

# International Assistance Request

ref: 2191

## Training Program about Biology, Fisheries and Conservation of Pelagic Fishes that live or visit the Cocos Island National Park

### Summary

**State Party:** Costa Rica  
**Properties:** Cocos Island National Park  
**Type of Assistance:** Natural / Conservation  
**Modality:** Training  
**World Bank:** UMIC  
**Reference:** 2191

### Process Steps

- ✓ Submitted on Oct 14, 2010
- ✓ Approval by Chairperson on Jun 13, 2011 (*decision was delayed pending the payment of dues to the World Heritage Fund*)

### 1. State Party

Costa Rica

### 2. Title of project

Training Program about Biology, Fisheries and Conservation of Pelagic Fishes that live or visit the Cocos Island National Park

### 3. Type of assistance

	Emergency assistance	Preparatory assistance	Conservation and management
<b>Culture</b>			
<b>Nature</b>			✓
<b>Mixed</b>			

### 4. Project location

#### a) Will the project be implemented at a World Heritage property?

- Yes  
 No

- Cocos Island National Park

#### b) Will the project include a field component?

- Yes  
 No

### Where and how?

The training program includes a field component, its objective is to put in practice the information learned during the theory modules. The field component will be carried out during the patrol controls at the 12 miles of the Marine Protected Area (MPA) of the Cocos Island National Park (PNIC). In this way, we want to elaborate a new field protocol that maximizes the resources of the PNIC and, at the same time it could bring basic information about relative abundance and species richness found in the seizing.

**c) If the project is being implemented at a World Heritage property, indicate whether it will also benefit other World Heritage properties, and if so, which ones and how?**

- Galápagos Islands
- Coiba National Park and its Special Zone of Marine Protection
- Malpelo Fauna and Flora Sanctuary

This program will improve the conservation of pelagic species that live or visit the Coco's Island's waters through the training of PNIC's rangers in biology, ecology and data collection of species found during the seizing. If we will improve the conservation of pelagic and migratory species like sharks, tunas, marine turtles, etc. at the PNIC, we will make a direct benefit into others oceanic islands of the region, that also are Heritage Sites, Galapagos, Malpelo and Coiba. In fact, it was proved that these species (hammerhead sharks, leatherback turtle) migrate between oceanic islands through marine corridors.

#### **5. Timeframe for the implementation of the project**

Start date: October 1, 2010

End date: September 30, 2011

Duration: 12 months

#### **6. The project is:**

- Local
- National
- Subregional
- Regional
- International

#### **7. Justification of the project**

##### **a) Explain why this project is needed.**

The Coco's Island National Park (PNIC) was declared Heritage Site in 1997, the Committee justified its decision by the critical habitats that the Island has for the marine life, especially for the pelagic species, like sharks. Actually, the PNIC is famous in the whole world for big congregations of hammerhead sharks (*Sphyrna lewini*), white tip sharks (*Triaenodon obesus*) and black tip sharks (*Carcharhinus limbatus*). Besides, the Island's waters are visited constantly by others migratory species like tunas (*Scombridae*) and marlins (*Isthiophoridae*).

This richness not only attracts marine life, in fact the Island's waters are constantly visited by illegal fisheries boats, national and international, that operate inside the MPA of the PNIC; this situation is considered one of the greatest threats to the integrity of the World Heritage Site (ACMIC 2006). This circumstance is a consequence of the drastic decline of important commercial pelagic species in the Pacific waters, like mahi mahi, tunas and sharks (Onca Natural y ACMIC, 2007). In order to mitigate this problem, the PNIC invests human and economic resources in the protection and control of MPA, conducting daily surveillance patrols. During these patrols the rangers could find sharks, turtles, marlins, and others species caught by the equipment of the illegal vessels.

Nowadays the rangers register some basic data related to the patrols, seizing and finds, nevertheless they are not trained to include in their tasks the recollection of technical information of the fishing boats and of the biological data of the pelagic species found.

In addition, this task is impeded since less than 10 % of the rangers have university studies in the field of the biology, which evidently is a human insufficient resource to carry out technical activities for research and scientific monitoring. As the Management Plan of the Coco's Island National Park (2007) indicates, rangers' training is poor; this impacts negatively in the professional development of the personnel on different topics.

The Periodic Report of the implementation of the World Heritage Convention (ACMIC

2006) and the Management Plan of the PNIC (Onca Natural and ACMIC 2007), indicate that a training program over several fields, such as biology, conservation, research and biological monitoring, is urgently needed.

Besides, the Management Plan of the PNIC (2007) indicates that the Management Program of the Natural and Cultural Resources must develop activities in order to increase the scientific knowledge about the processes and situations of the natural resources present in the Park, indicating among them the status of the pelagic species endangered by illegal fishery (Onca Natural y ACMIC, 2007).

Based on the urgency of having more rangers trained in patrol task, this project aims to broaden the skills of the PNIC rangers on basic aspects of biology and the conservation of the pelagic species, that live or visit the MPA of the PNIC. At the same time, it aims to train the PNIC's rangers in the recollection of biological data in order to obtain baseline data on the richness and abundance of pelagic species related to illegal fishery.

This aim will be reached only through a participative and long term process of training. In order to guarantee the success during this project, we will have the technical assistance of marine biologist specialized in the identification and the ecology of pelagic species, and with a wide experience on the recollection of biological data on board fishery vessels. In this way, the project will provide ongoing support to the rangers during seizing and findings from illegal fishery. The technical information recollected would be extremely valuable for PNIC because, as the Management Plan of the Coco's Island National Park (2007) noted, generally there is no consistent information on marine species present in the MPA, and the few investigations that have been carried out are little known by the personnel; most of them have been developed even without a correct control (Onca Natural y ACMIC, 2007).

This project responds to the Global Training Strategy for World Cultural and Natural Heritage adopted by the World Heritage Committee at its 25th session (Helsinki, Finland, 2001), that recognized the high level of skills and multidisciplinary approach necessary for the protection, conservation, and presentation of the Site Heritage. In addition, this project responds to the 22th Article of the World Heritage Convention, where it indicates that the International Assistance could consider to fund scientific and technical projects that aim to the conservation and protection of the World Heritage; and to the Decision 30 COM 14A (distribution of International Assistance's funds) where is enunciated that in the category of Conservation and Management are included training program, research and education projects.

In fact, this project provides technical training to the rangers in order to conduct basic scientific research that will be a valuable tool to promote the conservation of the Heritage Site. Furthermore, it aims to educate the rangers on basic aspects of biology and conservation of the pelagic species, which they protect every day.

With the accomplishment of this project, we expect to obtain concrete results, which improve the researches and the conservation of the pelagic species in the Coco's Island National Park. Among the first results we expect to elaborate and to print an impermeable guide for the identification of pelagic species present in the MPA of the PNIC. This guide would be used by the rangers during the patrols to scientifically classify the organisms found in the illegal fishing vessels.

During the project, we will realize 4 training activities in the PNIC where we want to reach, through talks, workshops and field practices, the following results:

- a) Rangers training on the identification of pelagic species and on the biological data taking
- b) Personals educating on basic aspects of the biology and conservation of pelagic species
- c) Develop with the rangers an effective protocol for the biological data taking during the patrols.

Therefore, at the end of the project we expect to have memories from the training activities and a protocol for the biological data taking, whose efficiency will be previously

proved in the field. Finally, the biologists (the experts) will analyze the data collected during the year and they will elaborate a final report with technical information and recommendations for management of the PNIC. At the same time, the technical data collected during the patrols will become the baseline data to estimate the abundance and richness of the pelagic species more common in the MPA of the PNIC.

During the first three months of the project the biologists (experts) will develop a training guide for the identification of the most common pelagic species in the PNIC. In order to accomplish this objective, the experts will elaborate easy to use dichotomous keys, with the merging of information present in different taxonomic guides of pelagic fishes. The designs of the pelagic species will be elaborated by professional (possibly Sr. XXX). During the first months of the project, the experts will travel to the PNIC for the first training activity where they will present the module I of the course, and they will develop with the rangers of the PNIC the first draft of the protocol for the biological taking data. We expect that during the project the experts will travel 4 times to the PNIC; in each trip they will develop a different module of the course. At the same time, to support the rangers in this training process and to ensure the implementation of the protocol for the data collection, a professional will provide technical assistance in the PNIC during the project. Finally, the experts will analyze the information collected and will elaborate a technical report with possible suggestions for the management and research in the PNIC.

**b) List all supporting documents submitted, if applicable.**

**8. For emergency assistance only**

**a) Describe the actual or potential threat/danger affecting the property**

N/A

**b) Indicate how it might affect the property's Outstanding Universal Value**

N/A

**c) Explain how the proposed project will address the threat/danger**

N/A

**9. Objectives of the project**

1. To elaborate an identification guide of the pelagic species that inhabit or visit the MPA of the PNIC
2. To train the PNIC's personnel on the identification, biology conservation and biology monitoring of the pelagic species that inhabit or visit the MPA of the PNIC
3. To elaborate a protocol for the biological taking data of the species found during seizing and finds of the illegal vessels
4. To analyze the data collected during the seizing and finds in order to estimate fishery and biological parameters that bring baseline information for the most common pelagic species in the PNIC's waters.
5. To recommend management strategies and researches that improve the conservation of pelagic species in the PNIC's waters and other oceanic islands of the Eastern Pacific

**10. Expected results**

Clearly state the **results** expected from the project and define the **indicators** and **means of verification** which can be used to assess the achievements of these results

<b>Expected results</b>	<b>Indicators</b>	<b>Means of verification</b>
1. Identification guide of	Elaboration of the	100 copies of the

Expected results	Indicators	Means of verification
pelagic species printed	identification guide of pelagic species	waterproof identification guide of pelagic species
2. PNIC's rangers trained on the identification, biology and conservation of the pelagic species that live or visit Cocos Island	4 Training activities (talks, workshops and practices)	4 Memories of the training activities, with the list of participants
3. Protocol of the biological taking data implemented during the seizing and finds of the illegal fishery vessels in the PNIC	Elaboration of the protocol and tests of implementation, evaluating its efficiency in the biological taking data	Final protocol of the biological taking data proved and implemented by the PNIC's rangers
4. Technical information from seizing and finds during the project analyzed	Analysis of the technical information of the pelagic species	Final Report - Analysis of data on pelagic species and suggestions for conservation and research projects

## 11. Work plan

Activities	Time Frame (in month)											
	Year 1											
Months	1	2	3	4	5	6	7	8	9	10	11	12
Searching for bibliographic information on pelagic species in the PNIC	✓											
Elaboration of identification guide's technical paper	✓	✓										
Implementation Module 1 - Classification and biological richness of pelagic species (fish, sharks, rays and turtles) - Morphology and physiology of the most common organisms in the pelagic waters of the PNIC - Training activities for the identification and biological data collection	✓	✓										
Workshop to prepare the first draft of the biological taking data protocol	✓	✓										
Technical assistance for the protocol implementation in the PNIC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Elaboration of the designs for the identification guide		✓										
Field tests to evaluate the efficiency of the biological taking data protocol		✓	✓	✓	✓	✓	✓	✓				
Modifications to the biological taking data protocol		✓	✓	✓	✓	✓						
Printing of the identification guides			✓	✓								
Implementation Module II: - Delivery of the identification guides of the most common pelagic species in the MPA of the PNIC - Reproductive Biology: Reproduction strategies of pelagic species - Field Practice: Technical key used for the classification of maturity stages.				✓	✓							

Activities	Time Frame (in month)											
	Year 1											
Months	1	2	3	4	5	6	7	8	9	10	11	12
Analysis and interpretation of technical information collected during the project						✓	✓	✓	✓	✓	✓	
Implementation Module III: - Alimentation of pelagic organisms. - Morphological differences related to feeding strategies of pelagic organisms. - Field Practice: Feeding strategies and their relationship with the habitat								✓				
Implementation Module IV: - Pelagic fisheries - Impacts of fisheries on stocks of large pelagic species - Current status of major pelagic species stocks - Strategies for the marine pelagic fauna conservation.										✓	✓	
Final report elaboration for the PNIC											✓	✓

## 12. Evaluation and reporting

The evaluation will be conducted by the Technical Committee of the ACMIC and its director. The final report will be prepared by the experts responsible for the training program implementation.

## 13. Profiles of specialists, trainers, technicians and/or skilled labour, if the project foresees the participation of such people

The experts should be professional trained in marine biology with a wide knowledge on longline fisheries that take place in the Exclusive Economic Zone of Costa Rica. In addition, they must have recently worked in research of biological and fisheries projects, identifying pelagic species and analyzing biological-fishery parameters, such as reproduction, feeding, abundance indices, among others. They must also be capable to analyze databases, use statistical packages and elaborate report.

XXX is biologist with emphasis in marine biology of the Universidad Nacional de Costa Rica and Licenciado in Marine and Freshwater Management, Universidad Nacional de Costa Rica. For the last ten years, he has been working in fishery research projects in Costa Rica. He has collaborated with the Universidad Nacional and with Costa Rican organizations in marine investigation projects. During the last 4 years he was collaborated with Pretoma, a Costa Rican ONG, as Marine Research Department Coordinator, where he was involved in different projects, analyzing the catch and bycatch (turtles, sharks and rays) of longline vessels of mahi mahi fishery in the Exclusive Economic Zone of Costa Rica. Nowadays he is the co-founder of Mision Tiburon, a Costa Rican non-profit organization.

XXX is biologist with emphasis on marine and freshwater biology of the Universidad Nacional de Costa Rica and Master scientiae in Wildlife Conservation and Management, Instituto en Conservación y Manejo de Vida Silvestre, Universidad Nacional de Costa Rica. During the last 5 years, she has been involved in several marine researches analyzing the catch of artisanal and longline vessels in the Pacific Coast of Costa Rica. She has worked with Costa Rican ONGs and with Universidad Nacional in research, education and conservation projects. Moreover, in her Master's thesis, she characterized the scalloped hammerhead shark (*Sphyrna lewini*) fishery in the Central Pacific of Costa Rica, describing distribution and alimentation of *S. lewini* in a nursery area. At this moment, she is the President of Shark Mission.

## 14. Key target audiences, including profiles of trainees / participants, if the project foresees the participation of such people

The training program is aimed to Cocos Island National Park (PNIC) rangers, directly related to the coordination and implementation of security patrols in the MPA. In fact,

those rangers in their tasks include interaction work with pelagic species. In turn, during this program also could train personnel of the National Coastguard Service and of the nongovernmental organization MarViva that assist the PNIC during the patrols. In this way, at the end of the project we expect that the rangers and some personnel of Marviva and Coastguards are able to collect basic technical information on biology and fishery of pelagic species observed during the patrols and seizing in the MPA of the PNIC.

#### 15. Budget breakdown

Items	Items Description	Amount x Unit USD	Total USD	Amount Requested to the World Heritage Fund USD	States party Funds USD	Other USD
<b>Organisation</b>						
Office Expense		1,000x1 Unit	1,000	0	500	500
Audio Visual Equipment		1,000x1 Unit	1,000	0	1,000	0
Total			2,000	0	1,500	500
<b>Personnel / Consultancy service (fees)</b>						
National Expert	2 National Experts: Project coordination, training activities and guide elaboration (1/3 time each one). USD 4800 per expert (USD 400 per month x 12 months)	4,800x2 Unit	9,600	4,800	0	4,800
Other	Biologist Assistant (full time) USD 600 per month x 11 months	600x11 Unit	6,600	6,600	0	0
Total			16,200	11,400	0	4,800
<b>Travel</b>						
Domestic travel cost	San Jose - Puntarenas (USD 100 per month x 12 months)	100x12 Unit	1,200	1,200	0	0
Domestic travel cost	Travel to Cocos Island National Park (USD 3000 per expedition for 2 trainers and 1 assistant x 4 expeditions)	3,000x4 Unit	12,000	0	12,000	0
Total			13,200	1,200	12,000	0
<b>Daily Subsistence allowance</b>						
Accommodation	Accommodation and meals- Biologist Assistant(USD 250 per month x 12 months)	250x12 Unit	3,000	0	3,000	0
Accommodation	Accommodation and food - 2 Trainers (250 per trip for 2 trainers x 4 expeditions)	250x4 Unit	1,000	0	1,000	0
Total			4,000	0	4,000	0

Items	Items Description	Amount x Unit USD	Total USD	Amount Requested to the World Heritage Fund USD	States party Funds USD	Other USD
<b>Equipment</b>						
Guide Elaboration	Art and Design	1,000x1 Unit	1,000	500	0	500
Guide Elaboration	Digitalization and Printing	5x200 Unit	1,000	1,000	0	0
Research Equipment	6 Digital weights	150x6 Unit	900	900	0	0
Research Equipment	2 Hand GPS	125x2 Unit	250	250	0	0
Research Equipment	10 Head Lamps	25x10 Unit	250	250	0	0
Research Equipment	20 Field Books	5x20 Unit	100	100	0	0
Research Equipment	10 Measuring Tapes	10x10 Unit	100	100	0	0
Research Equipment	50 Gloves	3x50 Unit	150	150	0	0
Research Equipment	10 Plastic Raincoats	30x10 Unit	300	300	0	0
Research Equipment	6 Multiparameters	150x6 Unit	900	900	0	0
Research Equipment	6 Dry Bags	25x6 Unit	150	150	0	0
Total			5,100	4,600	0	500
<b>Evaluations</b>						
Evaluation	PNIC Director evaluation x 15 days)	600x1 Unit	600	0	600	0
Reporting	Experts	500x2 Unit	1,000	500	0	500
Printing	PNIC Personnel	250x1 Unit	250	0	250	0
Distribution	3 copies	100x1 Unit	100	100	0	0
Other	500 Brochures of main project results	500x1 Unit	500	500	0	0
Total			2,450	1,100	850	500
<b>Miscellaneous</b>						
Other	Snacks during the training programme x 4 sessions	250x4 Unit	1,000	1,000	0	0
Other	Materials for the training programme x 4 sessions	150x4 Unit	600	600	0	0
Total			1,600	1,600	0	0
<b>Total</b>			<b>44,550</b>	<b>19,900</b>	<b>18,350</b>	<b>6,300</b>

**Amount requested details:**

At this time, the PNIC resources are definitely available for this project. Moreover, we already have available the professional service of XXX from the Costa Rican organization Mision Tiburon (Shark Mission).

Other Funding in this application refers to Mision Tiburon secured funds

**b) Specify whether or not resources from the State Party or other sources are already available or when they are likely to become available.**

The State Party has secured USD 18 350, indicated in the appropriate budget column

The State Party has also secured 'Other Funds' from the Costa Rican organization Mision Tiburon - USD 6 300

**16. In kind contributions from the state party and other agencies**

**a) National agency(ies)**

State Party Funds - 18 350

**b) Other bi/multi lateral organizations, donors, etc**

Mision Tiburon - USD 6 300

Professional services of XXX, from the Costa Rican organization Mision Tiburon. This Organization aims to promote the conservation and responsible use of marine resources, particularly of sharks, through the development of integrated projects of marine education and scientific research, especially in national coastal communities.

**17. Agency(ies) responsible for the implementation of the project**

Area de Conservacion Marina Isla del Coco  
XXX - Director

**18. Signature on behalf of state party**

**Full name:** XXX

**Title:** Ministre Conseiller - Permanent Delegation of Costa Rica to UNESCO

**19. Annexes**

**Documents**

- Annex 1 - ACMIC. 2006. Informes periodicos sobre la aplicacion de la convencion del Patrimonio Mundial, San Jose, Costa Rica
- Annex 2 - CV XXX (biologist 1)
- Annex 3 - CV XXX (biologist 2)
- Cocos Island IA Application
- Letter Costa Rica to WHC-OK with IUCN-15 February 2011