004)

Length of Coastline: 307 km (CIA 2004)

Marine Protected Areas

- Reserva de Vida Silvestre RSV Barra de Santiago (propuesta) (Escobar, 2001)

Other Pacific coastal and marine protected areas:

- Los Cobanos,
- Zona de Reserva de Cornaesland y Cuisnahuat
- Refugio de Vida Silvestre Santa Clara,
- Isla de Tasajera y San Sebastián
- Volcán de Conchagua,
- Islas Perigallo y Martín Pérez (Golfo de Fonseca)

1.3.5.2 Colombia

Total Population: 43,733,000 (HDR 2002)

GDP (current US\$): 80,925,073,408 (HDR 2002)

Maritime Claims:

territorial sea: 12 NM

continental shelf: 200-m depth or to the depth of exploitation

exclusive economic zone: 200 NM (CIA 2004)

Length of Coastline: 3,208 km (Caribbean Sea 1,760 km, North Pacific Ocean 1,448 km) (CIA 2004)

Marine Protected Areas:

- Parque Nacional Natural Isla Gorgona: (49,200 hectares)
- Parque Nacional Natural Utria: (53,400 hectares)
- Parque Nacional Sanquianga: (80,000 hectares)
- Parque Nacional Isla del Malpelo

1.3.5.3 Costa Rica

Total population: 4 million (CIA, 2003)

GDP per capita (PPP US\$), 2001: 9,460 (HDR, 2003)

Total sea area: continental shelf: 200 n miles, exclusive economic zone: 200 n miles, territorial sea: 12 n miles

Length of coastline: 1,290 km

Length of Pacific coastline :1.020 km (Escobar, 2001)

Marine Protected Areas: 4 MPA's (Stanley, 2003)

Pacific Marine and Coastal Protected Areas

- Parque Nacional PN Corcovado
- PN. I . de Coco
- PN. Manuel Antonio
- PN Sta. Rosa
- Reserva de Vida Silvestre RVS Curu
- Reserva Biologica RB, Isla Pajaro
- RB Isla del Caño
- RB Islas Guayabo y Negritos

Other Pacific protected marine areas:

- Isla Bolaños,

- Cabo Blanco,
- Las Eaulas

Existing MPAs that Require Management Support

- Refugio de Vida Silvestre Barra del Colorado
- Parque Nacional Cahuita
- Parque Nacional Tortuguero
- Refugio Nacional Vida Silvestre Gondoca Manzanillo

Proposed New Marine Protected Area

- Tortuguero/Miskito Marine System

5.4 Guatemala

Total population: 14 million (CIA, 2003)

GDP per capita (PPP US\$), 2001: 4,400 (HDR, 2003)

Total sea area: continental shelf: 200-m depth or to the depth of exploitation, exclusive economic zone: 200 n miles, territorial sea: 12 n miles

Length of coastline: 400 km

Length of Pacific coastline: 254 km (Escobar, 2001)

Marine Protected Areas: 2 MPA's (Stanley, 2003)

Existing MPAs that Require Management Support

- Punta de Manabique Biotopo
- Parque Nacional Rio Dulce

Other Pacific coastal and marine protected areas:

- Machon –Guamuchal,
- Canal de Chiquimulilla,
- Lagunas de Sipacate-Naranjo
- Humedales de Monte Rico,

5.5 Honduras

Total population: 6,6 million (CIA, 2003)

GDP per capita (PPP US\$), 2001: 2,830 (HDR, 2003)

Total sea area: contiguous zone: 24 n miles territorial sea: 12 n miles, continental shelf: natural extension of territory or to 200 n miles, exclusive economic zone: 200 n miles

Length of coastline: 820 km

Length of Pacific coastline (Gulf of Fonseca): 50km (Escobar, 2001)

Marine Protected Areas: 4 MPA's and 1 other coastal area (Stanley, 2003)

- Existing MPAs that Require Management Support:
- Biosphere Reserve Rio Platano (Marino)
- Parque Nacional Turtle Harbor

Pacific Coastal and Marine Protected Areas

- Manglar Golfo de Fonseca
- Reserva Vida Silvestre RSV Punta Codenga

Other Pacific coastal and marine proposed protected areas:

- El Jicarito,
- San Bernardo,
- Los Delgaditos,
- La Berbería,
- Guapinol
- Teonostal,
- Alemania,
- Bahía de Chismuyo,

- Laguna de Montecristi,
- Punta Ratón,
- Isla de San Lorenzo y
- Parque Nacional Marino Archipiélago Golfo de Fonseca.

1.3.5.6 Mexico

Total population: 104 million (CIA, 2003)

GDP per capita (PPP US\$), 2001: 8,430 (HDR, 2003)

GDP per head (US\$) (US\$): 8,430 estimated (US 37,600)

Total sea area: contiguous zone: 24 n miles

territorial sea: 12 n miles, exclusive economic zone: 200 n miles, continental shelf: 200 n miles or to the edge of the continental margin

Length of coastline: 9,330 km

Marine Protected Areas: 30 MPAs (Croom et al 1995).

1.3.5.7 Nicaragua

Total population: 5 million (CIA, 2003)

GDP per capita (PPP US\$), 2001: 2,450 (HDR, 2003)

Total sea area: continental shelf: natural prolongation, territorial sea: 200 n miles

Length of coastline: 910 km

Length of Pacific coastline: 350 km (Escobar, 2001)

Marine Protected Areas: None known (Stanley, 2003)

Pacific Marine Protected Areas

- Reserva Natural RN Delta del Estero El Real

Other Pacific coastal and marine proposed protected areas:

- Estero Padre Ramos,
- Isla Juan Venado,
- Chacocente,
- La Flor,
- Mombacho,
- Isla Zapatera,
- Apante,
- Dantali,
- El Diablo
- Miraflor

5.8

Panama

Total population: 2 million (CIA, 2003)

GDP per capita (PPP US\$), 2001: 5,750 (HDR, 2003)

Total sea area: contiguous zone: 24 n miles, exclusive economic zone: 200 n miles, territorial sea: 12 n miles

Length of coastline: 2,490 km

Length of Pacific coastline: 1,700 km (Escobar, 2001)

Marine Protected Areas: 2 MPA's (Stanley, 2003)

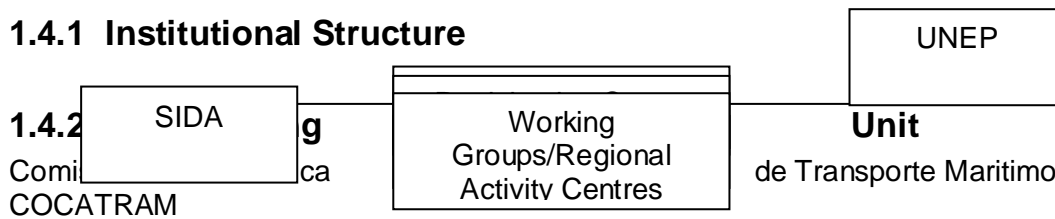
Pacific Coastal and Marine Protected Areas

- Parque Nacional PN Coiba
- PN Portobelo
- PN Sarigua

- Reserva de Vida Silvestre RVS Isla Iguana
 - RVS. I de Cañas
 - Isla Taboga
- Other Pacific marine and coastal proposed protected areas:
- Punta Chame-Farallón-San Carlos,
 - Golfo de Parita
 - Golfo de Chiriqui,
 - Golfo de Montijo
 - Parque Nacional del Darién.

1.4 Organization

1.4.1 Institutional Structure



Our Work

- to coordinate and to put in practice the decisions of the Intergovernmental Meetings of the Plan of Action to facilitate the application of the Convention
- to orient the necessary international cooperation to carry out the programs and priority projects,
- to prepare proposals of projects for the technical aid and necessary finances on the base of the decisions of the Governments
- to prepare, to call and to attend the diverse meetings (political, technical, legal) that on the development of the components of the Plan as they turn out to be necessary,
- to attend to the Governments in the application of their environmental politics with relation to the protection of the coastal and marine environment
- to exchange information on the regional Plan of Action,
- to coordinate and to support the application of regional components of the global programs on Protection of the Marine Middlecoasts,
- to coordinate all the activities and, to build th capacity for the management of resources and of the coastal and marine environment witin the framework of sustainable development,
- to administer the Trust Fund of the Plan and other resources
- to carry out all those activities relating to the legal, financial, institutional devices and of programming of the Plan that is necessary for the efficient application of the Plan of Action (Escobar, 2001) .

1.4.3 Intergovernmental Meetings

The first Intergovernmental Meeting of the Plan of Action for the Protection and Sustainable Development of the Marine and Coastal Environment of the Northeast Pacific was held in the Westin Camino Real Hotel, Guatemala City, from 19 to 22 February 2002. For full text of this meeting link to: <http://www.unep.ch/seas/main/nep/report.html>.

The following delegates were elected to the Bureau:

Chair: Mr. Rodolfo Tejeda (Guatemala)

Vice-Chair: Ms. Jenny Asch (Costa Rica)

Rapporteur: Ms. Liza I. Gonzalez (Nicaragua)

The Second Intergovernmental Meeting of the Plan of Action for the Protection and Sustainable Development of the Marine and Coastal Environment of the Northeast Pacific was held in the Camino Real Hotel, Managua, Nicaragua from 6 to 7 March 2003. For full text of this meeting link to:

<http://www.unep.ch/seas/main/nep/reporte.html> and/or www.cocatram.org.ni

The following delegates were elected to the Bureau:

Chair: Ms. Liza I. Gonzalez (Nicaragua)

Vice-Chair: Ambassador Mr. Jose Luis Dominguez (Guatemala)

Rapporteur: Mr Cesar Funes Abrego (El Salvador)

1.4.4 National Focal Points

Colombia: Ministerio de Relaciones Exteriores Viceministro de Organismos y Conferencias Político Multilaterales

Panamá: Autoridad Marítima de Panamá AMP

El Salvador: Ministerio de Medio Ambiente y Recursos Naturales

México: Secretaria de Medio Ambiente, Recursos Naturales y Pesca SEMARNAP

Guatemala: Ministerio de Medio Ambiente

Honduras: Secretaria e Medio Ambiente y Recursos Naturales

Nicaragua: Ministerio de Medio Ambiente y Recursos Naturales

Costa Rica: Ministerio de Medio Ambiente y Energía MINAE

1.5 Financial Arrangements

A fund based on the split contributions of the member Governments and other sources and oriented to support the common activities, was established in the 1st Intergovernmental Meeting (Escobar, 2001).

1.6 Wider Cooperation

Initiatives for cooperation exist at present and support with the Plan of Action of the Wider Caribbean and with the Plan of Action of the Northeast Pacific and the option of the expansion of the Plan has been considered to the U.S.A and Canada (Escobar, 2001).

1.7 Partners

1. PNUMA (Mares Regionales, GPA-UNEP, UNEP/ORPALC)

2. Agencia Sueca para el Desarrollo SIDA

2 Our Work

2.1 Programme Strategy

Link to Regional Seas Strategic Directions 2004-2007, downloadable document.: to come

2.2 Action Plan

Plan of Action for the Protection and Sustainable Development of the Marine and Coastal Areas of the North-East Pacific

Adopted: 18 February 2002

Participating States: Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama

The main objective of the plan of action is to provide a regional cooperative framework for promoting and facilitating the sustainable management of the marine and coastal resources of the countries of the northeast Pacific for the well-being of the present generation and future generations in the region.

The Action Plan spans the area between the extreme south of the Pacific seaboard of Colombia, where it borders Ecuador, to the extreme north of Mexico on the Pacific, at its border with the United States, dominated in the north and centre by the California Current, in the southern reaches by the Equatorial Counter-Current and in the far south by the Humboldt Current. The region comprises what is known as the Great Marine Ecosystem of the California Current.

Annex I: Programme of Work of the Plan of Action for the Protection and Sustainable Development of the Coastal and Marine Environment of the Northeast Pacific 2001-2006

For full text of the Action Plan link to:

<http://www.unep.ch/seas/main/nep/nepape.html>.

2.3 Convention

The Convention for Cooperation in the Protection and Sustainable Development of the Marine and Coastal Environment of the Northeast Pacific

Short Title: Antigua Convention

Contracting Parties: Colombia, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama

Adopted: 18 February 2002

Signed: signed by six of the eight countries of the region, Guatemala, El Salvador, Nicaragua, Honduras, Costa Rica and Panama

Ratified: Panama, 2003

For full text of the Convention link to:

2.4 Issues and Threats

2.4.1 Tourism

The region is a veritable mosaic of landscapes as a result of its varied ecosystem, and this has been partly responsible for the development of a large tourist industry which is now rapidly growing and contributes approximately 3.0 % of the region's gross domestic product (GDP). Some of its countries are internationally recognized tourist destinations. Tourism in the region represents an annual market of several million dollars, and in some countries it is one of the main sources of foreign currency. Between 40 and 60 % of tourism in the region is directed at marine and coastal areas, and part of this involves visits to national parks and other protected areas. Some coastal areas with great tourism potential are being affected by other developments that are not properly managed or are badly planned, while in other areas investments in infrastructure for tourism are being threatened by pollution, which represents an important economic risk (UNEP 2002).

2.4.2 Coastal Degradation

Many of the coastal and marine ecosystems of the region are experiencing intense degradation. The mangrove is the most threatened coastal ecosystem in the region, with a reduction in its surface area over the last 20 years of between 40 and 60 %, mostly caused by reclamation for the development of aquaculture and for urban expansion. In addition to mangroves, estuaries, inlets and coastal lagoons and other related ecosystems are in the process of being changed, especially by sedimentation due to the intensive deforestation occurring in the countries of the region, which, combined with inappropriate agricultural practices, causes permanent erosion, producing a substantial sediment load which reaches the coastal areas through the rivers which drain into the sea. The massive quantity of sediments transported by the rivers has led to an increase in the extent and severity of floods because of the loss of water channels and the shrinking of river beds and a heavy influx of contaminants into soils that have been deprived of plant cover together with a massive build-up of sediments in river mouths. In the 1980s the annual average rate of deforestation reached 2,000 ha/yr, with annual average losses of between 0.9 % and 3.2 %. The changes in catchment areas connected with coastal areas is a problem common to all the countries of the region (UNEP 2002).

2.4.3 Land-based Sources of Pollution

Agriculture is the principal source of pesticide pollution in the region, and virtually all the rivers flowing out of farming valleys show evidence of pesticide pollution, which tends to accumulate in river mouths and downstream areas. There is a need to evaluate and monitor these substances and for introducing, among other things, environmentally sound and sustainable agricultural practices (UNEP 2002).

The region is rich in water resources with an estimated offtake rates varying between 41 % and 1 % for domestic use, between 2 % and 4 % for industrial use and between 89 % and 43 % for agricultural use. A large proportion of the water used is returned into the environment having been polluted from different sources. As a result of the discharge of pollutants, most of the water bodies in the region shows concentrations, at various levels, of pollutants (UNEP 2002).

The presence of pesticides, heavy metals, nutrients and pathogenic micro-organisms has been noted. Around 95-97 % of the pollution that reaches the north-east Pacific does so through the rivers, and they carry the majority of the toxins that contaminate the sea. 98 % of the discharge of pollutants into freshwater sources is carried out directly through the sewerage systems, which account for about 90 % of the fixed sources of pollution and display the common feature of being released without being treated and/or, in a few cases, after limited treatment. As a consequence of these discharges and of agricultural drainage, large catchment areas are affected at a level of pollution categorized as "serious", together with their adjacent coastal areas (UNEP 2002).

2.4.4 Sea-based sources of Pollution

The regions coastal waters form a major route for maritime transport from Alaska to Panama. Much of the shipping travelling from the Pacific coast of North America and Central America to the Atlantic basin and other areas to the east travels through the Panama Canal. For example, much of the oil from Alaska destined for the east coast of the United States is transported via Panama through the Canal or from the Bahía de Charco Azul to the Laguna de Chiriqui oil pipeline. Similarly, most of its ports receive container cargo from the United States. Furthermore, the region has a large fleet under local flags, with Central America alone accounting for 10,000 ships, and more than 40,000 ships visit the area annually, and there were, on average, 14,000 passages of the Panama Canal alone between 1990 and 1997 (UNEP 2002).

The Canal is the hub for oil shipments; in 2001 a total of 613,000 bbl/d of crude oil and petroleum products were transported, which represents 57% of the total oil shipments (crude oil and petroleum products) moving from the Atlantic to the Pacific. Historically only one major oil tanker accident (>5,000 tonnes) has been recorded. In 1997 the tanker 'Caribbean Sea' reported hull failure and spilled 28,000 tonnes of oil into the ocean off El Salvador. A total of 62 tanker accidents have been recorded since 1974, 60 of which involved less than 700 tonnes. Of the overall tanker accidents, 41 occurred in Panama (71% within the channel and 29% on the Pacific coast); these were mainly due to routine oil transfer operations such as discharging and bunkering, loading or as a result of low energy collisions and groundings. 15 tanker accidents occurred in Mexico, 2 in Colombia, 2 in El Salvador, 1 in Guatemala, and 1 in Honduras. They were caused by oil transfer operations such as discharging and loading (ITOPF 2003).

The mangrove areas from Mexico to Panama are extremely vulnerable to oil spills, which, in turn, would have dire economic consequences, especially for fisheries and tourism (UNEP 2002).

For further information on the risk of oil spill refer to: ITOPF (2003) International Tanker Owners Pollution Federation Limited. REGIONAL PROFILES: North East Pacific. *Summary of the Risk of Oil Spills & State of Preparedness in UNEP Regional Seas Regions*. http://www.itopf.com/country_profiles/profiles/nepacific.pdf

2.4.5 Natural Disasters

One distinctive environmental feature of the region is its pronounced vulnerability to extreme natural events. Its location in the so-called "Pacific circle of fire" means that it is seismically active, with more than 300 volcanoes on its territory and permanent tectonic activity, this places it permanently at risk. In the last two centuries the region known as "Mesoamerica" has been hit by nine destructive tsunamis, seven of them originating in the Pacific. Furthermore, the region is close to the trajectory of the Caribbean hurricanes, some of which have reached the region and affected the Pacific area. The tropical cyclones of the Pacific reach into the north of the region and the entire region is affected by the extreme events of the El Niño phenomenon. Between 1960 and 1965 there were more than 105 natural disasters, the most frequent and numerous of which were landslides and floods, for which much of the blame can be put on intense deforestation. There is a need to improve the response capacity of the countries of the region by working towards better forecasting and early warning systems, identifying high-risk areas, within the context of integrated coastal area management and in the creation of a way of life and attitudes appropriate to the special conditions of the region (UNEP 2002).

2.5 Current Activities

- A Regional Diagnostic Study on Land-based Sources of Pollution in the North-East Pacific area is under edition.
- A Regional Profile on Oil Marine Pollution and the capacity of the North East Pacific Countries against oil pollution is under edition.
- A Regional Coastal and Marine Environmental Institution Directory a 2002 is under edition.
- Several proposed technical and economic projects on specific priority topics selected by the Governments is under way

3 Publications

3.1 Regional Seas Reports and Studies

Link to the Regional Seas Reports and Studies:

http://www.earthprint.com/show.htm??url=http://www.earthprint.com/cgi-bin/ncommerce3/CategoryDisplay?cgrfnbr=21240&cgmenbr=27973&CGRY_NUM=&next=1

3.2 Meeting Reports

First Intergovernmental Meeting, held in Guatemala City, 19 - 22 February 2002
<http://www.unep.ch/seas/main/nep/reporte.html>.

Second Intergovernmental Meeting, held in Managua, Nicaragua, 6-7 March 2003
Doz PNUMA(DCA)/COCATRAM/PNE/IG.2/10

PNUMA/COCATRAM, 2004; Report of the Workshop of Experts for the regionalización of the plans of contingency leave the fight against the contamination by hydrocarbons in the Pacifico Northeast, Comision central american of the Maritime Transportation- Plan of Accion for the Protection of the Marine Middle and Coastal Zone of the Pacifico Northeast, Managua, Nicaragua, April 29-30 of the 2004. Doz PNUMA/COCATRAM/OMI WG.1/1/2004 available: www.cocatram.org.ni

3.3 Other Publications

UNEP (1999) Assessment of Land-based Sources and Activities Affecting the Marine, Coastal and Associated Freshwater Environment in the South-East Pacific. This report includes Panama and Colombia. Four areas — Baha de Panama, and Colombian areas Buenaventura, Tumaco, and Esmeraldas — are identified as risk areas for oil pollution. Regional Seas Reports and Studies No. 169.
http://www.gpa.unep.org/documents/technical/rseas_reports/169-eng.pdf

Escobar R, J,J, 2001; Evaluation on the terrestrial sources and activities that affect the coastal and marine middle and fresh water associates of the Region of the Pacifico Northeast. Doz UNEP/DEC/NEP/EM 3/INF2. Informativo of the 1^a Intergovernmental Meeting of the Plan of Accion City of Guatemala, 19 - 22 February 2002 available in www.cocatram.org. (not published).

Escobar R, J,J, 2001; Evaluación sobre las fuentes terrestres y actividades que afectan el medio marino y costero y aguas dulces asociadas de la Region del Pacifico Nordeste. Doc UNEP/DEC/NEP/EM 3/INF2. Informativo de la 1^a Reunión Intergubernamental del Plan de Accion Ciudad de Guatemala, 19 - 22 February 2002 disponible en www.cocatram.org.ni también en UNEP Regional Seas (no editado) .

Escobar R, J.J. 2003; Profile of the capacity of answer of the region of the Pacifico Northeast to the contamination with petroleum al 2003. Informativo document of the Ila Intergovernmental Meeting of the Plan of Accion for the Protection and Sustainable Development of the Marine Middle and Coastal Zone of the Pacifico Northeast, Managua, Nicaragua, April 7-8 of the 2003, available in: www.cocatram.org.ni

Escobar R, J.J. 2003; Perfil de la capacidad de respuesta de la región del Pacifico Nordeste a la contaminación con petróleo al 2003. Documento informativo de la Ila Reunión Intergubernamental del Plan de Accion para la Protección y Desarrollo Sostenible del Medio Marino y Zona Costera del Pacifico Nordeste, Managua, Nicaragua, Abril 7-8 del 2003, disponible en: www.cocatram.org.ni

PNUMA/COCATRAM, 2003 Regional Board of directors of Centers and Marine Environmental Institutions and Coastal of the Pacifico Northeast to 2002- Informativo Document of the 2^a Reunion Intergovernmental of the Plan of Accion, Managua, Nicaragua, April 7-8 of the 2003, available in: www.cocatram.org.ni.
PNUMA/COCATRAM, 2003 Directorio Regional de Centros e Instituciones Ambientales Marinas y Costeras del Pacifico Nordeste a 2002- Documento

Informativo de la 2ª Reunion Intergubernamental del Plan de Accion, Managua, Nicaragua, abril 7-8 del 2003, disponible en: www.cocatram.org.ni.

PNUMA/COCATRAM,2003; Sure and Clean Seas- Environmental Agenda of the Maritime Transportation in Centroamérica- contains information on the Convention of Old (in detail) and the Plan of Accion of the Pacifico Northeast, publication COCATRAM, San José CR. February 2003, available in: www.cocatram.org.ni
PNUMA/COCATRAM,2003; Mares Limpios y Seguros- Agenda Ambiental del Transporte Marítimo en Centroamérica- contiene información sobre la Convención de Antigua (en detalle) y el Plan de Accion del Pacifico Nordeste, publicación COCATRAM , San José CR. Febrero 2003, disponible en : www.cocatram.org.ni

3.4 Website Links

GLOBEC Northeast Pacific Program <http://globec.oce.orst.edu/groups/nep/>
Sponges of the northeast Pacific <http://www.mareco.org/spongepage/>
A Checklist of Marine and Estuarine Fishes of the Northeast Pacific, From Alaska To Baja California http://id-www.ucsb.edu/lovelab/l_long.html.

4 Professionals

Lic. Juan Alberto Manelia, Coordinador Regional Plan de Accion del Pacifico Nordeste- COCATRAM Managua, Nicaragua

Rosa Maria Martínez. Asistente de Coordinación Plan de Accion del Pacifico Nordeste- COCATRAM

J.Jairo Escobar Ramírez- Asesor- UCR Plan de Accion del Pacifico Nordeste, Colombia, Bogota Calle 137A No. 52- 35 apto 203 Bloque I Telefono 6132848

4.1 List of Technical Consultants (preliminary)

- Dario Delgado, Ingeniero Sanitario- Panama
- Arnulfo Franco, Pesca, Panama
- Jeine Hach, Ingeniero Areas Protegidas- Costa Rica
- Liza I Gonzáles, Biología, Parques Nacionales-. Biodiversidad, Nicaragua
- Cesar Funes Abrego, Biología Marina, Pesca- Ecología, El Salvador
- Roque Espinoza, Contaminación por Petróleo, Honduras
- Dalia Caicedo, Bióloga Manglares, Colombia
- Francisco Gutiérrez, Pesca, Biodiversidad, Colombia,
- Rodolfo Tejada, Planificador Ambiental, Guatemala
- Pedro Ramírez, Biodiversidad, México
- Eliana Espejel, Manejo de Zona Costera, México
-

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UNEP (1999) Assessment of land based sources and activities affecting the marine coastal and associated freshwater environment in the South-East Pacific. UNEP Regional Seas Reports and Studies No.169

CIA (2004) Central Intelligence Agency. World Fact Book (Accessed 11/06/04)

<http://www.cia.gov/cia/publications/factbook/>. (Updated 11/05/04)

IТОPF (2003) International Tanker Owners Pollution Federation Limited. REGIONAL PROFILES: North East Pacific. *Summary of the Risk of Oil Spills & State of Preparedness in UNEP Regional Seas Regions.*

http://www.itopf.com/country_profiles/profiles/nepacific.pdf

UNEP (2002) Plan of Action for the Protection and Sustainable Development of the Marine and Coastal Areas of the North-East Pacific

<http://www.unep.ch/seas/main/nep/nepape.html>.

Stanley, S. (2003) Marine Region 7, The Wider Caribbean, A Global Representative System of Marine Protected Areas, <http://www.deh.gov.au/coasts/mpa/nrsmmpa/global/volume2/chapter7.html>. (Accessed 11/12/03)

HDR (2003) Human Development Reports. Human Development Indicators 2003. <http://www.undp.org/hdr2003/indicator>. [Accessed 2/2/04]

Escobar R, J,J, 2001; Evaluation on the terrestrial sources and activities that affect the coastal and marine middle and fresh water associates of the Region of the Pacifico Northeast. Doz UNEP/DEC/NEP/EM 3/INF2. Informative of the 1^a Intergovernmental Meeting of the Plan of Accion City of Guatemala, 19 - 22 February 2002 available in www.cocatram.org. (not published).