

AGOSTO 20, 1999

## UNITED NATIONS DEVELOPMENT PROGRAMME

### PROJECT OF THE REPUBLICA ARGENTINA AND THE REPUBLICA ORIENTAL DEL URUGUAY

Project Number:

Project Name: **Environmental Protection of the Rio de la Plata and its Maritime Front: Pollution Prevention and Control and Habitat Restoration**

Starting date: May 1999

Duration: 3.5 years

Sector-subsector: 20 - 10 Environment. Policies, planning and legislation.

Executing agency: The project will be executed by the Consortium CARP – CTMFM formed by Binational Technical Commission for the Maritime Front (CTMFM) and the Administrative Commission for the Rio de la Plata (CARP)

Co-operating agencies: ATAS, Dalhousie University (Canada), Hamburg University (Germany), IOC, IADB, IDRC, IFREMER (France), IMO, TRAIN-SEA-COAST (UN), UNESCO, UICN.

Financing:

GEF Contribution US \$ 5.682.290

Cost-sharing contribution of the Governments US \$ 800.000

Cost-sharing contribution of other donors  
(IADB, Germany, Canada, France, others) US \$ 1.636.746

**Total UNDP budget US \$ 8.119.036**

Parallel cofinancing US\$ 755.000

**GRAND TOTAL US\$ 8.874.036**

In kind contributions of Argentina and Uruguay US \$ 1.568.000

**Summary.** The project aims at directly protecting the environment of the globally important waterbody Rio de la Plata and its Maritime Front, and in turn indirectly protecting the Southeast South American Shelf Large Marine Ecosystem. The focus will be on establishing a collaborative framework for addressing transboundary environmental degradation in the waterbody contributing to the prevention and mitigation of current and emergent transboundary threats, defining management priorities and strategies for the area, establishing the capacity for implementation of these strategies and leveraging future investment for their implementation.

**GEF Focal Point Endorsement:**

Ambassador Eduardo Perez, Subsecretario de Cooperación Internacional. Ministerio de Relaciones Exteriores, Comercio Internacional y Culto. Operational focal point in the Republic of Argentina. Letter of 1 December 1998.

Engineer Luis Santos, Director Nacional de Medio Ambiente. Ministerio de Vivienda, Ordenamiento Territorial y Medio Ambiente. Operational Focal Point in the República Oriental del Uruguay. Letter of 1 December 1998.

Approved by:

CONSORTIUM CARP - CTMFM

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## Acronyms

ATAS	TRAINMAR Association for South America
CARP	Rio de la Plata Management Commission
CARU	Rio Uruguay Management Commission
CTMFM	Binational Technical Commission for the Maritime Front
DINAMA	National Directorate for the Environment, Uruguay
EIA	Environmental Impact Assessment
GEF	Global Environment Facility
GIS	Geographical Information System
IADB	Inter-American Development Bank
IDRC	International Development Research Centre, Canada
IIS	Integrated Information System
IFI	International Financial Institution
IFREMER	French institute for the research on the exploitation of the sea
IMM	Municipality of Montevideo, Uruguay
IMO	International Maritime Organisation
INAPE	National Fisheries Institute, Uruguay
INIDEP	National Fisheries Research and Development Institute, Argentina
IOC	Intergovernmental Oceanographic Commission
LME	Large Marine Ecosystem
MERCOSUR	Southern Common Market
MIS	Management Information System
NGO	Non-Governmental Organisation
SAP	Strategic Action Programme
SIHN	Hydrographic Service of the Navy (Argentina)
SOHMA	Oceanographic, Hydrographic and Meteorological Service of the Navy (Uruguay)
SPABA	Secretary for Environmental Policy of the Province of Buenos Aires (Argentina)
SRNyDS	Secretary for Natural Resources and Sustainable Development, (Argentina)
TDA	Transboundary Diagnostic Analysis
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VCI	Virtual Centre of Information
WB	World Bank

## OVERVIEW

1. The Rio de la Plata and its Maritime Front constitute a well-defined, globally important international waterbody which contains significant biodiversity, and supports a number of economic activities, including commercial fisheries, tourism, and transportation. Situated at the terminus of the continents' second largest drainage basin, Rio de la Plata is one of the largest fluvial-marine systems in the world. Its Maritime Front covering 215,900 km<sup>2</sup>, forms part of the South American Shelf Large Ecosystem.
2. The economic and social importance of the Rio de la Plata and its Maritime Front and the value of holistic management of the fluvial-marine system, and the drainage basin is recognised by both riparian countries. As part of their national sustainable development programmes, Argentina and Uruguay, the riparian countries, are taking a number of initiatives to improve the management of this waterbody and particularly the problems of pollution. However, these initiatives focus primarily on national priorities and put heavy emphasis on fisheries as one of the main economic sectors of the area. There is limited knowledge about the pollution sources, local and transboundary, and their effects on the environment, resources and population in the area. The actions required to resolve the management and pollution problems in a waterbody of this size and complexity, exceed the capacities of the national entities acting independently. The strong co-ordination of policies, strategies and control programmes between both countries is essential.
3. Riparian countries have taken a vital step towards such a co-ordinated approach through the establishment of a framework for bilateral co-operation in 1973 with the signing of the Rio de la Plata and Maritime Front Treaty. This led to the establishment in 1976 of the Binational Technical Commission for the Maritime Front (CTMFM) and the Administrative Commission for the Rio de la Plata (CARP), responsible for the conservation and rational use of living aquatic and marine resources and the prevention and control of pollution in the waterbodies. Despite the laudable efforts of these binational Commissions, there is no strategy for the environmental management of the Rio de la Plata and its Maritime Front and binational tools for the management of resources other than fisheries have not been developed to the necessary extent. This important water system is increasingly being degraded by point and non-point source pollution, including from hydrocarbons, heavy metals and other industrial wastes, agro-chemicals, and solid wastes, and is also being affected by channelisation, sedimentation and habitat degradation. This not only degrades the integrity of the waterbody, affecting the environmentally outstanding qualities, but also creates a risk for human health and undermines economic sectors.
4. Without GEF investment, the ability of the countries to jointly manage the Rio de la Plata and its Maritime Front would be limited, and problems of transboundary waterbody degradation would accelerate. The present project has been developed to provide cost-effective and critical interventions to complement on-going action in the riparian countries and provide the capacity and mechanisms required to effectively manage this globally significant waterbody. The project has been developed in a participatory process and closely following guidelines outlined under the GEF Operational Strategy and Waterbody-based Operational Programme (OP8). It will generate global benefits by putting in place the capacity and mechanisms to prevent and mitigate the degradation of transboundary environmental resources in a waterbody of renowned global significance. It is country driven, building on substantial current and planned national initiatives, policies and strategies in the riparian countries Argentina and Uruguay. It will incorporate mechanisms to enhance the sustainability beyond its life time by strengthening institutional and human resources, establishing collaboration and co-ordinating frameworks and determine and adopting financial mechanisms and incentives to promote pollution control and long-term implementation of priority projects identified as part of a strategic action plan for the project area.
5. The project will address root causes of the degradation of transboundary environmental resources by removing the barriers that currently prevent more effective joint management of these bi-national resources. GEF resources will fund the incremental cost of activities required to secure global environmental benefits. During its development a series of partnerships have been forged with other developmental agencies including governmental institutions, donors and national and international academic centres to cover those activities that

will derive tangible domestic benefits and that are not eligible for GEF funding but that are necessary to complete the project strategy referred to as the GEF Alternative.

6. The Project will contribute to the mitigation of current and emergent transboundary threats to the waterbody by assisting Argentina and Uruguay to prepare a Strategic Action Programme as a framework for addressing the most imminent transboundary issues. Activities would defray the transactions costs of developing a joint management paradigm, by i) raising awareness of priority transboundary concerns, ii) the catalysing of enabling policy, institutional and financial reforms, iii) strengthening stakeholder communications, iv) identifying innovative management tools that may later be applied towards SAP implementation, including economic instruments, v) training resource managers to prepare and implement the SAP, vi) programming targeted investments and vii) supporting 'deal flows' by matching sources of capital with investment opportunities. Preparation of the SAP would be preceded by finalisation of a Transboundary Diagnostic Analysis (TDA), building on assessments already completed during the Block B stage, by prioritising issues, filling data gaps, and performing an in depth systems analysis of cause/effect variables, including socio-economic and ecological factors.
7. In the absence this project the two riparian countries would undertake environmental protection activities for the target zone costing US \$139,209,000. The alternative course of action required to protect global benefits of this waterbody includes these activities plus additional interventions that bring the total cost to US \$149,651,036. The cost of the project is US \$ 10.8 million, including the cost of Project Development Activities. The GEF will contribute US \$ 5.7 million in incremental cost financing amounting to 3.8 % of the total cost of implementing the alternative course of action. Project co-financing will amount to US \$ 4.8 million. Of this amount, the requesting countries, through the Consortium CARP-CTMFM, will contribute US \$ 0.8 million in cash, national entities will contribute US \$ 1.6 million in kind and the remainder will be covered by other agencies.

#### A. PROJECT CONTEXT

8. The project aims to protect the Rio de la Plata and its Maritime Front. This important body of water falls within the GEF definition of international waters and is located at the seaward South Atlantic terminus of the second largest drainage basin (3,170,000 km<sup>2</sup>) in South America, formed by the Parana, Paraguay, and Uruguay Rivers. The term Maritime Front is used to refer to the ocean space extending seawards from the outer limit of the Rio de la Plata. Both the boundaries of the Rio de la Plata and its Maritime Front were established in articles 1 and 73 respectively of the 1973 Rio de la Plata and its Maritime Front Treaty (hereafter referred to as The Treaty)
9. *The Rio de la Plata* is one of the largest fluvial-marine systems in the world with a surface of 35,500 km<sup>2</sup> and 230 km width at its mouth. Over 97% of the total Rio de la Plata freshwater input is supplied by the Parana and Uruguay rivers. Approximately 20 small rivers and a hundred streams discharge their waters into the Rio de la Plata. It is a shallow (mean depth of 10m), yet very dynamic, brackish and freshwater system, with considerable flow and an average annual discharge rate of 22,000 m<sup>3</sup>/s into the Atlantic Ocean. The system is dominated by the high freshwater runoff from the Parana River and its many tributaries. It is characterised by a 0.3-1.0 m semidiurnal tidal range, and a 0-34‰ fresh to marine salinity gradient. It has high suspended sediment concentrations, typically from 50 to 300 mg l<sup>-1</sup>, a pronounced turbidity maximum zone, reversing tidal currents, and both a two-layered gravitational circulation and a residual tidal circulation.
10. Six distinct zones can be distinguished in the system each characterised by morphological and hydrological differences. Three of these zones fall in the upper region of the system which is characterised by the inflow of waters from the Parana and Uruguay rivers. These three zones are the Parana delta, the tidal river and the middle Rio de la Plata (located between the limits of saline intrusion and a gradual river-tide delta). The extension of this latter zone mainly depends on river flow and wind variations. The remaining three zones fall

in the external region of the system and are characterised by their hydrodynamic and sedimentary processes. They are the marine zone, the Bay of Samborombon and the eastern channel.

11. The main geomorphologic features of the river are (i) the banks, channelling the river flow and trapping and dispersing sediments, (ii) the erosion basins, acting as temporary receptacles and sources of sediments and (iii) the channels, through which the river flows. Fine sediments are confined to the upper and middle parts of the Rio de la Plata, whereas sands cover most of the outer Rio de la Plata and the adjacent continental shelf.
12. **The Maritime Front** of the Rio de la Plata encompasses a surface area of 215,900 km<sup>2</sup> extending seawards from the outer limit of the Rio de la Plata of the Treaty. The depth of waters in the zone varies considerably, from an average of 10 meters at the mouth of the Rio de la Plata, to over three thousand meters in its deepest part.
13. It is characterised by complex oceanographic dynamics determined by a series of features including: (i) the confluence of the warm Brazil current and the cold Malvinas current (rich in nitrates); (ii) the considerable inflow from the Rio de la Plata, rich in phosphates and silica and (iii) the coastal waters of the platform. Whilst the detailed characteristics and dynamics of the zone of confluence are still limited, it is well-known that these features have resulted in the high biological productivity of the continental shelf and continental slope seaward of the Rio de la Plata mouth and its particular richness in fisheries. Partially overlapping the exclusive economic zones of the Parties, the Maritime Front is subject to a special legal regime under the Treaty and includes the ocean space encompassed by the Common Fishing Zone and a “prohibition zone for polluting activities”. This prohibition zone was created by article 78 of The Treaty and is situated seawards of the external limit of the Rio de la Plata covering an area of 52.900 km<sup>2</sup>.
14. The system boundary for the Project covers the Rio de la Plata and its Maritime Front including the adjacent exclusive jurisdiction areas and Territorial Sea. The system boundary will also include the main land-based sources of pollution and key coastal wetlands (inasmuch as they relate to transboundary issues of pollution or function as nursing areas of living resources) identified in the TDA and agreed with the respective countries.

#### A.1. ENVIRONMENTAL CONTEXT AND SIGNIFICANCE

15. Together the Rio de la Plata and its Maritime Front constitute an ecosystem of immense environmental and socio-economic significance and with a complex range of characteristics further described below.
16. The Rio de la Plata and its Maritime Front are part of the Southeast South American Shelf Large Marine Ecosystem (LME) which houses globally outstanding biodiversity and has been included under the WWF Global 200 programme that identifies the richest, rarest and most endangered natural areas of the planet. Rio de la Plata is the main contributor of fresh water to the Large Marine Ecosystem LME, and the mix of waters in the Brazil–Malvinas confluence has physical, meteorological and biological consequences that affect the entire Southeast South American Shelf LME.
17. The Rio de la Plata and its Maritime Front comprise a transition zone where warm, cold and temperate waters mix providing a wide diversity of habitats for aquatic and water-dependant species. This has resulted in the presence of an extensive number of species characteristic of different physical and chemical characteristics and a great superposition of species from warm, temperate and cold waters. From the available literature, it is clear that the area has a high level of biodiversity and a low degree of endemic species. However, whilst this high level of biodiversity is generally recognised, detailed knowledge of its composition and dynamics is limited. Initial information has shown that endemic species include the mussel, (*Brachidontes rodriguezii*), clams (*Macoma uruguayensis* and *Mesodesma mactroides*), the razor-shell mussel (*Taggelus gibbus*) and the Plata dolphin, also known as Franciscana (*Pontoporia blainvillei*). This dolphin, on the list of the *Convention on*

*Migratory Species*, is captured by fishermen of Buenos Aires Province (Argentina) for subsistence consumption.

18. River, coastal and high seas species develop all or part of their life cycle in the project area. Several of these species are of outstanding global importance, from an ecological, economic and social standpoint (i.e., tuna and marine mammals). In the upper Rio de la Plata, populations of migratory fish -- shad (*Prochilodus lineatus*), boga (*Leporinus obtusidens*), patí (*Luciopimelodus pati*) and dorado (*Salminus maxillosus*) – swim up river, along the lower and middle Parana river at the beginning of autumn and return in the spring. Marking and recapture studies have shown that the fish use this zone as a single space. It has been suggested that the delta of the river is a feeding area for the offspring of these species.
19. In the outer Rio de la Plata and its Maritime Front, several populations of pinnipeds (*Arctocephalus australis* and *Otaria flavescens*) are found. All species of marine mammals included in Annex XII-8 are found in the project area. Several of these are migratory species of global relevance which deserve special care and the adoption of management measures. Among the most important are:
  - Ballena boba, *Balaenoptera borealis*
  - Blue whale, *Balaenoptera musculus*
  - Ballena de aleta, *Balaenoptera physalus*
  - Sperm whale, *Physeter macrocephalus*
  - Southern right whale, *Eubalaena australis*
  - Orca, *Orcinus orca*
  - Delfín pintado, *Stenella attenuata*
  - Delfín listado, *Stenella coeruleoalba*
  - Delfín tornillón, *Stenella longirostris*
  - Ballena de pico de Arnoux, *Berardius arnouxii*

## A.2. SOCIO-ECONOMIC CONTEXT

20. In addition to its environmental significance, the area of important social and economic significance to both countries. Located at the threshold of the region's most economically important river system, the Rio de la Plata has an adjacent population of at least 16 million, including the densely populated Buenos Aires and Montevideo metropolitan centres. It houses the main industrial concentration of each country, most of the port activities, and the main economic activities, both of Argentina and Uruguay, are located on the coasts of the Rio de la Plata.
21. On the Argentine coast of the Rio de la Plata, the metropolitan axis extends 180 km from the localities of Zarate and Campana, on the Paraná de las Palmas river, to the city of La Plata. This axis concentrates 45% of all the industrial activity (basically chemical and petrochemical) and 35% of the population of Argentina. The city of Buenos Aires and its suburban hinterland concentrate 40% of the population of the metropolitan axis, on a coast some 20 km long.
22. On the Uruguayan coast, the major concentration of population and industry is found in the Department of Montevideo and, increasingly along the coast of the Department of Canelones. Around 50% of the population of the country – and most of its economic, industrial and port activities – is concentrated along a coastal strip about 50 km long, between the Santa Lucia and Pando rivers. During the tourist season, there is also a considerable concentration of population along the coast of the Department of Maldonado, mainly in Punta del Este.
23. Over the past decade, growth rates of the coastal urban population have been high.

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Argentina: Growth rate in 0/00 in the area for the period 1980-1991

Province of Buenos Aires	Federal Capital	19 Districts in the Greater Buenos Aires	Rest of the Province of Buenos Aires
14.1	1.4	14.5	13.3

Uruguay: Growth rates in 0/00 in the Departments of the area for the period 1985-1996

Colonia	San José	Montevideo	Canelones	Maldonado	Rocha
6.1	6.9	2.3	18.5	28.5	5.1

24. Buenos Aires draws its water supply from the Rio de la Plata, and has three potable water plants for this purpose: Bernal (1.100.000 m<sup>3</sup> d<sup>-1</sup>), General San Martin (2.500.000 m<sup>3</sup> d<sup>-1</sup>) and Capital.
25. The waterbody is also used as a receiving body for waste and industrial waters from urban centres of both countries. The cities discharge untreated sewage and industrial effluents into the river. The use of submarine emissaries, discharging off the coast, is common.
26. The Rio de la Plata and its Maritime Front are part of the main world shipping routes. The movement of cargo coming from or going to overseas countries and transported by ship, through said area, was 47.2 million tons in 1996 (this figure includes traffic from overseas with Argentine and Uruguayan river ports). To this figure should be added national and regional shipping movements. The Rio de la Plata and Maritime Front are one of the routes of access to the MERCOSUR. This emerging common market covers over 13 million km<sup>2</sup> and has a population of about 200 million inhabitants in four countries, Argentina, Brazil, Paraguay and Uruguay. All this indicates that the integration process of the Rio de la Plata basin and the MERCOSUR will promote regional economic development and cause an increase in river and maritime shipping in the area.
27. The project area contains important fishing grounds for river and marine species. In the upper Rio de la Plata, five species are the basis of important commercial and sports fisheries in both countries. These are, sábalo, boga, pejerrey (*Odontesthes bonariensis*), patí and dorado. These same species are caught upriver in the Parana and Uruguay rivers.
28. In the outer Rio de la Plata and its Maritime Front the main species of commercial relevance are hake (*Merluccius hubbsi*), corvina (*Micropogonias furnieri*), whiting (*Cynoscion striatus*), squid (*Illex argentinus*) and anchoíta (*Engraulis anchoita*). The exploitation of shared fishing resources is very significant for the economies of both countries. In 1997, catches in the lower Rio de la Plata and its Maritime Front totalled 323 thousand tons with an estimated value of 120 million dollars. The composition of the 1997 catch was distributed in the following way:

SPECIES	CATCH (t)
Merluza ( <i>Merluccius hubbsi</i> )	117.432
Corvina ( <i>Micropogonias furnieri</i> )	48.071
Pescadilla ( <i>Cynoscion striatus</i> )	34.372
Squid ( <i>Illex argentinus</i> y <i>Loligo sanpaulensis</i> )	26.618
Anchoita ( <i>Engraulis anchoita</i> )	29.120
Others (fish, crustacean and bivalves)	67.387
TOTAL	323.000

29. A bi-national system has been established for the assessment and management of shared fishery resources in the Rio de la Plata and its Maritime Front and is implemented through CARP and CTMFM.



### A.3. INSTITUTIONAL FRAMEWORK

30. The Treaty of the Rio de la Plata and its Maritime Front, signed in 1973 by Argentina and Uruguay, established the legal framework for the bi-national management of the waterbody (see Annex XII.2). This framework includes two bi-national governmental Commissions with the legal personality required for carrying out their functions. These Commissions are responsible for the preservation, conservation and rational use of living resources and the prevention and elimination of pollution in these areas. The Treaty has assigned both the *Bi-national Technical Commission for the Maritime Front* (CTMFM) and the *Administrative Commission for the Rio de la Plata* (CARP), the task of adopting and co-ordinating plans and measures aimed at protecting the aquatic environments under their mandates and their fauna and the promotion of studies and research. Other relevant duties of the Commissions are:

- ❑ The prevention and elimination of pollution and other harmful effects deriving from the use, exploration and exploitation of resources. The Treaty established a “prohibition zone for polluting activities” situated seawards of the external limit of the Rio de la Plata
- ❑ The assessment, conservation and preservation of living resources and their rational exploitation.
- ❑ Establishment of catch volumes per species and assignment of quotas to each of the parties.
- ❑ Preparation of plans for the preservation, conservation and development of living resources in the zone of common interest.
- ❑ Promotion of studies and production of plans for harmonisation of the legislation of the parties, concerning matters falling within the responsibilities of the Commissions.

Finally, the Treaty provides that the Parties may give the Commissions other functions by means of reversal notes or other forms of agreement.

31. The Commissions are practical and effective mechanisms for bi-national co-operation, co-ordination and management, which have operated for more than 20 years. Delegates to the Commissions have full powers to represent their countries. The Resolutions of the Commissions are published in the Official Papers of both countries with no further governmental processing required for them to become binding. The resolutions are implemented by the competent national authorities and the control of its application is exercised by the Maritime Authorities of both countries.

32. Both countries have national and local environmental authorities with powers to legislate for the protection of the environment and control their application. Key authorities for this project are in Argentina, the Secretary for Natural Resources and Sustainable Development (SRNyDS, in particular the Under-secretary for environmental planning), Secretary for Urban Planning and Environment of the City of Buenos Aires, Secretary for Environmental Policy of the Province of Buenos Aires, Navy, Coastguard and Ministry of Economy. In Uruguay, key authorities are the Ministry of Housing, Land Planning and Environment (National Directorate for the Environment, DINAMA), Municipality of Montevideo, other municipalities on the Rio de la Plata and its Maritime Front, Navy (includes the Coastguard) and the Planning and Budget Office (OPP).

### A.4. HOST COUNTRY STRATEGY

33. Both Argentina and Uruguay—the riparian countries—are committed to protecting the environmental integrity of the Rio de la Plata and its Maritime Front, and have developed a raft of national policies, strategies, and programmes aimed at improving management of the waterbodies. At the national level, the National Environmental Action Plans, place a top priority on conserving and rehabilitating the coastal ecosystems of the Rio de la Plata and the Atlantic Ocean and the strengthening of the management of common resources and boundary areas. The Environmental Action Plan approved by Uruguay (1992) and the Environmental Report drafted by Argentina (1992) include several targets, actions and programmes relevant for the present project. Particularly the following:

***Specific targets:***

- ☐ To protect biodiversity and genetic resources - with a particular reference to the need of engaging in a strong action aimed at the conservation and recuperation of the coastal ecosystems of the Rio de la Plata and Atlantic Ocean.
- ☐ To strengthen international environmental policies - with a particular reference to the management of common resources and boundary areas by means of the existing binational Commissions.

***Subject areas:***

- ☐ Recuperation and management of coastal areas.
- ☐ Management of basins or critical importance from the environmental point of view.
- ☐ Sewers and urban drainage.
- ☐ The construction of treatment plants for industrial pollutants and effluents.
- ☐ Recuperation and sustainable use of ecosystems and natural resources.

***Activities***

- ☐ Programmes for the conservation and sustainable use of genetic reserves and biodiversity.
- ☐ Programmes for management and recuperation of coastal areas.
- ☐ Management Program for critical basins <sup>1</sup>.
- ☐ Environmental drainage Program<sup>2</sup>.

34. Environmental authorities (municipal, departmental, provincial and national) in both countries are working on the protection of the aquatic environment. The Port Constructions and Waterway Directorate and the SRNyDS of Argentina passed legislation requiring environmental impact assessments (EIA) before the development of coastal infrastructure. In Uruguay the Municipality of Montevideo introduced regulations on discharges and environmental quality lead values applicable to the waterbodies within its jurisdiction.

35. Furthermore, both countries have developed national policies and programmes aimed at the protection and management of the natural environment and are in the process of strengthening the regulatory capacity of their national environmental authorities, with funding from the Inter-American Development Bank (IADB) (see below) .

36. Despite these strategies however, the transboundary externalities of development are largely unaddressed as these impacts are not currently covered by national environmental management programmes. Critically, the two countries have recognised the necessity of co-ordinating interventions in order to address these impacts. The most important of these interventions is the Rio de la Plata and the Maritime Front Treaty signed in 1973 that has provided a solid framework for bilateral co-operation and led to the establishment in 1976 of the Binational Technical Commission for the Maritime Front (CTMFM) and the Administrative Commission for the Rio de la Plata (CARP). As explained above these commissions are responsible for the conservation and rational use of living aquatic and marine resources and the prevention and remediation of pollution in the waterbodies and have actively worked towards the goal of improving management of resources in the area.

37. The Commissions have established bi-national working groups, formed by specialists from institutions of both countries, who analyse and recommend actions to address the issues under their mandates. Particular emphasis has been given to the management of living resources. For example, CTMFM sets catch quotas, maximum

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<sup>1</sup> This Program includes management projects for the basins of the Santa Lucía river, the Miguelete, Pando, Pantanoso and Carrasco streams and the Sauce lagoon (Uruguay). All these basins flow into the project area.

<sup>2</sup> This Program includes sanitation projects for the departments of Montevideo and Canelones (Uruguay) and the development of appropriate technologies for the treatment of effluents.

catch limits, mesh sizes and other regulations for the fisheries in the Maritime Front. The Commissions have also issued joint resolutions for resources that are distributed in both areas. A recent example is the “Joint Resolution for the determination of distribution quotas by country of the Corvina for the period 1997 to 1999”, issued on 28 May 1997

38. Binational infrastructure works have also been important. CARP managed the dredging of the Martín García channel in the Rio de la Plata and periodically prepare studies of the area’s dynamics.
39. During the last decade both CARP and CTMFM have accorded a growing importance to environmental issues, particularly pollution, in their agendas. One example is the “Co-operation agreement for the prevention of pollution incidents in the aquatic environment produced by oil and other noxious substances”. This agreement entered into force in 1993. To strengthen joint co-ordination and co-operation, the Commissions established, on 19 June 1998, the CARP - CTMFM Consortium establishing the institutional framework for the execution of this project.
40. Finally, in addition to the above policies directed particularly at the Rio Plata and its Maritime Front the countries are parties to a number of international protocols pertaining to international waters in general including the United Nations Convention on the Law of the Sea, and the Ocean Charter. They have also subscribed to the Rio Declaration on Environment and Development, ratified the Convention on Biological Diversity and are Parties to the Convention on Migratory Species, the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the Ramsar Convention on Wetlands of International Importance.

#### **A.5. PRIOR AND ON-GOING ASSISTANCE**

41. Argentina and Uruguay have instituted a number programmes to address national environmental concerns particularly in the coastal areas of the Rio de la Plata and the Maritime Front. These are an important step towards improving the management of this important waterbody, however, alone they are not sufficient to face management challenges related to transboundary resources. Most of these existing programmes are independent national-level activities that, while significant, are deficient in addressing transboundary concerns. These initiatives, funded through a variety of multi-and bi-lateral donors and national sources would occur without the present project. In GEF parlance these constitute the baseline on which GEF activities will build. They are described below and have been presented in categories that correspond to the major lines of action of the present project in order to highlight complementarity and facilitate co-ordination during project implementation. The resources available for each of these initiatives over the duration of the present project, have been estimated as part of the Incremental Cost Analysis (see Annex IX).

#### ***Transboundary Diagnostic Analysis***

42. Baseline efforts with regard to information on and monitoring of water quality and pollutant levels are restricted to specific coastal sectors (limited to a few hundred meters offshore) and

are not monitoring or addressing pollution trapped in sediments, nor the biological uptake of contaminants.

43. They include the following:

#### Argentina

- ❑ Regular monitoring of water quality on the Argentinean shore of the Rio de la Plata (between San Isidro and Magdalena) is carried out by SIHN in cooperation with the Limnology Institute of the La Plata University, the Sanitary Works Administration of the Buenos Aires Province and Aguas Argentinas S.A.;
- ❑ Assessment of pollution levels in the Matanzas-Riachuelo watershed in Argentina, steps to rehabilitate the area and control/manage industrial pollution and solid waste disposal, being funded by the IADB;
- ❑ A pollution management project, focusing on pollution control in two Buenos Aires municipalities, being funded by the World Bank (SRNyDS-BM).

#### Uruguay

- ❑ Monitoring water quality along the coastline of the Department of Montevideo, rehabilitation of urban streams, and information dissemination by IMM with support from the IADB;
- ❑ Studies on red tides carried out by INAPE and research on this phenomenon in the coast of Colonia (Uruguay) undertaken by the Municipality and the Universidad de la Republica de Uruguay;
- ❑ Efforts to monitor environmental quality indicators (including pollution) in Uruguay's coastal zone and studies of the saline front (ECOPLATA project).

44. At a regional level, CARU -- in association with SHN of Argentina and SOHMA and DINAMA of Uruguay -- monitors water quality and sediments in the Uruguay River.

45. The Commissions (CARP and CTMFM) allocate some resources to specific studies on fisheries, hydrography, cholera outbreaks, and red tides among other issues.

46. In terms of biodiversity monitoring, baseline assessments of habitats and species are limited. Priority has been given to studies of commercially important species rather than the effects of pollution on fauna, and the location of sensitive habitats. Biodiversity assessments that will take place in the baseline include the following:

- ❑ A project sponsored by the Environment Secretary of the Province of Buenos Aires (SPABA), which will allocate one million dollars over a three-year period to survey biodiversity and prepare management plans for two coastal protected areas in the Province.
- ❑ Biodiversity research conducted by local universities, (focusing on taxonomy, ecology, population dynamics etc).
- ❑ The BIOPLATA project funded by UNESCO, which will expend moneys on collating existing information on biodiversity. However, the scale of this exercise is inadequate and needs to be expanded, to facilitate ground-truthing and fill critical data gaps.

47. The two countries will also be investing in projects for assessment and management of fishery resources, wherein the focus is clearly on commercially important species. These projects include the following:

- ▣ INAPE in Uruguay—studies of fisheries biology, focusing on selected species (mostly Hake, Corvina, and Squid);
- ▣ ECOPLATA, in Uruguay, which is sponsoring a study of Corvina, an important commercial fishery;
- ▣ INIDEP in Argentina conducts studies of fisheries biology, focusing on selected species (mostly Hake, Corvina, and Squid) and two research cruises annually to collect samples for biodiversity assessments, focusing on fisheries surveys and organic pollution.

### ***Strategic Action Program***

48. In the baseline the Commissions have programmed resources for organising and convening monthly technical and policy meetings of the different Commission members and organising working groups around specific topics. The Commissions' emphasis has largely been on fisheries management and dredging of waterways. Budgetary allocations are inadequate to support effective binational management of an international waterbody. In terms of strategies for the protection and conservation of biodiversity.

49. Argentina completed its National Biodiversity Strategy in 1998. Uruguay completed its National Strategy at the beginning of 1999. These cover the entire national territory of each country and whilst these include the project area it is not addressed from a regional and binational management stance.

### ***Strengthening and sustaining the SAP implementation framework***

50. The two countries are in the process of strengthening the regulatory capacities of their national environmental authorities, with funding from the IADB. Both have developed legislation relating to environmental management, with regulations governing water quality and other standards. Environmental impact assessments (EIA) are mandatory for all industrial and infrastructure projects. But the regulations and management instruments adopted by the countries are not compatible, and do not relate to transboundary impacts. Binational instruments for these waters are limited to contingency plans for oil spills.

51. The different management institutions operate limited training schemes for personnel as part of their recurrent work programmes. These include the ECOPLATA project and IADB investments in national institution building as they relate to project area (IADB-SRNyDS and

IADB DINAMA). Binational Commissions do not currently invest in training and there is very limited inter-phase with management approaches in other regions.

52. A number of programmes are imparting general environmental awareness to civil society in Uruguay and Argentina. These include modest investments by the ECOPLATA project and PROBIDES. At present, awareness activities focus on local and national issues and do not highlight the transboundary causes and effects of pollution problems. The coastal population for example, have limited awareness of the state of the environment and understanding of the causal factors of degradation in the Rio de la Plata and the Maritime Front. Although the binational Commissions do disseminate some scientific and technical information by hosting technical symposiums, there is no co-ordination of awareness raising activities between
53. Finally, a range of on-going or planned initiatives contribute directly or indirectly to the overall goal of the present project rather than specific components. Amongst these GEF is currently collaborating with a number of initiatives that will provide complementary information to the present project and facilitate project results throughout a wider region. These include the following:
  - i) The UNDP/GEF project *Consolidation of the Bañados del Este Biosphere Reserve (PROBIDES)*;
  - ii) The UNDP/GEF Project *Consolidation and Implementation of the Patagonia Coastal Zone Management Programme for Biodiversity Conservation*;
  - iii) The World Bank/GEF project for *Coastal Contamination Prevention and Sustainable Fisheries Management* in Patagonia;
  - iv) The UNEP/GEF Project *integrated watershed management project for the Pantanal and Upper Paraguay River Basin*;
  - v) The UNEP/GEF Project *Strategic Action Program for the bi-national basin of the Bermejo River*.
  - vi) The UNDP/GEF Distance Training and Learning Project which includes a component implemented by the UN TRAIN-SEA-COAST Programme. This programme will develop in the area training courses on management of sensitive marine and coastal areas.

## **B. PROJECT JUSTIFICATION**

### **B.1. PRESENT SITUATION : PROBLEMS TO BE ADDRESSED**

54. The Rio de la Plata and its Maritime Front are threatened by a multitude of factors stemming from anthropogenic activities within the La Plata River Basin, coastal areas, and the Southwest Atlantic. These include land use practices in the drainage basin; upstream water resource projects; domestic, industrial, urban and agricultural point and non-point source sediment and pollution runoff including bio-accumulative toxins; sediment dredging; and shipping related threats such as hydrocarbon spillage and port activities.
55. Pesticides, hydrocarbons and heavy metals have been identified in water, sediments and organisms in the outer river with pollution distributions reflecting proximity to urban and industrialised areas. Productivity measurements in the river indicate that the system is of medium to high productivity, with attendant risk of moving into eutrophic conditions in coastal zones. The area is also affected by the alteration of hydrological processes caused by construction of numerous dams in the basin. In the near future, transboundary environmental threats are expected to grow owing to the integration process resulting from the La Plata Basin Treaty and MERCOSUR – a common market covering more than 13 million km<sup>2</sup> and serving a population of about 200 million inhabitants in four countries.

56. The development and operation of the Parana-Paraguay Hidrovia (Puerto Caceres - Nueva Palmira) will increase the transport of goods (mostly soybeans, grains, iron and manganese, oil and other hydrocarbons, and timber) within the region and would have significant environmental impacts on the basin. In 1996 shipping through the Project area caused 47.2 million tons of different kinds of cargo including oil. There are no traffic segregation systems nor obligatory shipping routes in the outer Rio de la Plata and Maritime Front. In the middle and upper Rio de la Plata, ships use a system of channels passing near or through important habitats or spawning, feeding and nursery grounds of fisheries resources. In 1997 the oil tanker San Jorge collided with an unreported rock, with the resulting oil slick contaminating the coast of Punta del Este (Uruguay) and affecting an important colony of sea lions. Argentina and Uruguay are in the process of improving their port operations with funding from the IADB. Demand for port services is likely to increase substantially over the coming years leading to an expansion of the use of existing terminals and the development of new facilities.
57. The coastal areas of the Rio de la Plata and its Maritime Front concentrate the largest urban, tourist and industrial centres and ports of both countries and face accelerating development pressures. The coastal urban centres discharge effluents and industrial wastes into the Rio de la Plata, Maritime Front and small tributaries. Some of these tributaries suffer chronic pollution, for instance, the mouth of the Santa Lucia river, Montevideo Bay and the Pantanoso and Miguelete streams in Uruguay and the Matanzas - Riachuelo and Reconquista streams in Argentina. Chronic oil pollution is also a problem in the vicinity of ports and oil terminals. The use of pipes to discharge urban wastes off the coast is common. Exotic bivalves may have been introduced through the discharge of ballast waters. These species have colonised structures in the upper Rio de la Plata and are moving into the Parana River. Toxic red tides are more and more frequent and longer lasting in the outer Rio de la Plata and Maritime Front.
58. Both countries are making important investments in the construction of sanitation systems, restoration of polluted areas, eradication of pollution in coastal waters, development of coastal management initiatives and establishment of environmental management systems. However, the regional dimensions of waterbody degradation – both causes and effects - have not been incorporated into local and national planning and management efforts.
59. The scant depth of the Rio de la Plata makes it necessary to continuously dredge the access channels to the ports. Some 15 million tons of sediments are removed annually. Major works are currently being undertaken to enable deep draught ships to navigate the Parana and Uruguay rivers. Dredging alters river and marine and benthic communities and re-suspend sediments and pollutants. The impact of continuous dredging on the environment of the area is unknown.
60. Freshwater fisheries in the upper Rio de Plata have declined probably due to a combination of pollution, construction of dams along the Parana and Uruguay rivers and fishing activities. Despite management interventions by both countries, fisheries yields in the outer Rio de la Plata and Maritime Front have also declined. The fisheries institutes of both countries maintain programmes for the study and assessment of fisheries resources, and the bi-national Commissions, in co-operation with the Prefecturas Navales (Coast Guards) and fisheries authorities of the Parties, take management measures. Nevertheless the effects of other factors such as pollution and habitat alteration have not been adequately considered in the management of the fisheries.
61. National initiatives to address these threats are being undertaken as part of the national sustainable development plans (see previous section) but the complex nature of these threats and transboundary issues goes beyond the scope of national activities. However the ability of Argentina and Uruguay to address these threats is constrained by a number of barriers that need to be overcome if transboundary issues are to be addressed in an effective and co-ordinated manner. These barriers may be summarised as follows:

1. ***Knowledge of the functioning of the waterbodies*** and understanding of how cross- sectoral activities impact the aquatic and marine environments is not sufficient. The Rio de la Plata and its Maritime Front is particularly sensitive to external hydro-meteorological forces. Due to thermo-saline gradients and to the convergence of waters from different sources, the area is considered a vast river-marine ecosystem. It is a transitional environment for which - in contrast to other regions of similar size and importance - there is limited understanding critical processes. This is due to the highly dynamic nature and great expanse of the system, which cause hydro-meteorological processes of different scales and magnitudes, making it technically and financially difficult to resolve the spatio-temporal variability of its processes. This is exacerbated by scant and fragmented data on specific biophysical issues and in depth knowledge of the causes and effects of transboundary degradation. The Environmental Assessment conducted during PDF implementation found that information is scattered among several institutions, is limited in scope (focused mostly on fisheries biology) and has a poor spatial and temporal coverage. An ecosystem analysis of the issues affecting the area is also lacking, including the effects of pollution on ecosystems, and understanding of the import of pollutants from the La Plata basin and export to international waters is perfunctory. A further problem is that there is inadequate co-ordination among the institutions that generate and store information about pollution and other imminent international waters concerns at the national and regional levels.
2. ***Lack of transboundary perspective.*** The transboundary nature of these processes precludes unilateral management of the waterbody by either one of the Parties. Although there is valuable, though limited, set of information on water quality, hydrography, sediment contamination, handling and pollution by hazardous residues, commercial fisheries, and exotic species, it focuses on national viewpoints and issues and needs to be analysed from a regional perspective. Little investment is planned to support binational information collection and assessment. Whilst there are some initiatives for monitoring of water quality, as cited in the previous section, these focus on coastal waters (limited to a few hundred meters offshore) rather than on binational or international waters. Joint oceanographic programs to study the biophysical dynamics of the area are lacking. Integrated analysis of the issues affecting the area is also lacking, including the effects of pollution on ecosystems, and understanding of the import of pollutants from the La Plata basin and export to international waters is perfunctory. If transboundary issues are to be effectively addressed these efforts will need to be scaled up over the longer term.
3. ***Absence of targeted interventions due to lack of information and poor integrating into decision making.*** Decision-makers, in both the private and public sectors and agents of civil society are not adequately informed of the causal factors responsible for degradation, nor the solutions and technologies available to mitigate problems, nor are they sensitised to innovative and cost-effective solutions. The causes and effects of transboundary problems are not internalised into national and binational policies and decision-making processes. Furthermore, the National Sustainable Development baselines, although sizeable, are poorly integrated, leaving critical programmatic gaps. Current efforts are focused mostly on the management of fisheries resources.
4. ***Lack of bi-national management tools and strategies*** other than fisheries. Despite the existing bi-national framework, common tools and strategies for transboundary pollution control and mitigation or biodiversity protection and management have not been developed to sufficient extent. For example, environmental management standards and norms differ in the countries and binational management instruments for pollution prevention and control are lacking. Although the two countries have developed legislation relating to environmental management, with regulations governing water quality and other standards, the norms and management instruments adopted by the countries are not compatible, and do not relate to common waters and transboundary impacts. Instruments for these waters are limited to contingency plans for oil spills. Moreover, despite existing protocols and binational institutional arrangements, the mechanisms for collaborative pollution and resources management, other than fisheries, are weak. There is limited co-ordination of pollution prevention and control programmes between the countries. National authorities and the binational Commissions lack the financial resources to initiate and sustain a joint strategic effort for pollution control and management



5. ***Institutional capacities to address threats on a holistic basis are weak.*** There are different institutional frameworks for environmental management in the two countries. Argentina has a complex framework with overlapping and sometimes conflicting jurisdictions between national, provincial and municipal levels. Uruguay has a single national environmental authority and municipalities have only recently become more involved and active in the management arena. Institutional capacities to address the root causes of transboundary degradation are weak. A further problem is that there is inadequate co-ordination among the institutions that generate and store information about pollution and other imminent international waters concerns at the national and regional levels.
6. ***Awareness of the transboundary environmental problems afflicting the area is inadequate.*** Studies during the PDF found that while organised social actors in both countries have some knowledge of priority environmental issues and civil society at large perceives there is a pollution problem in the river and coastal waters (interviewees made no mention of pollution in offshore waters), there is little understanding of its genesis. This in turn serves to handicap grassroots actions to address imminent concerns. Several institutions and projects carry out communication and dissemination activities, though these tend to be diffuse, thereby reducing their efficacy. There are no co-ordinated national or bi-national activities for awareness on transboundary river and marine pollution. This is compounded by the fact that the coastal population and other important stakeholding groups have limited awareness of the state of the environment and understanding of the causal factors of degradation in the Rio de la Plata and the Maritime Front. This in turn handicaps community action. At present, awareness activities focus on local and national issues and do not highlight the transboundary causes and effects of pollution problems. Although the binational Commissions do disseminate some scientific and technical information by hosting technical symposiums, there is no co-ordination of awareness raising activities between the two countries
62. Thus, despite the goals articulated in the various bilateral agreements, imminent international waters concerns have yet to be holistically addressed. In the meantime, the waterbodies face accelerating pressures—undermining their productivity. Without GEF investment, the ability of the countries to jointly manage the Rio de la Plata and its Maritime Front would be limited, and problems of transboundary waterbody degradation would accelerate. The effect of cross-sectoral activities in upstream and adjacent coastal areas of the system will remain imperfectly understood and, as a result, an integrated analysis of pollution problems and impact on the waterbodies will not be effected.

## **B.2. EXPECTED END SITUATION**

63. This project will contribute to a long-term process aimed at addressing the transboundary externalities imposed by sectoral activities. By the end of the project, the groundwork required to enable both countries to continue this long term process will have been completed. Riparian countries will be able to engage in initiatives aimed at reaching a range of agreements to mitigate priority transboundary degradation issues; internalise the external costs of transboundary pollution into domestic and binational policy; facilitate regional co-operation; direct

national efforts towards filling the gaps that may exist; promote harmonisation of the respective national legislation; promote necessary investments.

64. By being able to undertake these initiatives in the long-term the environmental quality of this waterbody will have improved with lower levels of water and sediment pollution and better conserved river and marine biodiversity.
65. More specifically at the end of the project a Transboundary Diagnostic Analysis (TDA) will be available to fill critical information gaps on key biophysical and cross-cutting issues related to water and sediment pollution and river and marine biodiversity and provide key data and tools for planning and implementing actions required for mitigation of transboundary environmental problems in the Rio de la Plata and Maritime Front. These tools will include an Integrated Information System (IIS) with Geographical Information System (GIS) facilitating the provision of updated ecological charts and zoning schemes, a Management Information System (MIS) and a Virtual Centre of Information (VCI).
66. A Strategic Action Programme of policy, legal and institutional proposals and priority investments will also be available for the Rio de la Plata and its Maritime Front. This will have specific national and jurisdiction pollution control strategies, targets for water and sediment quality, and implementation mechanisms for pollution reduction, control and monitoring and the protection and conservation of biodiversity actions. It will also contain a portfolio of priority projects to operationalise the SAP and advanced negotiations in progress between governments and bilateral and multilateral sources for financing.
67. Finally the framework for implementation of the SAP will be more sound and the capacity of key actors strengthened for delivering long-term action outlined in this programme. A collaborative framework for co-operation and co-ordination for the control of transboundary problems will be in place and the Commissions and relevant national and local entities will have enhanced capacity for regional management of transboundary issues. Furthermore, a wide range of national and local stakeholders will have a raised awareness of transboundary environmental issues and will be in the position to play a more active and supportive role in the management challenges of the region.
68. This package of capacity building actions will ultimately provide clear regional and global benefits in an area renowned for its environmental significance. The effectiveness of these actions on the quality of this international water body will be evaluated by a set of indicators and monitoring system that will be put in place by the project. These indicators will not only provide a tracking system of the short and long-term impacts of this project and others related to the Rio de la Plata and its Maritime Front, but also of the SAP implementation over a period of time that exceeds the present project. Whilst the specific end situation will be determined using these indicators, it is expected that by the end of the Project, and upon implementation of priority SAP projects, the water and sediment pollution discharge levels to the waterbody will have been reduced thus decreasing pollution export to international waters, increasing the protection of commercially important straddling fish stocks, improving water quality for a wide range of riparian inhabitants and in turn improving health conditions and livelihood options. Furthermore the conservation of globally significant biological diversity of the waterbody will have been strengthened, protecting vital breeding and nursery areas of key species and improving the long-term integrity of the system as a whole.

### **B.3. TARGET BENEFICIARIES**

69. At the general level, the long-term target beneficiaries of the project will be a range of stakeholders that live within this area and that derive their livelihoods from its resources. This includes the adjacent population of 16 million, including the densely populated Buenos Aires and Montevideo metropolitan centres that derive water from this system and base a wide range of economic activities on it, for example fishing, tourism, recreation and port activities. Upon successful completion of the project and subsequent implementation of priority projects of the SAP, these inhabitants will benefit from the improved water and sediment quality in the waterbody and from

the protection and conservation of its biodiversity including vital breeding and nursery areas. Ultimately they will have better guarantees for safeguarded health and productivity, widened menus of potential livelihood options, and sustaining recreational opportunities and amenity values.

70. Furthermore at a different level, as the project focuses on global benefits, a further group of general beneficiaries will be the global community. This will include indirect benefits to the broad community including in conservation of biodiversity and areas of outstanding environmental wealth as well as direct benefits to those with economic interest in the areas.
71. At a more specific level, target beneficiaries will be those directly involved in project actions that have been designed to solve the problem of degradation of transboundary environmental resources in the area. These groups or actors will be beneficiaries to varying degrees as they will be actively involved as deliverers or recipients of the capacity-building actions and awareness campaigns in the project. They include those related to or affected by the situation either by having the competence or responsibility to act in order to solve the problem (*direct actor*) or by having an influence on it even though they do not have the competence or responsibility to solve it (*indirect actors*). During the PDF these actors, many of which are indirect or direct beneficiaries, were identified according to key issues and are fully listed in Annex XII-1. These include the bi-national entities CARP, CTMFM, the Governments of the riparian countries through specific national authorities such as the DINAMA, SRNyDS, INIDEP, INAPE, SOHMA and municipal authorities of Colonia, San José, Canelones, Montevideo, Maldonado y Rocha and Buenos Aires province. It also includes non-governmental organisations such as port authorities, universities, environmental NGOs, fishing and boating clubs and tourism operators

#### **B.4. PROJECT STRATEGY – THE GEF ALTERNATIVE**

72. The present project has been developed in consistency with the guidelines outlined under the GEF Operational Strategy and Waterbody-based Operational Programme (OP8). The project strategy has been defined through a fully participatory process, building on national sustainable development baselines and other projects in the region outside of the direct project area, including other GEF initiatives, to achieve global benefits through a well defined set of cost-effective interventions. This composite set of actions, known as the GEF alternative, will focus on the identification and resolution of transboundary environmental problems affecting an area of regional and global significance. It will address root causes of the degradation of transboundary environmental resources by removing the barriers that currently prevent more effective joint management of these bi-national resources and will incorporate mechanisms to enhance the sustainability beyond the specific life time of the project.
73. The design of the present project was developed between October 1997 and June 1998, with the support of GEF Project Development Facility (PDF), and additional funding from the International Development Research Centre (IDRC) and counterpart contributions by both Commissions. Key issues affecting the environmental quality of the Rio de la Plata and its Maritime Front were identified and prioritised during a bi-national workshop held in Piriapolis (Uruguay) from 24 to 27 November 1997. Fifty-four people participated in the workshop as representatives of institutions and organisations from both countries.
74. Following the Piriapolis workshop, four studies were prepared by *ad hoc* groups of specialists from both countries:
  - (i) Institutional analysis and proposals for institutional strengthening,
  - (ii) Review of legislation and proposals for harmonisation,
  - (iii) Environmental Assessment
  - (iv) Stakeholder Identification.

75. These documents were used to provide technical background for the formulation binational workshop in Mar del Plata, from 18 to 20 March 1998. During this workshop, forty-nine people participated in the identification of objectives, outputs and activities. The results of both workshops were compiled in documents that were distributed to the participants, key institutions of both countries and GEF Implementing Agencies.
76. From these analyses it was clear that a quick fix approach to management was inappropriate to the complex determinants of degradation in the area and that a long-term process would be required to address transboundary problems. It was also clear that, to be effective within the socio-economic and environmental conditions of the project area, a two-phase approach to this long-term process would be required. The first phase of this process should focus on overcoming the barriers that presently impede joint management of the waterbody including the development of a Strategic Action Programme for the waterbody. It shall strengthen collaborative efforts through improving understanding of the ecosystem and the biophysical functioning of the waterbody, identifying and prioritising cost-effective solutions, harmonising institutional arrangements for river and coastal zone management, raising stakeholder awareness of underlying problems, leveraging financial resources, and integrating transboundary considerations into domestic environmental impact abatement programmes.
77. The second phase would be related to the implementation of the actions identified in the SAP and involve investing in pollution control and holistic measures to effect the conservation and sustainable use of living resources. Funding for these two stages should follow the GEF criteria. The first stage is expected to generate largely intangible domestic benefits such as enhanced scientific knowledge, awareness of systems dynamics, management capacity, and joint programming. Because the benefits are intangible, proposed interventions are unlikely to occur but for the participation of GEF. Over the longer term, the removal of barriers to joint waterbody management and the implementation of the SAP in the second phase would provide tangible national benefit. For this reason, the present project, supported with GEF resources, will focus on the first of these two phases and SAP implementation, or phase two would for the most part be effected by drawing on non-GEF resources succeeding the implementation of this project
78. In compliance with the characteristics determined for the first phase in the long-term process, this present project will create a framework to enable the two countries to address issues that presently lie beyond the mandate and scope of activity of national management bodies, overcoming barriers to joint action. By diagnosing the root causes of degradation, and identifying appropriate management interventions, strengthening the capacity of key decision makers to implement these through jointly programmed interventions, and leveraging financing to implement them, the GEF alternative will provide a springboard for a follow on investment phase.
79. The GEF alternative will be implemented through this present project. A three-pronged strategy has been defined for this first phase of the long-term objective of preventing and mitigating transboundary threats to the Rio de la Plata and its Maritime Front.
- (a) Transboundary Diagnostic Analysis:** The project will complement the national focus of baseline programmes by addressing transboundary issues through joint binational programming. Current activities do not target the causes of transboundary pollution because understanding of the functioning of the system and the transboundary determinants of the

problem is inadequate. Whilst information has been collected and assessed as part of Block B activities, further work is required in order to finalise a Transboundary Diagnostic Analysis. This requires that data be collated, critical data gaps filled, and information assessed. The project will provide technical assistance to undertake these tasks. These include the complete identification and analysis of the sources, impacts and root causes of the priority transboundary environmental problems with special reference to river and marine pollution, as well as the identification of barriers to effective waterbody management including economic factors. It will generate a quality product that will underpin preparation of the SAP and its later operationalisation.

- (b) Development of a Strategic Action Program (SAP)** of policy, legal, and institutional reforms and priority investments to prevent and mitigate the priority transboundary environmental concerns identified in step 1. While the Commissions are well placed to undertake binational management given their mandates, they lack the resources to effectively carry out this task. Modest existing national (baseline) resources to convene periodic meetings and working groups need to be complemented for preparation of the SAP. This project will support the preparation of the SAP for the area and catalyse political and financial support for implementation. This project would finance further technical work to identify barriers to harmonising environmental quality standards and EIA protocols, institutional arrangements, and policies between the two countries. It would develop jurisdictional, national and bi-national mechanisms and financial commitments for implementation of expected baseline and additional SAP actions. Strengthen the capacity of CARP, CTMFM and key national and local authorities of both countries to prepare and operationalise joint management endeavours and action plans for transboundary pollution reduction and control. Raise public recognition of key local and transboundary causes of pollution in the Rio de la Plata and Maritime Front. This will then form the basis of efforts to leverage policy, institutional, financial and regulatory reforms at the binational and national levels. A major focus of activities will be on developing an investment portfolio that could be used to leverage finances from capital markets.
- (c) Strengthening and sustaining the SAP implementation framework** by development of regional co-operation and co-ordination mechanisms to deal with complex transboundary problems, e.g. pollution loads from sources internal and external to the Rio de la Plata and its Maritime Front. In order to secure effective implementation of the SAP framework training and communications strategies that target specific stakeholding groups need to be developed. Baseline programs on general environmental training and communications, while important, are unlikely to build institutional capacities or public action to address the transboundary threats to the Rio de la Plata and the Maritime Front. This project will, therefore, assist in the development of information tools to integrate information and elucidate transboundary externalities. This, in turn, will allow the incorporation of transboundary concerns into decision making. More specifically, the project will (i) identify policy and institutional barriers and develop mechanisms that engender collaborative efforts to control and manage pollution and other causes of degradation, (ii) provide specific training to enhance local capacity to prepare and implement the SAP, (iii) mobilise national

and international support for joint management, (iv) inform stakeholders about issues and solutions, and (v) extensively disseminate technical and scientific information and (vi) develop a set of international waters indicators to monitor the health of the Rio de la Plata and Maritime Front to evaluate project impact and later SAP implementation.

## **B.5. INSTITUTIONAL ARRANGEMENTS**

### **B.5.1. Execution and Implementation Arrangements**

80. The project will be implemented taking advantage of the existing bi-national structure and mechanisms for co-ordination, co-operation and management provided by the TREATY OF THE RIO DE LA PLATA AND ITS MARITIME FRONT and the two bi-national Commissions.
81. As mentioned before CARP and CTMFM are international governmental organisations with the legal standing required for the implementation and fulfilment of their objectives. The Commissions established the Consortium CARP-CTMFM on 19 June 1998 by means of a Joint Resolution. The Resolution established the co-operation, co-ordination and institutional framework for the preparation and implementation of the SAP. The Consortium will serve as the Project's Executing Agency.
82. The Commissions are fully empowered to address any issue relating to the joint management of the binational water bodies. The Commissions are not fully empowered to address land-based sources of pollution beyond the areas under their exclusive jurisdiction since this would imply an extension of bi-national authority to sovereign territory. However, as bodies under the respective countries' Ministries of Foreign Affairs, the two Commissions have government representation at the highest level. In order to overcome the possibility of insufficient attention being paid to land-based sources of pollution affecting the Rio de la Plata and its Maritime Front system, the Project is structured such that the appropriate pollution control bodies having jurisdiction on significant pollution services shall be represented at the Project Coordination Committee, the Technical Advisory Group and at the interinstitutional working groups (see below). The express commitment of these agencies to SAP implementation will be obtained as part of the project.
83. The institutional structure for project implementation comprises five elements:

#### **1. Consortium Executive Board**

Its members are the Chairmen of the four Delegations to CARP and CTMFM<sup>3</sup>. The functions of the Consortium Executive Board include:

- General supervision of the project.
- Approve progress and financial reports.
- Select and contract the International Co-ordinator of the Project according to standard UNDP procedures.
- Ensure the participation of relevant authorities and stakeholders of the two countries in the process of drafting the TDA and SAP and its later implementation.
- Adopt the SAP on behalf of Argentina and Uruguay.

#### **2. Project Co-ordination Committee**

It will be chaired by the Executive Board of the CARP-CTMFM Consortium and include (i) representatives of the agencies of Argentina and Uruguay, responsible for establishing environmental protection regulations, either in the Project Area or in adjacent areas linked to same, and whose participation is necessary to accomplish the Project objectives, (ii) representatives of the planning offices of the Parties, (iii) representatives of the GEF implementing

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<sup>3</sup> Each national delegation to CARP and CTMFM has a President.

agencies and (iv) representative of the Inter-American Development Bank. The Co-ordination Committee will have the following members:

- ❑ The CARP-CTMFM Consortium (project executing agency), which will chair the Committee and call the meetings.
- ❑ The following national and local authorities:

<i>Argentina</i>	<i>Uruguay</i>
Secretary for Natural Resources and Sustainable Development (Under-secretary for environmental planning)	Ministry of Housing, Land Planning and Environment (National Directorate for the Environment, DINAMA)
Secretary for Urban Planning and Environment of the City of Buenos Aires	Municipality of Montevideo
Secretary for Environmental Policy of the Province of Buenos Aires	A representative designated by the other municipalities on the Rio de la Plata and its Maritime Front.
Navy and Coastguard	Navy (Coastguard)
Ministry of Economy	Planning and Budget Office
Under-Secretary for Fisheries	INAPE (National Fisheries Institute)

- ❑ The three GEF implementing agencies (UNDP, WB and UNEP).
- ❑ The Inter-American Development Bank (IADB).

The international co-ordinator of the project will be the Secretary of the Co-ordination Committee with the support of the Project Implementation Unit.

*The Co-ordination Committee will:*

- i) Provide policy advice for the implementation of the project.
- ii) Co-ordinate project activities among bi-national, national and local levels for the formulation, adoption and later implementation of the SAP.
- iii) Agree with the respective Authorities of the Parties the adoption of the SAP and action plans, within the geographical context corresponding to each one of them and according to their respective responsibilities.
- iv) Ensure that commitments to implement the SAP, the national and jurisdictional action plans and management instruments generated by the project are made by the Authorities involved at each level within their geographical scope and their responsibilities.

### **3. Technical Advisory Group**

This group shall be established to provide advice and promote broader involvement of civil society in the drafting of the TDA and SAP process. The members will include, among others, representatives of the following entities:

- i) Scientific and technical organisations which will participate in the activities of the project, including the Naval Hydrographic Service (SHN, Argentina), the Oceanographic,

Hydrographic and Meteorological Service of the Navy (SOHMA, Uruguay), the coastal pollution control units of the cities of Buenos Aires and Montevideo, the National Institute for Fisheries Research and Development (INIDEP, Argentina), the National Fisheries Institute (INAPE, Uruguay), the University of Buenos Aires (Argentina) and the University of the Republic (Uruguay).

- ii) Associations and chambers of private sector representatives directly linked to activities in the project area.
- iii) The most relevant non-governmental environmental organisations of Argentina and Uruguay and the International Union for the Conservation of Nature (IUCN).
- iv) The scientific cooperation institutions of third countries.

#### **4. Project Implementation Unit**

This will consist of an International Co-ordinator, a team of sectoral experts and intersectoral Working Groups. This team will be in charge of executing project activities.

#### **5. Inter-sectoral Working Groups**

Entities including national and local authorities, private sector and NGOs, will participate in Working Groups to analyse and develop specific elements of the TDA and SAP.

84. The Consortium Executive Board is integrated by national delegates to the Commissions. Therefore the Consortium will cover their participation.

85. It has been agreed that the Project Implementation Unit will be based in the city of Montevideo, and staffed by nationals of both countries. Meetings and events shall take place in both countries. The Consortium will provide office facilities for the operation of the Project Implementation Unit and the GEF its personnel costs.

86. During the first year of implementation, an agreement will be signed between participating institutions and the project. Agreements are foreseen with the following international organisations:

- (1) *ATAS* for the development of training activities.
- (2) *Dalhousie University* (Canada), for the TDA
- (3) *IOC*, for accessing to regional oceanographic information as elements of the TDA and integrated information system.
- (4) *IADB*, for co-financing of specific activities to be determined which would include, among other activities, the integration of economic and financial factors in the development of pollution control strategies.
- (5) *IDRC*, for the development of the integrated information system.
- (6) *IFREMER*, for TDA preparation.
- (7) *IMO*, for technical assistance regarding the protection of the marine environment.
- (8) *IUCN* for collaboration in the preparation of the biodiversity element of the TDA and the bi-national strategy for the protection and conservation of coastal and aquatic biodiversity.
- (9) *TRAIN-SEA-COAST*, for short - term training in environmental management.
- (10) *UNESCO*, for co-operation with the BIOPATA project.
- (11) *University of Hamburg* (Germany) (Centre for Marine and Climate Research) for the preparation of the TDA.



87. The UNDP Office in Montevideo will provide administrative support and will be responsible for general oversight, follow up, and monitoring of the project and will organise evaluation activities.  
The selection of staff, supplies and hiring will be undertaken according to UNDP procedures and regulations.
88. In order to streamline Project implementation and expedite its execution, a number of preparatory actions have already been undertaken. These include periodical meetings of the Consortium Executive Board, the entry into operation of an interim Technical Advisory Group and the appointment of a Provisional Project Coordinator. The latter began to work in April of this year, and its tasks includes making the necessary institutional arrangements (such as cooperation agreements with national and international organizations), required for Project implementation.

### **B.5.2. Public Participation**

89. The stakeholders linked to the key environmental management issues of the area were identified in the PDF by means of the Working Groups in the Piriapolis workshop and also by the study on “Stakeholders Identification and Analysis”. Environmental issues, and particularly pollution, are a high priority for the institutions and societies of both countries. National, Provincial, Departmental and Municipal governments are investing resources in the understanding and regeneration of the river, marine and coastal areas. A high level of participation and commitment was obtained during the PDF phase.
90. The formulation of the SAP will involve wide participation of stakeholders at all stages. The main mechanisms to be used are as follows:
- ❑ Participation of stakeholders in the Technical Advisory Group of the project.
  - ❑ Intersectoral and binational Working Groups, including all organisations on the Project Co-ordination Committee, that will guide the processes and analyse the results of nearly all the outputs;
  - ❑ Analysis and harmonisation events -- e.g., (a) bi-national fora for revising and refining the SAP draft, (b) events to analyse strategies to control transboundary pollution and protect biodiversity and (c) awareness raising events. Additionally, several mechanisms have been incorporated into project design to involve the stakeholders of the area, namely (a) the virtual information centre, (b) dissemination events, (c) community events and (d) mass dissemination of messages.

### **B.6. REASONS FOR ASSISTANCE FROM UNDP**

91. This project will contribute to accomplish one of the strategic objectives of cooperation agreed by UNDP and the Governments of the Republica Argentina and the Republica Oriental del Uruguay in the subject of environmental protection.
92. The proposed project is consistent with the GEF WATERBODY-BASED OPERATIONAL PROGRAMME, as it is focussed on the identification and solution of transboundary<sup>4</sup> environmental problems affecting an area of regional and global significance.
93. The project will benefit from the existence of a binational Argentine-Uruguayan legal framework, established under the Treaty of the Rio de la Plata and its Maritime Front, that will serve as a framework for the environmental management of the area. Additionally, both countries have a good environmental legislation basis, but in some cases there is an overlapping of the States’ responsibilities and gaps in binational environmental management. The preparation of a strategic plan of action will make it possible to direct national efforts towards filling the gaps that may exist and promoting harmonisation of the respective national legislation.

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<sup>4</sup> This term is used as defined by GEF

94. The Project complements and strengthens other projects that are presently in the process of implementation and analysis:
- (i) The project for the consolidation of the Bañados del Este Biosphere Reserve<sup>5</sup> (PROBIDES).
  - (ii) The project Consolidation and Implementation of the Patagonian Coastal Zone Management Program for Biodiversity Conservation.
  - (iii) The integrated watershed management project for the Pantanal and Upper Paraguay River Basin;
  - (iv) The Strategic action program for the binational basin of the Bermejo River<sup>6</sup>.
  - (v) The project coastal contamination prevention and sustainable fisheries management in Patagonia<sup>7</sup>;
  - (vi) The TRAIN-SEA-COAST<sup>8</sup> training programme.
  - (vii) The projects for the formulation of national biodiversity strategies.
  - (viii) The project Support to the ICZ management of the Uruguayan coast of the Rio de la Plata (ECOPLATA).
  - (ix) The BIOPLATA project.
  - (x) The project will be linked with other national initiatives supported by other UN agencies, the World Bank<sup>9</sup> and the Inter-American Development Bank<sup>10</sup>.
95. The project will strengthen and complement activities that both Parties are developing at present, both individually as well as in the framework of the two binational Commissions.
96. The project will make a significant global contribution, in several aspects:
- i) It will contribute to establishing binational strategies for environmental management that are essential to ensure the sustainable development of an area of considerable global significance.
  - ii) It will contribute to the conservation and sustainable use of river, marine and coastal biodiversity of the area.
  - iii) It will contribute to establish the bases for the development of regional mechanisms for co-operation and co-ordination, to reduce the pollution load of the La Plata Basin on the area.
  - iv) It will make it possible to know the pollutant load being exported to the South West Atlantic Ocean, and contribute to reduce it through the development of binational management tools.

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<sup>5</sup> Projects URU 97/G31 UNDP – GEF and URU 97/L01 UNDP – European Union, executed by the Programme for the sustainable development and conservation of biodiversity or the Bañados del Este Biosphere (PROBIDES).

<sup>6</sup> This project will develop a TDA that will provide relevant information for the TDA of the Río de la Plata and its Maritime Front.

<sup>7</sup> This is a project to be submitted to GEF in 1998. The implementing agency is the World Bank and the executing agency is the Secretariat for Natural Resources and Sustainable Development of the Argentine Republic (SRNyDS). The component on control and prevention of marine and coastal pollution contains elements that are linked with the Rio de la Plata and Maritime Front Project.

<sup>8</sup> This project will establish a regional training centre in PROBIDES and develop a course for the management of special marine and coastal zones.

<sup>9</sup> Particularly the pollution management project (AR-PE-6050).

<sup>10</sup> Mainly:

- (1) The projects for institutional strengthening of the National Environmental Office of Uruguay and the Secretariat for Natural Resources and Sustainable Development (SRNyDS) of Argentina.
- (2) The project for environmental management of the Matanzas – Riachuelo Basin in Argentina.
- (3) The programme for fiscal strengthening, institutional reform and investment of the Government of the City of Buenos Aires (BID AR-218, in the subject of the management of the River coast).
- (4) The programme for support to the establishment and operation of a national environmental fund in Argentina (AR-227).

- v) It will be a joint environmental management experience, and the lessons learnt may be transferred to other areas of Latin America and the world.
- vi) The activities undertaken as part of the Project and SAP implementation process will be relevant for, and replicable by, other international projects. The Project will provide a valuable model, and become a significant source of experience and inspiration, for integral international management systems for river and estuarine systems shared by two or more countries, elsewhere in the world. The signification of the Project as a model is enhanced by the advanced legal framework established by both coastal countries and the considerable experience in the joint management of the Project area they have accumulated since the establishment of both binational Commissions, in 1976. In this sense, the implementation of the Project and the process for the drafting of the SAP will be a valuable example for other international waters projects.

## B.7. SPECIAL CONSIDERATIONS

97. **Sustainable livelihoods**, The project focuses on environmental conservation in densely populated areas which depend to a considerable degree on the resources of the Rio de la Plata and its Maritime Front, water supplies and economic activities. It aims at increasing the awareness of these populations on transboundary issues, firmly placing the environmental conservation at the centre of development in the project area. It will also contribute to improve living conditions by providing a range of economic and recreational options.
98. The project will facilitate active participation of **women**. Project implementation will involve a number of women professionals and scientists. Also urban and rural economies, and therefore women, of the area will benefit from the results of the project.
99. As mentioned before in B.5.2., **Civil society** – including local, national and international NGOs – will have relevant participation in the project. Also **Private sector** will be involved in the preparation of the TDA and SAP and in particular the strategy and action plans for pollution control. Also the investment plan of the project would try, as much as possible, to offer opportunities for private investment, both local and international.
100. **Technical cooperation** between Argentina and Uruguay and other countries of the La Plata basin will be enhanced. The project will allow active participation and interaction between scientists and governmental and non-governmental institutions of the area as well as with international institutions and NGOs.

## B.8. SUSTAINABILITY

101. Institutional sustainability is ensured through the operational mechanisms of the two Commissions. For the execution of the Project, the Commissions have established an agreement formalising joint operations by a CARP-CTMFM Consortium. During the execution of the Project, a decision will be made on whether this will be sufficient for the SAP implementation phase or if a different structure is needed. The development and implementation of the SAP would be a joint undertaking by multiple executors, considering the levels and responsibilities of the authorities and organisations involved (i.e., local, national, binational and international).
102. Financial sustainability will be ensured through several mechanisms. The Commissions will increase their budget by approximately 25% each to cover the costs associated with the new activities they will be taking on (e.g., maintaining and updating the management information system). It is foreseen that the operation, maintenance and updating of the GIS and Virtual Centre of Information will, in the long-term, be financially self-supporting. Training activities for operators and user groups will be supported, in the mid-term, by cost recovery.

103. Finally, as part of the preparation of the SAP: (i) cost estimates for baseline and additional SAP interventions will be prepared, (ii) SAP implementation mechanisms determined, and (iii) political and financial commitments will be leveraged. SAP implementation activities would be inserted into budgetary decision and investment portfolios of national and local government. Emphasis will be placed on ensuring that SAP funding mechanisms proposed and selected are feasible and equitable.
104. The execution of this project will involve the participation of donors. It has been proposed that the fourth public awareness event be entitled: “The economics of environmental management in the Rio de la Plata and its Maritime Front” and that it focus on the economic implications of transboundary environmental management of the area, including pollution reduction and management, and the instruments required to sustain efficient environmental management of this transboundary resource. Finally, a donor meeting will be arranged in year four. This will stimulate the interest of the broader donor community to finance the implementation of the SAP.

#### C. DEVELOPMENT OBJECTIVE

105. **Prevent and, when necessary, mitigate the degradation of the transboundary environmental resources of the Rio de la Plata and Maritime Front and enhance the sustainable use of these resources by the inhabitants of both countries.**

106. Within the context of this development objective, the central purpose of the project is to develop a Strategic Action Programme (SAP) for the Rio de la Plata and Maritime Front that once implemented will mitigate transboundary environmental problems and facilitate the sustainable use of resources. This SAP will be developed through a participatory process, will build on a solid Transboundary Diagnostic Analysis, and will include clear mechanisms for its implementation in a phase following this project. Whilst there is one clearly defined project purpose this will be attained through three different steps that constitute separate project components. Each of these will contribute with vital information and processes to achieving the overall purpose but also have stand-alone value producing specific outputs and clearly measurable impacts. Each component corresponds to an immediate objective and each have specific outputs and activities.

#### D. IMMEDIATE OBJECTIVES OUTPUTS AND ACTIVITIES

##### IMMEDIATE OBJECTIVE 1

**Develop and approve a Transboundary Diagnostic Analysis (TDA) that will fill relevant information gaps and provide key data and tools for the definition of a Strategic Action Program for prevention and mitigation of transboundary environmental problems in the Rio de la Plata and Maritime Front.**

107. This immediate objective or component will focus on the preparation of a *Transboundary Diagnostic Analysis (TDA)*. Whilst information sources, needs, gaps and barriers were identified during the PDF phase, further effort is required to obtain priority information needed to understand the functioning of the system, the key causes and effects of transboundary degradation (particularly pollution) as well as to integrate it into preparation of the SAP. Most of the information available on the area (i) is scattered, (ii) is limited to a few topics, especially fisheries biology and (iii) has a limited spatial and temporal coverage. There are practically no interdisciplinary studies. A robust TDA is necessary in order to define the baseline resource condition and trends, prioritise transboundary problems, and specify jurisdictional and national interventions to address them under the SAP. Co-financing for TDA preparation has been leveraged from the Commissions, the IADB and the

University of Hamburg. Some of these moneys will be used to obtain oceanographic and meteorological information to understand the circulation of currents within the system.

108. The first step of this component will establish mechanisms for co-ordination and cooperation among participating entities, additional sources of information will be identified and the methodology to be followed for TDA finalisation will be agreed upon among the participating entities. An agreement will be signed between the co-operating entities and the project to define the obligations and contributions of each party and the constitution of the Working Groups that will develop and finalise the components of the TDA. Since activities both upstream and downstream of the Rio de la Plata and its Maritime Front project system boundary may impact or be impacted by activities in the Rio de la Plata and its Maritime Front, arrangements will be made for co-ordination of the TDA with similar analyses underway in other projects in the region with transboundary relevance to this project; in particular with the WB/GEF and UNDP/GEF projects in Patagonia, the UNEP/GEF projects in the Pantanal and Upper Paraguay River Basin and Bermejo River, the UNDP/GEF project in the Bañados del Este biosphere reserve (PROBIDES) and the ECOPLATA and BIOPLATA projects.
109. The second step of the TDA component will include a range of assessments to be made simultaneously, covering transboundary elements of key biophysical issues as well as cross-cutting social, economic, institutional and legal issues. Each of these diagnostics will be developed by a Working Group formed by specialists from both countries including law, economics and the social sciences in order to identify legal, economic and social root causes. The assessments will be effected for the most part through compilation, systematisation and analysis of existing information. In selected areas, specific studies – needed to fill priority information gaps -- will be executed as part of the assessments of water and sediment pollution, pollution effects on biodiversity, biology of key species and accumulation of pollutants in the trophic chain.
110. Amongst these assessments the survey of river and marine biodiversity is of particular relevance to perceive the effects of environmental changes and transboundary pollution on the biological diversity of the area. It will make it possible to (i) integrate existing information, (ii) identify areas requiring special attention, (iii) identify key species and indicators and (iv) define priority research and monitoring activities in the project area. Short, specific studies will be carried out, where necessary, to fill knowledge gaps. A population biology assessment of fisheries resources is also of particular importance since it will enable the integration and systematisation of existing information aimed at identifying the location of important feeding, breeding and nursery grounds and perceive the effects of exploitation, habitat modification and transboundary pollution on living marine resources in the Plata/Maritime Front. Specific targeted studies will be carried out, as necessary, to define such areas.
111. The third step of the TDA preparation will consolidate, analyse and present the results of the previous steps to independent specialists for evaluation. Specialists from the other upstream and adjacent GEF projects in the region will participate in this analysis to ensure the integration of information and a holistic analysis of the priority transboundary problems in a basin-wide context so that SAP actions proposed under each project are co-ordinated and complementary.
112. The fourth step of the TDA component will produce an integrated information system to facilitate the integration of the results of the assessments and the consolidation in a TDA as well as providing an important tool for the preparation and implementation of the SAP. This system will consist of a geographic information system, a management information system and a virtual centre of information (VCI) that will allow the compilation, systematisation and processing of information about the area and present or display it in accessible formats for the Consortium and key national and local institutions and stakeholders.

113. The total cost of this TDA component is US\$ 4.5 million of which GEF will contribute approximately US\$2.5 million for TDA work, and co-financing for this component will amount to US\$2 million. In order to accomplish this immediate objective the project will deliver the following specific products or outputs by undertaking the series of activities described below under their respective outputs.

**Output 1.1. Methodologies, approval processes and cooperation and co-ordination agreements for the development of the TDA defined and endorsed by stakeholders including bi-national Commissions and local and national institutions**

**Activities for output 1.1**

1. Identify existing groups related to the evaluation of transboundary environmental problems and relevant issues and evaluate their potential inputs to the TDA process. Using this information identify the key members of the working groups and organisations that will be responsible for the assessments to be undertaken in output 1.2.
2. Design and approve co-operation mechanisms for the development of the TDA including national institutions, bi-national commissions and relevant projects in the region. This will include drafting outline agreements, discussion and evaluation in workshops and the official signing of agreements that establish specific areas and mechanisms of co-operation including the exchange of existing information and the acquisition of new data to fill critical gaps. The relationship of the working groups for the assessments with these co-operation mechanism will be formalised at this point.
3. Draft a proposal for the methodology for TDA development to ensure that existing information is adequately incorporated, information gaps are filled and final reports are produced in a format that will readily serve for developing the Strategic action Plan (SAP). This methodology will also include a detailed description of the TDA approval process and guidelines for incorporation into a SAP
4. Evaluate the draft methodology proposal with international experts
5. Form a TDA group consisting of representatives of the groups that will be responsible for the assessments within the TDA preparation. Participation will be depend on signed formal institutional arrangements of co-operation
6. Evaluate, refine and adopt the methodology proposal with the TDA groups and inputs from the international experts for the TDA

**Output 1.2. Critical information gaps filled by the compilation, integration and assessment of existing information and selected generation of missing data on transboundary elements of at least nine key issues related to water and sediment pollution and river and marine biodiversity**

**Activities for Output 1.2.**

1. Identify sources of existing information building on the co-ordination mechanisms determined in output 1.1
2. Compile, integrate and evaluate existing information on the degradation of transboundary environmental resources including issues related to water and sediment pollution and biodiversity.

3. Identify critical information gaps for completing the TDA, outline minimum data requirements to fill gaps and realize studies required to generate this priority information. Where required these studies will form part of the assessments describe in the following activity.
4. Develop full assessments of the transboundary elements of key technical subjects critical to the mitigation of environmental resources in the project area using the integrated existing information and priority data generated from commissioned studies. These assessments will adopt an ecosystem approach, will be developed simultaneously by different multidisciplinary working groups formed by specialists from both countries, and will include a full diagnosis of present conditions and predicted future scenarios. Assessments of the transboundary elements of at least the following subjects will be undertaken:
  - ❑ **Assessment of Circulation Patterns in the Rio de la Plata and its Maritime Front.** This assessment will provide valuable information for a range of the following assessments on key biophysical issues. For example, a more complete understanding of circulation patterns is vital for the full assessment of water pollution levels and trends. The assessment will include compiling and integrating existing information on circulation and dynamics of the waterbody and oceanographic and meteorological information from local and international sources. This will be used to identify and develop a model that will accurately project circulation patterns and provide a deeper understanding of the circulation in the Rio de la Plata and its Maritime Front with particular reference to the influence of meteorological factors. This will be used by the following assessments for detailing evaluations and predictions as well as providing a key input for the development of the SAP. The assessment will be undertaken in co-operation with the Naval Hydrographic Service of Argentina (SHN) and the Oceanographic, Hydrographic and Meteorology Service of the Navy of Uruguay (SOHMA).
  - ❑ **Water Pollution Assessment** including the analysis of pollution loadings from the Plata Basin, secondary basins; urban centres; ports; marine activities; loading activities and shipping accidents
  - ❑ **Sediment Pollution Assessment** including the analysis of the polluted sediments loadings from the Plata and secondary river basins; the distribution of contaminated sediments in the area; an analysis of the processes by which sediments trap contaminants; and the effects of dredging in terms of sediment resuspension and location and impact of dredged sediment tipping.
  - ❑ **Pollution by Hazardous Residues Assessment** including an evaluation of the existing activities and structures for hazardous residues management and disposition present in the project area.
  - ❑ **River and Marine Biodiversity Assessments.** An ecosystem approach will be used for the assessment instead of the more common taxonomic approach. Therefore the assessment will include the identification of keystone and indicator species and habitats; population biology evaluations for key species; the identification of critical feeding grounds and breeding areas; the definition of biodiversity monitoring requirements; the identification of critical information gaps and the generation of priority information for a complete biodiversity assessment. This activity will be co-ordinated with on-going initiatives in both countries, including formulation of national biodiversity strategies, the UNDP/GEF project for the consolidation of the Bañados del Este Biosphere Reserve (PROBIDES), the BIOPLATA and ECOPLATA projects and will have the technical support of the IUCN.
  - ❑ **Introduction of Exotic Species Assessment** including the identification of exotic species currently present in the project area; the evaluation of the sources of introduction; the quantification of the environmental and economic impact of these species; and the prediction of future impacts under different management scenarios
  - ❑ **Red Tides Assessment** including the identification of organisms that cause red tides and the evaluation of impact on ecosystems and on the economy of the region. Much of this assessment will draw on information being produced through research and monitoring actions of INIDEP and INAPE
  - ❑ **Population Biology Assessment of Fisheries Resources** including the location of important feeding, breeding and nursery grounds and the evaluation of exploitation, habitat modification and transboundary pollution on living marine resources in the area. This assessment will be prepared by the fisheries institute of both countries (INAPE and INIDEP) with the support from universities and co-ordinated with ECOPLATA activities.
  - ❑ **Assessment of Pollutants Accumulation in the Trophic chain** including an analysis of major trophic chains; an evaluation of the accumulation of pollutants within these; and targeted studies where necessary for determining pollutant levels.

- Undertake two complementary *cross-cutting assessments* that will provide supportive information to all the assessments undertaken in activity 4 and provide a vital information for the integration of information and preparation of the SAP. These cross-cutting assessments will include institutional, social and economic and legal assessments. These will be used to identify the root causes and key consequences of crucial transboundary environmental issues and the needed policy, regulatory and institutional reforms to adequately redress these problems. They will also provide important information to detail priority activities to be included in the SAP and prepare mechanisms for enhancing the effective bi-national management of the waterbody

**Output 1.3. Solid knowledge base developed to support the preparation of the SAP and its implementation, including the integration of the assessments produced in Output 1.2, the definition of a preliminary zoning using ecological charts and the drafting, approval and dissemination of a formal TDA report in a format useful for SAP**

**Activities for Output 1.3.**

1. Consolidate, integrate and analyse the information produced in output 1.2 and incorporate this into the Integrated Information System, (IIS), to be developed under output 1.4, as this becomes operational.
2. Prepare further elements that will enrich the TDA and provide valuable information for the preparation of the SAP. This will include the definition of ecological charts using the Geographical Information System (GIS) system to be developed as part of the IIS (see output 1.4.). The GIS will facilitate the identification of sensitive areas for navigation and other uses thus feeding into the development of ecological charts and the definition of a preliminary zoning of the area. This zoning will be analysed, revised and adopted by the commissions and provide a vital component on which the SAP can be based.
3. Prepare a draft TDA report in a format that is useful for the preparation of the SAP. This will include an integrated diagnosis of present conditions and future and scenarios as well as individual components providing more in-depth information on specific issues. It will also include outlined recommendations for priority actions and management requirements to be included in a program to mitigate the degradation of transboundary environmental resources and an economic appraisal of the cost these actions.
4. Circulate the draft TDA to independent specialists for evaluation including those involved with other up-stream and adjacent GEF projects to ensure the integration of information and a holistic analysis so that the SAP actions proposed each project are co-ordinated and complementary. The consolidation of the recommendation of these evaluators will be compiled in a seminar to be held at the beginning of year 3 involving scientists and decision-makers from riparian countries.
5. Fine-tune the TDA report and submit for approval following the approval procedures established in Output 1.1. Final approval of the TDA will be the responsibility of the Commissions. and is expected by the middle of the third year of the project.
6. Disseminate the TDA report through the IIS



**Output 1.4. *Integrated Information System (IIS)* developed and operational as a management tool to facilitate the application of the TDA components to decision-making regarding transboundary waterbody management and consequently the development and implementation of the SAP for the Rio de la Plata and Maritime Front**

**Activities for Output 1.4**

1. Assess key information needs for decision-makers for the SAP preparation and its eventual implementation by undertaking an end-users needs assessment of local, national and bi-national authorities, identifying the degree of detail required by each and formats that will be accessible to each level. This will include not only information needs for technical data and its integration into decision-making but also the that required for management related actions and decision-making processes.
2. Evaluate the availability of required information using the results of the end-user assessment and determine the capacity of each level to set-up and maintain an IIS with at least three separate components Geographic Information System, a Management Information System and a Virtual Centre of Information.
3. Develop and make operational, a ***Geographic Information System (GIS)*** on a pilot scale to integrate knowledge generated through the TDA assessments as well as other information available in existing GIS and related systems. This system will be designed to ensure compatibility, and hence data-sharing, with other GIS systems in the region, particularly those of ECOPLATA (GIS of the coastal zone of Uruguay on the Rio de la Plata) and PROBIDES (GIS for land use planning that includes the coastal lagoons in the Rocha Department – Uruguay). The GIS activity will start by undertaking a study to define a system that is compatible with existing GIS and the scales and scope of analysis to be provided. This will be followed by the acquisition of satellite and cartographic materials and the development of the system itself (operational algorithms etc.). A third step will be the demonstration of the pilot GIS including the production of basic information such as ecological sensitivity maps. The fourth step will be the development of operational manuals and the definition of actions required to expand the pilot-scale to full-scale under the SAP implementation. Finally this GIS related activity will also include the careful definition of financial and institutional mechanisms to support the long-term operation of the GIS
4. Develop and implement a ***Management Information System (MIS)*** to produce processed information for decision-making and the effective formulation of the SAP including joint plans for transboundary pollution reduction. This system will be developed focusing on the CARP-CTMFM and their needs for well defined decision-making processes on binational issues. It will build on the end-user needs assessment undertaken in activity 2 and on an evaluation of the capacity of the Consortium to sustain a MIS. The development of the MIS will include the design of the system and its implementation on a pilot-scale to allow for fine-tuning. Implementation over the complete system will be supported by the development of manuals and guidelines, and the definition of funding sources to cover long-term operational costs.
5. Design and set-up a ***Virtual Centre of Information (VCI)***, that will serve to compile, integrate, systemise and make accessible information on the project area through INTERNET to a wide range of end-users and stakeholders in the project area. The development of this system will include the design for different data bases to be accessible via the centre such as bibliographic information, images and cartography, maritime traffic and others that each requires specific data management techniques. It will also include an electronic forum on pollution sources, causes and effects in the Plata Basin to with input from GEF and other projects upstream with transboundary relevance. The design stage will be followed by the implementation firstly at a pilot scale during the second year of the project and later on a full scale in the third year of the project. During the remaining two years the full scale CIV will be up-dated with information prepared in the other components of the project. Financial and institutional mechanisms for permanent up-dating and maintenance will also be secured defined during the final years of the project.
6. Develop and deliver training programmes for end-users to ensure the effective use of the IIS including fund management and planning for securing long-term funding of maintenance and up-dating.

## IMMEDIATE OBJECTIVE 2

**Prepare and adopt a Strategic Action Programme including policy, legal and institutional arrangements and priority investments for the Rio de la Plata and its Maritime Front with specific strategies, targets and implementation mechanisms for pollution prevention, reduction, control and monitoring and the protection and conservation of biodiversity.**

114. This second immediate objective or component of the project will focus on the preparation of a *Strategic Action Program (SAP)* for the Rio de la Plata and the Maritime Front. As a result of the PDF phase it is foreseen that the SAP will concentrate on the priority transboundary issues of (i) prevention, reduction and control of pollution from land-based sources and aquatic activities and (ii) protection and conservation of biodiversity and key areas in the lifecycle of important living resources. Other elements would be incorporated during project execution as a result of finalisation of the TDA and other project activities. The SAP will contain (i) a binational strategy for pollution reduction, control and monitoring for the Rio de la Plata and its Maritime Front; (ii) pollution reduction action plans for each of the principal jurisdictions and key pollution sources through which the overall pollution reduction strategy will be implemented; (iii) binational environmental impact protocols; (iv) regional, national and local plans for biodiversity conservation; (v) a budget and priority investment plan, involving IFI's such as IADB and/or the World Bank, to guide future investments (public or private; national, regional or international) in the area; and (vi) an institutional structure for co-ordination, monitoring and follow up of SAP implementation.
115. The total cost of the SAP component is US\$ 2.2 million. The GEF will contribute US\$1.6 million, and co-financing amounts to US\$ 0.6. In order to accomplish this immediate objective the project will deliver the following specific products or outputs by undertaking the series of activities described below under their respective outputs.

**Output 2.1. Capabilities enhanced for the strategic planning of transboundary environmental management through the preparation of bi-national environmental tools including targets for water and sediment quality, national and jurisdiction pollution control strategies and environmental impact assessment protocols**

### **Activities for Output 2.1.**

1. Develop targets for the Rio de la Plata and its Maritime Front water and sediments quality and pollution reduction based on the results of the TDA. This will focus on high priority pollutants and include consideration of the regulations in force in both countries; the capacity of key national and local authorities and stakeholders to achieve the targets; the economic and social options and implications of the activities for target achievement; and the bio-physical characteristics of the environments of the Rio de la Plata and its Maritime Front.

The targets will be developed by a group of specialists that will prepare a proposal to be discussed through a workshop with a broader range of specialists. Based on the results of this workshop, adjustments to the targets will be made before submitting to the Commissions for formal approval and adoption. Once adopted, these jurisdictional and pollutant-specific water and sediment targets will be disseminated to relevant stakeholders in the project area through a range of communication and dissemination methods including tools within the IIS developed in Output 1.4.

2. Develop a set of economic and financial instruments to promote and facilitate actions for pollution reduction and control in the long term. For example, specific tax adjustments to compensate for pollutant-load discharges and incentives for clean production mechanisms linked to green certificate schemes.
3. Prepare a strategy to facilitate co-ordination and co-operation between both countries for pollution control in the project area in support of achieving the pollution reduction targets defined in activity 1. This strategy will be prepared through a process of analysis and consensus-building involving key local, provincial and national authorities charged with emissions reductions and stakeholders from both countries. Develop this strategy as national and jurisdictional control programmes.
4. Develop and agree upon bi-national environmental impact assessment protocols in the common use area of the Rio de la Plata and its Maritime Front to enable uniform assessments, facilitate the establishment of common standards, guarantee a holistic vision of the impacts in the area and mitigation measures required. The diagnosis step of this activity will be covered by GEF resources and will involve: (i) assessing EIA protocols and regulations in force in both countries, (ii) assessing protocols and regulations that might be relevant for the common use area and (iii) preparing a concept paper on the most appropriate EIA protocols for the area and actions proposed for incorporation into the SAP. Formulation of the protocol and consensus-building will follow.
5. Define and implement a self-sustained system for the training and certification of specialists carrying out EIA in the area. The design of a training system will be funded with non-GEF funds and be developed in co-operation with the TRAINMAR Association for South America that will deliver the course charging the participants a fee to recover costs.
6. Develop a bi-national biodiversity strategy for the co-ordination and co-operation of actions to protect coastal and aquatic biodiversity from pollution and to better conserve it throughout the area. This will build on the results of the TDA and the National Biodiversity Strategies of the riparian countries and be prepared with the collaboration of relevant national and local authorities (e.g., DINAMA, SRNyDS), key related projects (e.g., BIOPLATA, PROBIDES) and organisations that are linked to the subject (e.g., Uruguayan Network of Environmental NGOs, Vida Silvestre, IUCN). A draft strategy will be discussed and evaluated in a public consultation. Following this consultation the revised bi-national biodiversity strategy will be presented to the Commissions for adoption and subsequently submitted to the riparian country governments for implementation.

**Output 2.2. Framework for the SAP implementation and regional planning and management developed and approved**

**Activities for Output 2.2**

1. Draft an initial version of the SAP using the results from output 2.1. The SAP will contain a set of activities aimed at solving the priority transboundary environmental problems of the Rio de la Plata and its Maritime Front and include at least (i) a binational strategy for pollution reduction, control and monitoring for the Rio de la Plata and its Maritime Front; (ii) pollution reduction action plans for each of the principal jurisdictions and key pollution sources through which the overall pollution reduction strategy will be implemented; (iii) regional, national and local plans for biodiversity conservation; (iv) an implementation plan and a budget to guide future investments (public or private; national, regional or international) in the area; (v) an institutional structure for co-ordination, monitoring and follow up of SAP implementation.
2. Build consensus on SAP contents and implementing framework by analysing the draft SAP in bi-national meetings with key stakeholders.
3. Fine-tune the SAP and present it to the Consortium for adoption on behalf of Argentina and Uruguay and endorsement by the members of the Co-ordination Committee. In addition each Authority will also endorse the corresponding action plan for its jurisdiction
4. Disseminate the SAP and action plans to the public through a variety of communication and dissemination media (see immediate objective 3)

**Output 2.3 Portfolio of projects identified to operationalise the SAP and negotiation for its financing with national, bilateral and multilateral public and private sources**

**Activities for output 2.3.**

1. Identify project portfolio to operationalise SAP implementations.
2. Draft a priority investment plan for SAP implementation. This investment planning will be co-ordinated by a Working Group formed by the Consortium, key national and local authorities (responsible for the implementation of action plans), the finance or planning authorities of both countries, the IADB, the World Bank and the UNDP. This will secure the insertion of SAP implementation activities into budgetary decisions and investment portfolios of national and local governments of Argentina and Uruguay. The investment plan would try, as much as possible, to offer opportunities for private investment, both local and international.
3. Circulate the investment plan to other international development agencies to identify parties interested in funding priority components of the SAP and jurisdictional action plans. International Financial Institutions (IFI's) both public and private, such as IADB and/or the World Bank will be invited to participate in the preparation and financing of investments addressing the priority transboundary issues identified in the TDA/SAP process.
4. Review projects with governments and potential donors and officially adopt the priority investment plan by the Consortium on behalf of Argentina and Uruguay. The finance or planning authorities of the countries will subsequently incorporate the investment plan into national and local investment plans.

**IMMEDIATE OBJECTIVE 3**

**Strengthen and sustain the SAP implementation framework by increasing the capacity the of bi-national Commissions and key national and local institutions to implement the SAP**

**priority interventions and increasing the level of understanding and participation of key stakeholders.**

116. This third immediate objective or component of the project will focus on Strengthening and Sustaining the SAP Implementation Framework. As noted previously, a number of barriers exist which prevent the successful joint management of this international waterbody. These include incomplete knowledge of the Rio de la Plata/Maritime Front system, poorly informed decision-makers, weakly integrated binational planning, various institutional weaknesses, limited tools for transboundary resource management, and general lack of public awareness of the project area's situation. Immediate Objective 3 is designed to overcome many of these barriers through a suite of capacity building and institutional strengthening activities which will in turn enhance and sustain the SAP implementation process.
117. Actions will be taken to i) strengthen the bi-national Commissions and key national and local institutions in both countries in order to prepare and implement the Strategic Action Program of priority interventions; and ii) increase the level of understanding and participation of key stakeholders in the process of solving priority transboundary environmental problems in the project area.
118. The analytical capacities of the two bi-national Commissions and key national and local entities will be strengthened to enable them to formulate the SAP and associated jurisdictional action plans. Emphasis will be placed on the exchange of knowledge and experience between related initiatives. Capacity building activities will include: (i) visits to areas where related transboundary environmental and pollution management programmes have been executed; and (ii) specific training in transboundary environmental and pollution management to sensitise managers to new management approaches, methods and techniques.
119. Relevant stakeholders will be systematically informed regarding priority transboundary environmental issues and challenges for pollution reduction in the Rio de la Plata and its Maritime Front. In particular, communication and dissemination activities will aim at promoting recognition of upriver and downstream linkages of pollution and other transboundary problems in the Rio de la Plata and its Maritime Front. All communication and dissemination activities will be co-ordinated with other projects in the area to ensure programmatic congruity.
120. Finally, working in concert with appropriate scientific and technical institutions and government agencies in the region, in line with emerging GEF policies the project will develop a set of 'indicators' to track the short and long-term impacts of this and other related projects in the Río de la Plata and its Maritime Front. Key indicators will include *process* (e.g. policy, legal, institutional, etc. reforms), *stress reduction* (e.g. reduced pollutant loads, fishing pressure) and *environmental status* (e.g. cleaner waters/sediments, restored habitats, sustainably managed fisheries). The Project will take into account indicators developed by several competent organizations such as the World Bank.
121. The total cost of the strengthening the SAP implementation framework is US \$2.1 million. The GEF contribution to the component is US\$ 1.6 million, and co-financing will amount to US\$ 0.5 million. In order to accomplish this immediate objective the project will deliver the following specific products or outputs by undertaking the a series of activities described below under their respective outputs.

**Output 3.1. Collaborative framework for co-operation and co-ordination for the control and management of transboundary problems in the area.**

**Activities for Output 3.1**

1. Set up working group made up of the CARP-CTMFM Consortium and key binational, national and local authorities, national environmental authorities, with assistance from specialists on institutional arrangements for co-operation and environmental management.
2. Identify options and develop institutional arrangements for collaborative co-operation and co-ordination. develop mechanisms and agreements for the implementation of the SAP at national and jurisdictional levels based on the institutional analysis prepared as part of the TDA.
3. Adopt collaborative framework

### **Output 3.2. Enhanced capacity of the Commissions and key national and local entities for SAP preparation and regional management of priority transboundary issues.**

#### **Activities for Output 3.2**

1. Define key capacity building activities based on the institutional analysis of the TDA..
2. Develop and implement a programme of exchanges to areas where related transboundary environmental and pollution management programmes have been executed.
3. Develop and implement specific training in transboundary environmental and pollution management to sensitise managers to new management approaches, methods and techniques.
4. Develop and implement a programme to strengthen the analytical capacities of the two binational Commissions and key national and local entities will be strengthened to enable them to formulate the SAP and associated jurisdictional action plans.

### **Output 3.3. Stakeholders duly informed on priority transboundary environmental issues and challenges for the management of the area.**

#### **Activities for Output 3.3**

1. Increase the general awareness of stakeholders regarding priority transboundary environmental issues and challenges for pollution reduction in the Rio de la Plata and its Maritime Front through an initial awareness programme to be implemented in the first year. This will be delivered through messages that will be transmitted through low cost mass media (*e.g.* advertisements on the radio, press releases and interviews) and through community events, which will be organised in collaboration with local organisations. Emphasis will be placed on promoting recognition of upriver and downstream linkages of pollution and other transboundary problems in the Rio de la Plata and its Maritime Front.
2. Develop and implement a communication strategy for the project to complement and deepen the general awareness programme of activity 1. This will be undertaken from the second year onwards and will have a wide scope and degree of penetration. It will be based on the voluntary participation of municipalities and other entities (including NGOs) in both countries. It is anticipated that the project will develop messages and other material, and that the municipalities and entities in the countries will cover the costs of transmission. In this way, the entire project area will receive coherent messages.
3. Build-up awareness on specific issues by promoting a series of community events, during years 2 to 4, such as beach clean-ups and celebration of the day of the oceans, involving local participation and contributions.

4. Organise opinion forming events. Four high level events will be organised, with the objective of focussing attention on priority transboundary issues identified during the TDA phase. These events will assemble relevant decision-makers and resource managers to present and analyse issues relevant for the preparation of the SAP and associated jurisdictional action plans.
5. Hold four exchange seminars to present, analysis and discuss the results of the different elements of the project with scientists and decision-makers. These seminars will take place in years 2, 3 and 4. Practitioners and the family of GEF and other projects working on transboundary problems and solutions in other areas of the Plata basin and Southeast South American Shelf Large Marine Ecosystem will be encouraged to also present their results in these seminars to facilitate the initiation of basin-wide understanding, co-operation and co-ordination. These seminars will complement the electronic forum on transboundary issues in the Plata basin to be established under output 1.4. to form a basin-wide information sharing and exchange mechanism.

**Output 3.4. International waters indicators developed to monitor the status of the Rio de la Plata and its Maritime Front to facilitate evaluation of project impact as well as over the long-term SAP implementation**

**Activities for Output 3.4.**

1. Develop a set of 'indicators' to track the short and long-term impacts of this and other related projects in Plata/Maritime Front, drawing on information from other international water projects, relevant initiatives in the project appropriate scientific and technical institutions and government agencies in the region. Key indicators will include *process* (e.g. policy, legal, institutional, etc. reforms), *stress reduction* (e.g. reduced pollutant loads, fishing pressure, etc.), and *environmental status* (e.g. cleaner waters/sediments, restored habitats, sustainably managed fisheries, etc.).
2. Use these indicators to monitor the impact of the present project and that of other relevant projects in the area.
3. Incorporate these indicators into the IIS system and monitoring programme designed for the SAP implementation this contributing to the overall evaluation of the impact of the SAP in the long-term.

## **E. INPUTS**

### **E.1. INPUTS IN-KIND PROVIDED BY THE GOVERNMENTS**

- a) National Personnel.
  - Scientists, technicians and support staff from INIDEP, INAPE, SOHMA and SHN.
  - Managerial, technical and support staff from CARP and CTMFM.
  
- b) Office space.
  - Office space for the Project Implementation Unit.
  
- c) Infrastructure
  - Equipped laboratories in INIDEP, INAPE, SOHMA, SHN, UMP, UR and UP.
  - Equipped research vessels of INIDEP, INAPE, SOHMA and SHN.
  - Computer networks in CARP and CTMFM
  
- d) Subcontracts
  - Communication strategy, costs of transmission of messages through mass media by municipalities, governmental organizations and NGOs of both countries.

### **E.2. INPUTS PROVIDED BY UNDP**

As described in sections J below, UNDP will provide the following inputs:

- a) International consultants (see annexes IV, V and VI)
- b) National consultants (see annexes IV and V)
- c) Support staff (see annexes IV and V)
- d) National and international Travel
- e) Subcontracts and cooperation agreements<sup>11</sup>
- f) Training and meetings
- g) Equipment (see annex VIII)
- h) Miscellaneous

The above mentioned inputs will be covered with GEF funds and cost-sharing contributions from the Governments of Argentina and Uruguay and other donors.

The Governments of Argentina and Uruguay will provide funds for TDA report approval and dissemination, SAP formulation, and strengthen and sustain SAP implementation.

IADB will provide funds for the cross-cutting assessments and the integration of economic and financial instruments in the SAP.

Hamburg University / BMBF (Germany) will provide funds for the TDA.

Dalhousie University / CIDA (Canada) will provide funds for the TDA.

IFREMER / French Environment Fund (France) will provide funds for the TDA.

IUCN will provide funds for SAP formulation

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<sup>11</sup> This refers to the agreements with cooperating governmental and non governmental organisations as listed in the annexe VII.



IDRC (Canada) will provide funds for the Integrated Information System.

Private sector contributions and other sources for strengthen and sustain SAP implementation.

### **E.3. INPUTS PROVIDED BY PARALLEL COFINANCING**

Certain pieces of equipment will be obtained through parallel co-financing, as part of the requirements for activity 1.2.4 "Assessment of circulation patterns in the Río de la Plata and its Maritime Front" (see Annex VIII). In this respect the Project establishes a logical sequence, which will be followed during its implementation stage. This point was stressed during the second meeting of the Project interim Technical Advisory Group (May 1999). In principle, the critical information gaps will be filled by the compilation, integration and assessment of existing information. However, it is likely that it will become necessary to generate data on selected aspects, relevant for the completion of the TDA and the preparation of the SAP. The true magnitude of this task will only become evident, with a reasonable degree of certitude, at some point after the initiation of Project activities. Furthermore, the task of collecting data will continue over a longer period of time, after the termination of the present Project (probably as part of a SAP implementation activity).

The opportunity and procedure for these purchases will be coordinated with the Parties, including in what refers to potential sources of parallel cofinance, taking into account their existing projects or those under negotiation, in order to ensure an optimum allocation and employment of available resources.

### **F. RISKS**

122. During the preparatory phase, a FODA analysis was used to identify the project's strengths, opportunities, weaknesses and risks. The proposal incorporates activities to overcome the greatest extent possible, the weakness and risks identified. These include:

- (1) *The Commissions have limited experience in addressing transboundary environmental management issues, particularly pollution.* The Commissions' work has previously concentrated on the management of fisheries resources and infrastructure works. The Commissions recognise the need to direct joint efforts towards integrated environmental management of the area. To lessen this risk, close co-operation with national and local authorities and institutional strengthening activities have been incorporated into the project, and will enhance capacity to prepare and implement the SAP.
- (2) *The Commissions have different management responsibilities.* The responsibilities of CARP concerning pollution and formulation of management plans are not as broad as those of CTMFM. This subject was analysed by both Commissions during the PDF. The Treaty foresees that other functions may be entrusted to the Commissions. For this reason, it would be feasible to bring into line the functions of both Commissions. This subject is on the agenda of CARP.
- (3) *The authorities of the countries may delay implementation of SAP actions.* The Commissions' areas of responsibility do not encompass some of the sources of pollution that are affecting the area. In such cases, the adoption of measures will require the collaboration of local, provincial, departmental, or national authorities. There are a great number of authorities involved, each with their own agenda and implementation priorities. The risk is that authorities may delay interventions aimed at addressing the recommendations generated by the project. In order to minimise it, the following actions have been incorporated:
  - (i) The Consortium has established a Project Co-ordination Committee (see implementation arrangements) for the co-ordination of activities among bi-national, national and local authorities in preparation of the TDA and the formulation, adoption and implementation of the SAP.
  - (ii) The Consortium has also established a Technical Advisory Group in order to optimise the co-ordination at the implementation level with scientific and technical organisations, the private sector and the NGOs.

- (iii) The SAP will be endorsed by the agencies represented in the Co-ordination Committee, which includes the Finance and Planning authorities of the Parties. Each authority will also endorse the action plan for its jurisdiction.
- (iv) The preparation and analysis of all project products will be made by means of open and participatory mechanisms. Inter-sectoral Working Groups will be established to guide the processes and analyse the results.
- (v) The direct participation of local governments and entities in the two countries will be actively promoted. This will contribute to the dissemination of information to a wider constituency, and placement of transboundary environmental issues on the agenda of the entities with responsibilities in the area.

(4) *Information of relevance for the Project is dispersed.* In the workshop in Mar del Plata, several Working Groups mentioned the difficulty of accessing information as a management constraint. To reduce this risk, activities to foster linkages between users of information and agencies responsible for data gathering and storage have been incorporated into the design of the project

#### **G. PRIOR OBLIGATIONS AND PREREQUISITES**

123. Prior obligations: There are no prior obligations.

124. Prerequisites:

- a) The budget of the Binational Commissions will include the contribution of the Governments of Argentina and Uruguay to cofinance the Project on a cost-sharing basis.
- b) The Governments of Argentina and Uruguay will make available to the Project the office space required for the operation of the Project Implementation Unit.
- c) The Governments will make available to the Project the equipment and other inputs listed as in-kind contributions to the Project.
- d) The Governments will make available to the Project the technical and support staff listed as in-kind contributions to the Project.

#### **H. PROJECT REVIEW, REPORTING AND EVALUATION**

125. The UNDP Office in Montevideo will be responsible for the follow up and monitoring of the project, and will organise evaluation activities. The Project Implementation Unit will prepare half-yearly reports. At the end of each year, a progress report and financial audit will be prepared, and submitted to all members of the Consortium Executive Board, Project Co-ordination Committee, UNDP and cofinancing agencies for review. Meetings will take place at least once a year to review the status of implementation.

126. At the end of year 2, a mid-term independent assessment will be made, carried out by specialists selected by UNDP-GEF. This will include: an assessment of (a) the outputs generated, (b) the processes used to generate them and (c) project impacts using indicators included in the logical framework matrix (Annex II). The review would provide recommendations to optimise project delivery. In the last year, a final independent assessment will be made, and its report will be part of the final project report.

127. Indicators developed under the log framework matrix will be used for the monitoring process. These will be developed in more detail by the Project Implementation Unit during the first semester of the project. Further indicators will be added to the monitoring system as the set of 'indicators' for international water projects is developed under output 3.4 of the project. These indicators will be developed in concert with appropriate scientific and technical institutions and government agencies in the region and in line with GEF policies. They will enable the evaluation of the short and long-term impacts of this and other related projects in the Plata/Maritime Front.

128. The follow up and evaluation of each product will be carried out as follows:

- (i).- each working team will draft a baseline report outlining the situation at the beginning of the intervention;
- (ii) the working teams will draft two reports (middle of the term and final of the term) which will be evaluated by the executing unit and outside experts. The reports will employ the indicators presented in the logical framework matrix (Annex III) in order to show the degree of advance being made in the process of attaining the specific objectives.

129. The monitoring and evaluation of the environmental management communication and dissemination activities and of the binational biodiversity strategy have some peculiarities:

- (i).- The management communication and dissemination activities will have several evaluation instances:
  - (a).- the activities aimed at increasing awareness will be executed between the first and second year and will have their own evaluation, at an intermediate stage and at the project end.
  - (b).- the implementation of the communication activities will be subject to external evaluation each semester.

Opinion surveys will be staged once a year, which will serve to monitor the penetration of the messages. The evaluation reports will be analysed together with those involved in the activities.

- (ii).- At the end of year 3, an external team will evaluate the biodiversity strategy implementation level. The reports will detail the strategy implementation level and the outcomes deriving from its implementation.

## **I. LEGAL CONTEXT**

130. The present Project Document is the instrument referred to as such in article I, paragraph 1 of the Standard Basic Assistance Agreement between the Government of the Republica Argentina and the United Nations Development Programme (UNDP), signed by the Parties on 26 February 1985 and approved by Law 23.396 of 10 October 1986; and Article 1 of the Standard Basic Assistance Agreement between the Government of the República Oriental del Uruguay and the United Nations Development Programme, signed by the Parties on 12 December 1985 and approved by Law 15957 of 2 June 1988.

131. The following types of revisions to the present Project Document may be made with the signature of the Resident Representative of UNDP only, provided that Resident Representative is assured that the other signatories of the Project Document have no objections to the proposed changes:

- a) Revisions of any of the Annexes of the Project Document or additions to them.
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the Project, but are caused by the redistribution of agreed inputs or increments in the costs.
- c) Mandatory annual revisions through which actual expenditures incurred in a calendar year are recorded and resources are transferred to future years to finance agreed costs.

## J. BUDGET

a) Budget by objectives and outputs (for details see Annex XI).

<b>Project objectives and outputs</b>	<b>GEF</b>	<b>Cofinancing</b>	<b>Total</b>
<b>Objective 1. Transboundary Diagnostic Analysis</b>			
Output 1.1. Methodol., approv. Process & coord. agreem. for TDA preparation	191,265	67,000	258,265
Output 1.2. Critical information gaps filled	1,632,921	*1,242,897	2,875,818
Output 1.3. TDA report approved and disseminated	354,737	103,705	458,442
Output 1.4. Integrated information system (IIS)	283,301	650,000	933,301
<b>Objective 2. SAP</b>			
Output 2.1. Capabilities enhanced for strategic planning	881,717	339,894	1,221,611
Output 2.2. SAP & action plans developed and approved	262,151	63,250	325,401
Output 2.3. Portfolio of projects	441,934	200,000	641,934
<b>Objective 3. Strengthen &amp; sustain SAP implementation</b>			
Output 3.1. Collaborative framework for management of transboundary problems	included in 1.1.		
Output 3.2. Enhanced capacity of Commissions & key national and local entities	836,735	200,000	1,036,735
Output 3.3. Stakeholders duly informed of issues	772,530	300,000	1,072,530
Output 3.4. International waters indicators	25,000	25,000	50,000
<b>TOTAL</b>	<b>5,682,290</b>	<b>3,191,746</b>	<b>8,874,036</b>

\*Including parallel cofinancing for the amount of US\$755.000

## b) UNDP budget

	BULI	YEARS				T O T A L	
		1999	2000	2001	2002		
<b>11-International Personnel</b>							<b>479.200</b>
Project coordinator	11.01	51.000	72.000	72.000	87.000	282.000	
Circulation model specialist	11.02	44.000	44.000			88.000	
Consultants (short term)	11.50						
TDA methodology	11.51	7.800				7.800	
TDA analysis	11.52		15.600			15.600	
GIS design & set up	11.53		7.800	7.800		15.600	
MIS design & set up	11.54		7.800	7.800		15.600	
Pollution reduction & control	11.55			7.800		7.800	
SAP methodology	11.56			7.800		7.800	
Investment portfolio	11.57				15.600	15.600	
EIA protocols	11.58			7.800		7.800	
Biodiversity strategy	11.59			7.800		7.800	
SAP analysis	11.60			7.800		7.800	
<b>17-National Personnel</b>							<b>2.312.000</b>
TDA coordinator	17.01	21.600	43.200	43.200	10.800	118.800	
Leg.Framework & inst.coop.spec.	17.02	21.600	43.200	43.200	43.200	151.200	
Information specialist	17.03	21.600	43.200	43.200	43.200	151.200	
Communication specialist	17.04	21.600	43.200	43.200	43.200	151.200	
Biodiversity specialist	17.05	21.600	43.200	43.200		108.000	
Population biology specialist	17.06	21.600	43.200	25.200		90.000	
Environmental specialist	17.07	21.600	43.200	43.200		108.000	
Sensitivity charts specialist	17.08			21.600		21.600	
Resource Management specialist	17.09			21.600		21.600	
Maritime traffic specialist	17.10			14.400		14.400	
Institutional specialist	17.11		28.800			28.800	
Social specialist	17.12		28.800			28.800	
Economist	17.13		28.800			28.800	
Pollution management specialist	17.14		21.600	28.800		50.400	
Resource economist	17.15			28.800		28.800	
EIA specialist	17.16			43.200	14.400	57.600	
Management plans specialist	17.17			32.400		32.400	
Investment specialist	17.18				43.200	43.200	
Cartographer	17.19		43.200	39.600		82.800	
Systems engineer (1)	17.20		18.000	43.200	43.200	104.400	
Systems engineer (2)	17.21			7.200	43.200	50.400	
Capacity building specialist	17.22		7.200	28.800		36.000	
TDA assistant	17.40	14.400	28.800	28.800		72.000	
Environmental assistant	17.41	14.400	28.800	28.800		72.000	
Fisheries specialist	17.42			14.400		14.400	
Legal specialist	17.43		28.800	28.800	2.400	60.000	
Pollution specialist	17.44		14.400	19.200		33.600	
EIA assistant	17.45			28.800	9.600	38.400	
Information assistant (1)	17.46	14.400	28.800	28.800	28.800	100.800	
Information assistant (2)	17.47	14.400	28.800	12.000		55.200	
Communications assistant	17.48	14.400	28.800	28.800	24.000	96.000	
Biodiversity assistant	17.60		9.600			9.600	
Population biology assistant	17.61		9.600			9.600	

	BULI	YEARS				T O T A L
		1999	2000	2001	2002	
Digitiser (1)	17.62		4.800	9.600	4.000	18.400
Digitiser (2)	17.63		4.800	9.600	4.000	18.400
Circulation specialist	17.81	6.000	12.000			18.000
Circulation specialist (Argentina-1)	17.82	3.600	21.600	18.000		43.200
Circulation specialist (Argentina-2)	17.83	3.600	21.600	18.000		43.200
Circulation specialist (Uruguay-1)	17.84	3.000	18.000	15.000		36.000
Circulation specialist (Uruguay-2)	17.85	3.000	18.000	15.000		36.000
Circulation specialist (assistant 1)	17.86		14.400			14.400
Circulation specialist (assistant 2)	17.87		14.400			14.400
<b>13-Support Personnel</b>						<b>328.800</b>
Administrative assistant	13.01	21.600	21.600	21.600	21.600	86.400
Executive secretary	13.02	21.600	21.600	21.600	21.600	86.400
Secretaries	13.03	12.000	48.000	60.000	36.000	156.000
<b>15-Local Travel</b>						<b>14.000</b>
Tickets	15.01	2.000	2.000	2.000	2.000	8.000
Per diem	15.02	1.500	1.500	1.500	1.500	6.000
<b>16-International Travel</b>						<b>325.000</b>
International tickets	16.01	20.000	25.000	25.000	25.000	95.000
Per diem	16.02	10.000	70.000	70.000	70.000	220.000
Local tickets	16.03	1.000	3.000	3.000	3.000	10.000
<b>20-Subcontracts</b>						<b>3.125.000</b>
Communication strategy and events	21.01	150.000	220.000	220.000	150.000	740.000
Information system and computing	22.01	25.000	50.000	10.000		85.000
<b>23-Legal, econom. &amp; social studies</b>						
Legal situation & root causes	23.01		25.000			25.000
Economic situation & root causes	23.02		25.000			25.000
Social situation & root causes	23.03		25.000			25.000
Institutional situation & root causes	23.04		25.000			25.000
Institutional assessment	23.05			50.000		50.000
<b>24-Technical and scientific studies</b>						
Circulation patterns	24.01		30.000			30.000
Water pollution	24.02		300.000			300.000
Sediment pollution	24.03		200.000			200.000
Pollution by hazardous residues	24.04		60.000			60.000
River and marine biodiversity	24.05		300.000			300.000
Introduction of exotic species	24.06		20.000			20.000
Population biology of fisheries reso	24.07		200.000			200.000
Pollutants accumulation in trophic	24.08		80.000			80.000
<b>25-Strategies &amp; management plans</b>						
Pollution reduction & control	25.01		25.000	50.000	25.000	100.000
Economic & financial instruments	25.02			75.000	25.000	100.000
Binational EIA protocols	25.03			75.000	25.000	100.000
Binational Biodiversity strategy	25.04			75.000	25.000	100.000
<b>26-Prep. of investment portfolio</b>						
Preparation of investment portfolio	26.01			60.000	200.000	260.000
<b>27-Monitoring and evaluation</b>						
Project assessment	27.01		100.000		100.000	200.000
Communication strategy	27.02	20.000	20.000	20.000	20.000	80.000
International waters indicators	27.03		20.000			20.000

	BULI	YEARS				T O T A L	
		1999	2000	2001	2002		
<b>30-Training and meetings</b>							<b>500.000</b>
Group training	32.01			180.000		180.000	
In service training	33.01		50.000	20.000		70.000	
Seminars and workshops	34.01	20.000	70.000	100.000	60.000	250.000	
<b>45-Equipment</b>							<b>455.500</b>
Circulation pattern	45.01		179.000			179.000	
GIS	45.02		55.000			55.000	
MIS	45.03		53.000			53.000	
VCI	45.04		34.000			34.000	
Office equipment	45.05	82.500	36.000	16.000		134.500	
<b>50-Sundries</b>							<b>279.448</b>
Reports and publications	52.01		26.425	50.000	50.000	100.000	
Sundries	53.01	35.448	48.000	48.000	48.000	179.448	
<b>54-UNDP Support</b>	54.00	26.875	119.165	79.727	47.898	273.663	<b>273.663</b>
<b>99-TOTAL BUDGET</b>	99.00						<b>8.119.036</b>

<b>101-Government Cost-Sharing</b>							<b>800.000</b>
Government of Argentina	101.01					400.000	
Government of Uruguay	101.02					400.000	
<b>102-IADB Cost-Sharing</b>							<b>400.000</b>
IADB Cost-Sharing	102.01					400.000	
<b>103-Third party Cost-Sharing</b>							<b>1.236.746</b>
Hamburg Univ./BMBF	103.01					200.000	
Dalhousie Univ./CIDA	103.02					200.000	
IFREMER	103.03					250.000	
IUCN	103.04					200.000	
IDRC	103.05					40.000	
Private Sector / Others	103.06					346.746	
<b>109-TOTAL COST-SHARING</b>							<b>2.436.746</b>
<b>999-NET TOTAL (GEF Contrib.)</b>							<b>5.682.290</b>



c) Parallel cofinancing budget

<b>EQUIPMENT</b>	<b>TOTAL</b>
Circulation pattern sensors (Buoys, meteorological stations on buoys, current meters, mareograph)	US\$755.000
<b>TOTAL</b>	<b>US\$755.000</b>

d) In-kind contributions to the Project

<b>CONTRIBUTION</b>	<b>US DOLLARS</b>
National Personnel	
<input type="checkbox"/> Scientists, technicians and support staff from INIDEP, INAPE, SOHMA and SHN.	403262
<input type="checkbox"/> Managerial, technical and support staff from CARP and CTMFM.	
Office space for the Project Implementation Unit	240000
Infrastructure	
<input type="checkbox"/> Equipped laboratories in INIDEP, INAPE, SOHMA, SHN, UMP, UR and UP.	508000
<input type="checkbox"/> Equipped research vessels of INIDEP, INAPE, SOHMA and SHN.	
<input type="checkbox"/> Computer networks in CARP and CTMFM	
Subcontracts	
<input type="checkbox"/> Communication strategy, Municipalities, governmental organisations and NGOs of both countries.	416738
<b>TOTAL</b>	<b>1568000</b>

## **ANNEXES**

Annex I. Work plan

Annex II. Logical Framework Matrix

Annex III. Schedule for project review and reporting

Annex IV. Personnel required by the project

Annex V. Job Descriptions

Annex VI. Project coordinator terms of reference

Annex VII. Subcontracts and cooperation agreements

Annex VIII. Equipment requirements

Annex IX. Incremental Cost Analysis

Annex X. Root Cause Analysis

Annex XI. Budget

Annex XII. Other information

Annex XII-1. Actors

Annex XII-2. Treaty of the Rio de la Plata and its Maritime Front

Annex XII-3. Project area

Annex XII-4. La Plata basin

Annex XII-5. Large marine ecosystem

Annex XII-6. Zones of the Rio de la Plata

Annex XII-7. Navigation channels of the Rio de la Plata

Annex XII-8. List of marine mammals

Annex XII-9. Project team structure

Annex XII-10. SWOT analysis

Annex XII-11. International conventions

Annex XII-12. Suggested arrangements for buoys

Annex XII-13. PDF studies (english summaries)

Annex XII-14. Report of Piriapolis workshop

Annex XII-15. Report of Mar del Plata workshop