



**Chapter 5**  
**The Action Plan for River Dolphins**  
**in South America**



## The Action Plan for River Dolphins in South America

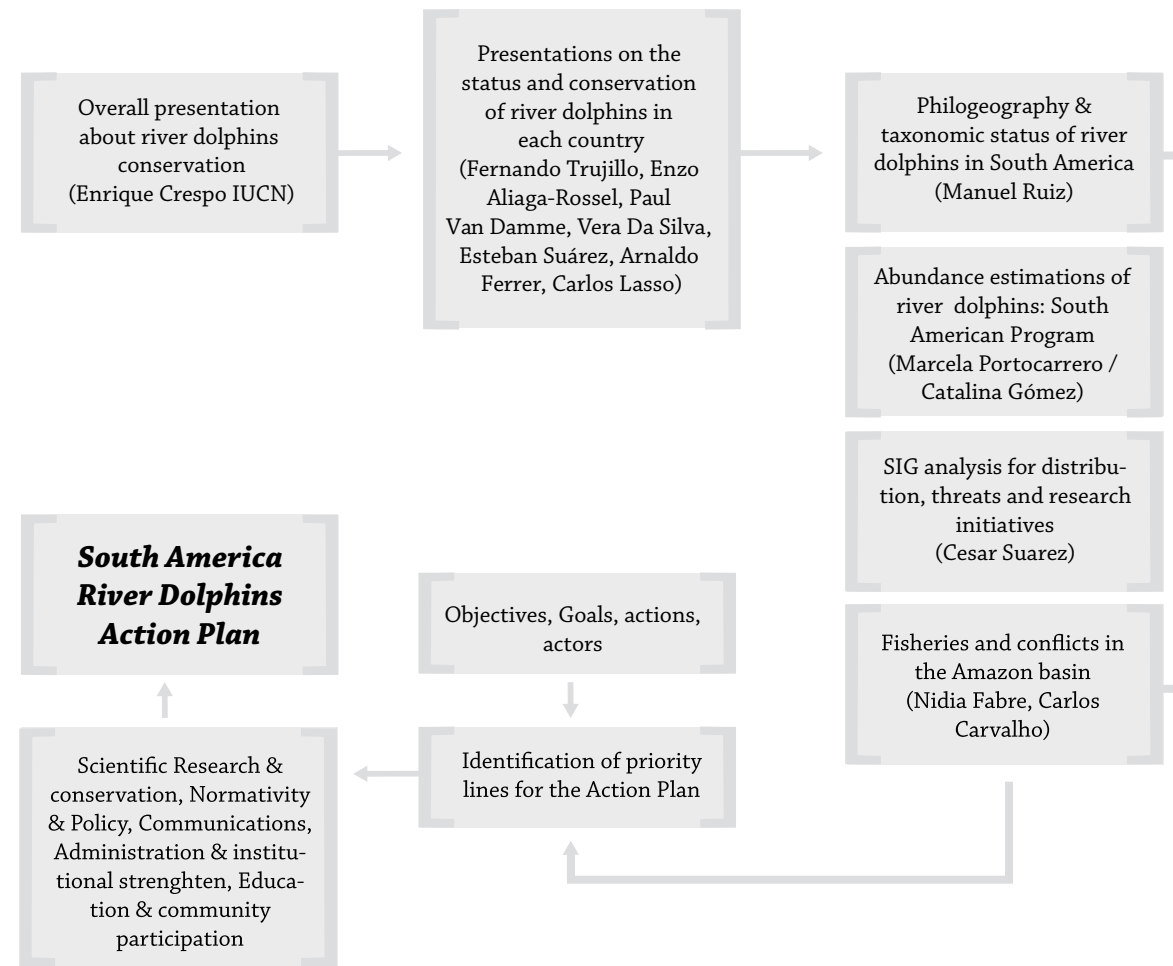
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To build the action plan, an international workshop was carried out at the city of Santa Cruz de La Sierra, Bolivia between the 21 and 23th of April 2008. Approximately 42 researchers and representatives from Governments of nine countries actively participated in the workshop. Initially, Dr. Enrique Crespo, Chairman of the Cetacean Specialist Group of the IUCN for Latinamerica presented an overview of the status of river dolphins. Following this, each country (Venezuela, Colombia, Ecuador, Peru, Bolivia and Brazil) made presentations of the status and conservations of theses species. Additionally, four presentations were made by experts on phylogeography and taxonomic status of river

dolphins, Geographic Information System analysis of distribution, threats and research initiatives, Abundance estimation and, fisheries and conflicts in the Amazon River Basin.

After the background about river dolphins and their habitats, working groups were established to identify objectives and goals for five strategic lines (Figure 20):

- Scientific Research and Conservation
- Legislation and Policy
- Communications
- Administration and Institutional strengthening
- Education and community participation



**Figure 20.** Formulation of the Action Plan for River Dolphins in South America.

**Level of priority to conduct the actions proposed in every Strategic Line**

<b>Priority</b>	
Very high priority	
High priority	
Medium priority	
Low Priority	

**Table 33.** Strategic line 1. Scientific research and monitoring.

To create and consolidate scientific knowledge to conserve and manage the populations of river dolphins and their ecosystems in South America.

Goals	Strategic goals	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia	Level of priority		
To plan and conduct research contributing to the conservation of river dolphins	<b>Fisheries and river dolphins</b>	Identification of geographic areas where interactions occur							5		
		Identification and analysis of different types of human-dolphin interactions							5		
		Development of a conceptual model of human-dolphin interaction							1		
	<b>Taxonomy and genetics</b>	Definition of molecular taxonomy of <i>Inia</i> (Upper Orinoco, Tocantins)	Definition of molecular taxonomy of <i>Inia</i> (Madeira)							3	
			Evaluation of molecular taxonomy of <i>Sotalia</i> (Amazon Delta, River Orinoco)							1	
		Population genetics of river dolphins at fine geographic scale (Ecuador, upper Caquetá-Japurá, Tapajós, Irénez)	Population genetics of river dolphins at fine geographic scale (Ecuador, upper Caquetá-Japurá, Tapajós, Irénez)								3

Goals	Strategic goals	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia	Level of priority	
To plan and conduct research contributing to the conservation of river dolphins	<b>Population dynamics</b>	Relative abundance estimations							6	
		Estimation of population parameters of river dolphins							4	
		Study of river dolphin population structure							4	
	<b>Evaluation of trophic ecology and limnology</b>	Evaluation of fish community structure, fish population dynamics and (or) and specific fish stocks in key areas								3
		Feeding ecology of dolphins using isotopes								1
		Development of trophic models in key areas								1
	<b>Ecosystem alterations and habitat loss</b>	Assessment of boat traffic effects on river dolphins								3
		Evaluation of changes in fluvial dynamics and its effect on river dolphins and fish								2
		Biomagnification and bioaccumulation of pollutants								3
		Water quality evaluation (continuous sampling)								1
		Habitat loss evaluation focused on deforestation, mining and agroforestry								2
		Evaluation of the impact of habitat loss on river biodiversity								2

Goals	Strategic goals	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia	Level of priority	
To plan and conduct research contributing to the conservation of river dolphins	<b>Ecosystem alterations and habitat loss</b>	Effects of global climatic changes on Amazonian aquatic ecosystems and on traditional local communities							3	
		Efficiency of river dolphins as bio-indicators							2	
		Impact of cultural and social changes on the perception about freshwater biodiversity use and conservation							3	
To implement at least one conservation program in each country according their respective research priorities	<b>Local knowledge</b>	Evaluate the influence and effect of the implementation of sustainable economic alternatives on social, economic and environmental dynamics							2	
		To study sustainable economic alternatives with local communities (craft carving, tourism)							2	
	<b>Responsible tourism</b>	To set up, implement and encourage responsible dolphin watching programs								3
		Evaluation of social and economic benefits of responsible tourism								2
		Collection of a data base on experiences with responsible tourism							1	

Goals	Strategic goals	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia	Level of priority
To implement at least one conservation program in each country according their respective research priorities	<b>Geographic Information System</b>	Identification of priority areas for research and conservation							3
		Population viability analysis (PVA)							1
	<b>Environmental modeling</b>	Tropho-dynamic models							1
		Fishery management plans in key areas for river dolphins							4
	<b>Fisheries management</b>	Regulation/ban mota fishery							4
		Development of alternative baits for the mota fishery							2
		Development of alternative fishing techniques with low or no interaction with dolphins							1
		Development of an aquaculture program for the mota fish in geographic areas with conflicts							3
		Co-management of lakes and river ecosystems							1
		Evaluation of river dolphin populations in habitats with different degrees of alteration (mining, dams, water ways)							2
	<b>Impact of human activities on aquatic ecosystems</b>	Ecosystem restoration in priority areas for conservation							1
		Inclusion of river dolphins in environmental impact studies							4

**Table 34.** Strategic line 2. Legislation and policy.

To establish and to consolidate a regional policy for the conservation of the species and their ecosystems, harmonizing legal instruments and frameworks from each country.

Goals	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To improve protective legislation in each country taking into account the regional legal frameworks	<b>Articulation of regional policies and enforcement of international agreements about aquatic ecosystems, endangered species and freshwater resources.</b>	Workshops and technical-political national and bilateral meetings						
		Binational agendas. The application of the Convention on Biological Diversity (CBD), OTCA, CMS to solve specific problems such as the mota fishery and the mercury effect						
To improve legislative in each country taking into account the regional legal frameworks	<b>Formulation of national plans for the conservation of river dolphin or the inclusion of the species within freshwater management plans</b>	Evaluation of demands and possibilities to articulate legal instruments for border areas						
		Articulation of national policies and agreements in border areas						
		Sistemization and comparison of legal instruments specially fisheries legislation						
		To include river dolphins in the terms of references for the design and implementation of management Plans in Protected areas						



Goals	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To improve protective legislation in each country taking into account the regional legal frameworks	Formulation of national plans for the conservation of river dolphin or the inclusion of the species within freshwater management plans	Inclusion of river dolphins in the reference terms of the Ministry of Environment - MAVDT, Action Plans for River Dolphins						
		To include river dolphins in environmental impact assessments for development projects (hydrocarbons, hydroways, so on)						
To improve and support the Agencies in charge of the enforcement of environmental policies to assist them to accomplish their functions properly.	Update, control and enforcement of legal frameworks (Freshwater ecosystems and resources)	To include river dolphins in Fisheries agreements and Plans						
		National Action Plan for River Dolphins Conservation. Tri-Annual Regional Action Plans (Environmental Authorities)						
		To submit legislation and legal instruments to the government, parliament and Ministry authorities						



Goals	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia	
To improve and support the Agencies in charge of the enforcement of environmental policies to assist them to accomplish their functions properly.	Update, control and enforcement of legal frameworks (Freshwater ecosystems and resources)	Update and modification of the legal and legislative framework in each country, according to regional conservation priorities of river dolphins and their ecosystems.							
		Analysis of the legal frameworks in each country and of the signed International Agreements .							
		National Policy on Wetlands, Tri-Annual Action Plans of the Environmental Authorities, Departmental Land Use Plans.							
		To strengthen environmental entities (environmental nurseries)							
		Expansion of actions of control and surveillance							
		To strengthen public instruments for law enforcement, legislation, disclosure and education							

Goals	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To improve and support the Agencies in charge of the enforcement of environmental policies to assist them to accomplish their functions properly.	Update, control and enforcement of legal frameworks (Freshwater ecosystems and resources)	To implement legislation and law enforcement in each country Modification of legislation of EIA studies To strengthen public instruments for law enforcement, legislation, publicity and education						
	Stakeholders Network improvement	Meetings and Workshops with administrative entities (National Natural parks - Inparques) To present scientific arguments to PRODUCE and INRENA to include them within Management Plans for Protected Areas. To check and set up Management Plans in collaboration with the CMA and technicians Workshops with the Fisheries Authority - ICA and fishermen's associations. To participate in workshops and meetings on fisheries and aquaculture.						

Goals	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To improve and support the Agencies in charge of the enforcement of environmental policies to assist them to accomplish their functions properly.	Stakeholders Network improvement	Meetings between Enterprises and the Ministry of Environment. CMA participation in the formulation of reference terms, roles, definition, etc						
	Strengthen connections between countries within South America and with Asia	Multilateral meetings among south american and asian countries Workshops with the public administrators, strengthening existing agreements To subscribe and adhere to international agreements and regional treaties that promote the conservation of river dolphins To work together in the acquisition of funding for river dolphins conservation						

**Table 35.** Strategic line 3. Communications.

For 2012, the communication strategy of river dolphin conservation will be through a regional network and will position the river dolphin as an emblematic species and thus diminish their threats through the education of the public opinion and decision makers.

Goal	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To improve methods of communication and the dissemination of information among researchers and the general public	<b>Strengthening of lines of communication and the diffusion of information</b>	To develop a communication strategy for the conservation of river dolphins and an inter-institutional plan for its implementation						
		Distribution of the results of scientific investigations involving tourism enterprises						
		Diffusion of the economic benefits from tourism activities using dolphins as an attraction.						
		To encourage local participants to feel closer to the resource						
		To create a network to share available information about this topic, and to select a network manager						
		Discussion groups, frequent progress reports						
		To create inter-institutional forums to socialize and share experiences, data bases and to collaborate in management strategies						



Goal	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To improve methods of communication and the dissemination of information among researchers and the general public	<b>Strengthening of lines of communication and the diffusion of information</b>	To develop mechanisms of communication between involved institutions.						
		Campaigns to prize the dolphin as a tourist attraction						
		To produce didactic material for public discussion						
To involve the general public in the conservation of river dolphins and their habitats	<b>Use of communication strategies to allow the general public to get closer to the river dolphins and their habitats</b>	Implementation of interpretative centers, fairs and workshops						
		To plan trips for journalists to areas of distribution of dolphins and educate them about their biology and conservation						
		To generate synergies for the development of publicity campaigns. Ex. The Week of the Dolphin or the International Day of Freshwater cetaceans						
		Publicity campaigns to the general population about the dolphin as a flagship species						

Goal	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To involve the general public in the conservation of river dolphins and their habitats	<p><b>Use of communication strategies to allow the general public to get closer to the river dolphins and their habitats</b></p>	Publication of educational brochures, radio programs, fairs, workshops to involve local participants in conservation strategies.						
		<p>To develop promotional material to support project presentations about dolphin conservation in their areas of distribution</p> <p>To develop regional and local campaigns about indirect threats: fisheries, mining, oil, agrochemical pollution, industrial wastes, deforestation, and infrastructure developments</p>						
To find support in the media for the conservation work in order to diminish threats to the species and their habitats	<p><b>Communication as a tool to diminish threats</b></p>	To develop regional and local campaigns about direct impacts such as incidental catches, negative interaction with fisheries, use of dolphins as bait, and navigation						
		Organization of excursions for current and potential donors						
	<p><b>Fundraising</b></p>	To use media strategies to get funding for the species						

**Table 36.** Strategic line 4. Administration and institutional strengthening.

To constitute an integrated and transnational administration system for the conservation of aquatic ecosystems, considering river dolphins as flagship species and contemplating strategies for the strengthening of stakeholders involved in the conservation and use of aquatic resources.

Goal	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To improve the administration of financial resources, especially directed at river dolphins	<p><b>Improvement of the administration of fund</b></p>	To articulate within the framework of international convention agreements (CMS, OTCA, CBD, etc.) the approval of the present Action Plan						
		<p>To create a regional fund to support conservation initiatives aiming at the protection of river dolphins</p> <p>To systematize projects and funded programs</p>						
To strengthen stakeholders in conducting and managing programs and conservation projects at a local level	<p><b>Bring together decision makers and local stakeholders, focusing on freshwater resource users</b></p>	To inform and educate the general public on the importance of river dolphin conservation						
		Building local and governmental capacity						
		To identify leaders in each country to influence conservation policies						
		To integrate the private sector in management strategies (ecotourism, industry, enterprises)						

Goal	Strategic lines	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To strengthen stakeholders in conducting and managing programs and conservation projects at a local level	<b>Bring together decision makers and local stakeholders, focusing on freshwater resource users</b>	To identify and map co-management strategies						
To create tools to improve administration and management at a continental and national level	<b>Integrate conservation strategies among research teams in different South American countries</b>	Regional GIS, bank of projects Participative instruments of integrated use, using river dolphins as a flagship migratory species						
To share management experiences and public policies between the countries involved.	<b>Involvement and inclusion of international experiences</b>	To integrate National Action Plans Binational, transnational and intercontinental meetings to present lessons learned, progress evaluation and to discuss indicators						

**Table 37.** Strategic line 5. Education and community participation.

To change attitudes towards the conservation of the river dolphins and the aquatic ecosystems, through environmental education and the promotion of effective community participation in sustainable management initiatives that guarantee collective benefits.

Goals	Strategiese	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To promote and strengthen environmental education programs for the conservation of river dolphins according to the needs and problems in each country	<b>Improvement of current and proposed educational programs</b>	To diagnose the current educational programs and perceptions of local people about the species and their ecosystems in their area of distribution						
		To conduct training workshops related to aquatic ecosystems and river dolphins, especially for people interested in environmental education and school teachers in the region						
		To create and maintain a supporting network among countries in order to share experiences, technology and information about the species and their ecosystem						
		To construct environmental interpretation centers to strengthen current knowledge in countries where actual and potential conservation problems exist						

Goals	Strategiese	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To promote and strengthen environmental education programs for the conservation of river dolphins according to the needs and problems in each country	<b>Improvement of current and proposed educational programs</b>	To start initiatives that validate cultural traditions and knowledge related to the proper use of aquatic resources						
To involve local communities in the development and implementation of strategies for conservation of river dolphins	<b>Working together with local communities to strengthen educational strategies</b>	To establish environmental education strategies with the natives for each locale  To inform and promote any initiative that directly involves local communities and their territory  To strengthen the capacity among local people to monitor and control the species and their ecosystems  To support common initiatives to mitigate problems associated with the conservation of river dolphins and their ecosystems						



Goals	Strategiese	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To involve local communities in the development and implementation of strategies for conservation of river dolphins	<b>Working together with local communities to strengthen educational strategies</b>	To implement environmental education projects linked to community development processes and productive initiatives (tourism, handicrafts, food processing, etc)  To identify institutions that are currently conducting operations to protect river dolphins and their ecosystems and to involve them in the strategy						
To guarantee the participation of governmental and non-governmental institutions in programs of conservation for river dolphins	<b>Involvement of all stakeholders in educational programs</b>	To engage the participation of the Government (Environmental and Agriculture ministries, national parks, etc) in the construction and implementation of conservation strategies						
To ensure that educational programs and community participation have financial sustainability and appropriate personnel at least until 2020	<b>Funding</b>	To identify potential and actual sources of funding to ensure the continuation of the environmental education strategy.						



Goals	Strategiese	Priority Actions	Venezuela	Peru	Colombia	Ecuador	Brazil	Bolivia
To ensure that educational programs and community participation have financial sustainability and appropriate personnel at least until 2020	<b>Funding</b>	To identify professional and volunteering personnel to ensure the continuity of the environmental education strategy						
		To initiate publicity campaigns and international promotion emphasizing the importance of the species and their ecosystem to get financial help						
		To identify an image and slogan to strengthen the conservation strategy at the national and international level and to procure financial and personnel resources						