# Inter-American Convention for the Protection and Conservation of Sea Turtles

## Panama

## Annual Report 2012

### IAC Annual Report General Instructions

Annex IV of the Convention text states that each Contracting Party shall hand in an Annual Report. To complete this Annual Report, Focal Points should consult with various stakeholders involved in sea turtle issues. If you have any questions regarding this Annual Report, please write to the PT Secretariat at secretario@iacseaturtle.org

Please note that the date to submit this Annual Report is **April 30th of 2012.**

### Part I (General Information)

*Please fill out the following tables. Add additional rows if necessary.*

#### a._ Focal Point

| | |
|---|---|
| Institution | Panama Ministry of Foreign Affairs |
| Name | Lic. Tomás A. Guardia |
| Date Annual Report submitted | Thursday, October 11, 2012 |

#### b._ Agency or Institution responsible for preparing this report

| | |
|---|---|
| Name of Agency or Institution | Aquatic Resources Authority of Panama |
| Name of the person responsible for completing this report | Marino Eugenio Abrego, *Biologist.* |
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### c._ Others who participated in the preparation of this report

| Name | Agency or Institution | E-mail |
|---|---|---|
| Alexander Montero | ANAM, Department of Biodiversity and Wildlife. | alexander.montero@anam.gob.pa |
| Marina Gallardo | ANAM, Department of Protected Areas Management | marina.gallardo@anam.gob.pa |
| Jacinto Rodríguez | Fundación Agua y Tierra. | jaciro02@hotmail.com<br>info@fundacionaguaytierra.com |
| Cristina Ordoñez | Research Coordinator. Sea Turtle Conservancy, formerly the Caribbean Conservation Corporation | crisespino@yahoo.com |

## Part II (Policy and Management)

### *a._ General description of activities carried out for the protection and conservation of sea turtles*

*In accordance with Articles IX and XVIII of the text of the Convention, each Party shall establish monitoring programs, policies and plans for implementation at a national level for the protection and conservation of sea turtles and their habitat.*

*As a result, the Party shall report on the action plans, management plan or other types of instruments, describing their location, the species considered and the actions implemented by governmental, non-governmental and private institutions related to sea turtles.*

*In addition to the above, please fill out the following tables and explain the level of progress in the comments column.*

| | **YES/NO/ In Progress** | **Comments** |
|---|---|---|
| Does your country have a national plan of action in accordance with Article XVIII? | *In Progress* | *There is currently an initiative for a draft document that will be summited for national evaluation and discussion in order to establish a Plan of Action in the short term.*<br>*Conservation International along with the Aquatic Resources Authority of Panama (ARAP) and support from the National Environmental Authority of Panama (ANAM) are currently financing a consultative process to elaborate Panama's National Sea Turtle* |

| | | |
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| | | *Conservation Action Plan. This document is expected to be completed in December of 2012.* |
| Does your country have policies and programs at local and regional levels in accordance with Article XVIII? | *In Progress* | *The Regional Program for Sea Turtle Conservation in the Southeastern Pacific and the Sea Turtle Recovery Action Plan in Panama's Caribbean Sea are the two tools used. An Assessment of the State of Sea Turtle Populations in Panama's Pacific Ocean is being prepared, and soon, with the support of Conservation International, the National Action Plan for the Protection and Conservation of Sea Turtles will be done.*<br>*This preliminary document can be found on the CPPS website, a national assesment document will be prepared along with Panama's National Sea Turtle Conservation Action Plan.* |
| Does your country have monitoring programs in accordance with Article IX? | *In Progress* | *The National Sea Turtle Protection and Conservation Program is curently in the process of being officially adopted in order to comply with Article IX of the IAC and implement monitoring activities.*<br>*Efforts are being carried out in order to incorporate this Committee; legislation for its regulation is being worked on.* |

***b._ National legislation and international instruments related to sea turtles adopted in the preceding year***

*Describe any national regulations, international agreements and other legal instruments adopted during the preceding year (April 30, 2009-April 30, 2012) related to sea turtles and/or relevant activities. Provide a reference and attach the digital file for the legislation and its corresponding number. The laws adopting the international legislation should be included, when they exist.*

| **National Legislation** | | |
|---|---|---|
| Type and name of legal instrument (No.) | Description (Range of application) | Sanctions(s) Imposed |
| Resolution N° 092 of August 12, 2010. | La Marinera Beach, located in Guánico Abajo, Tonosí, Los Santos | Article 12 of this resolution establishes that any infractions to this resolution will be sanctioned |

| | | |
|---|---|---|
| | declared province, was declared as a reserve. | according to that established in Law N° 44 of November 23, 2006 and any other current and complementary laws and regulations, subject to civil and criminal responsibilities that derive from the act committed. |
| Resolution AG-0095-2009 of February 2009. (G.O. 26230). | Declares the marine and island environment located in the Bocas del Toro province as protected areas. This area includes Escudo de Veraguas Island and a portion of Los Mosquitos Gulf in the District of Bocas del Toro, which will be named la "Paisaje Protegido Isla Escudo de Veraguas-Degó". | Article 9 of this resolution warns that anyone who commits crimes against the Conservation and Sustainable Management of natural resources and the wildlife within the protected area created by this resolution or violates any environmental regulations, will be sanctioned in accordance to what is established in the current legislation. |
| Resolution AG-1039-2009 of March 4, 2009(G.O. 26235 of March 9, 2009). | Through this resolution, Donoso and Santa Fe are declared protected areas. | Article 13 of this Resolution warns that anyone who commits crimes against the conservation and sustainable management of the natural and patrimonial resources and wildlife within the protected area created by this resolution or violates the regulations expressed in the current document, will be sanctioned in accordance to what is established by the current legislation. |

| **International Instruments** | |
|---|---|
| Treaty, Convention, Agreements, Memorandum of Understanding | Year signed and/or ratified |
| None are registered for the years 2011 and 2012. | |

***Note:*** *If this is the first time a country is submitting this information, please include all pertinent national legislation and international instruments currently in force.*

### *c._ Actions for compliance with national and international legislation*

#### c.1 IAC Resolutions

*Fill in the following tables for each of the IAC Resolutions listed below. In the case that a Resolution does not apply to your country, please mark the box RESOLUTION DOES*

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*NOT APPLY, and if a specific question does not apply, please mark the column DOES NOT APPLY. If you need more space to describe these actions, please attach additional pages and note the resolution and question number to which you are responding.*

**Resolution CIT-COP2-2004 R1**: Conservation of leatherback turtles (*Dermochelys coriacea*)

**ACCORDING TO RESOLUTION CIT-COP2-2004-R1, REPORT WHETHER YOUR COUNTRY:**

| | | | RESOLUTION DOES NOT APPLY | |
|---|---|---|---|---|
| **IS COMPLYING WITH THE FOLLOWING:** | **YES** | **NO** | **DESCRIBE ACTION (*)** | **DOES NOT APPLY** |
| 1a) Have you created conservation plans and long-term programs that can reverse the critical situation of the leatherback turtle in the Eastern Pacific? | | X | The lack of resources limits these actions. However, the TORTUAGRO group in Cambutal, Los santos Province relocated leatherback nests to a hatchery, during the 2010 and 2011 seasons. | |
| 1b) Are you implementing these conservation plans and monitoring programs? | | X | | |
| 2a) Have you taken conservation measures to significantly reduce the use of leatherback turtle products and by-products? | | X | Even though concreate conservation measures have not been implemented for the Pacific side of Panama, no use of leatherback turtle products or byproducts has been reported. However, successful nesting has been recorded in communities like Cambutal beach (Los Santos) and Mata Oscura beach (Veraguas).<br><br>In the Azuero Peninsula there is limited consumption of leatherback eggs since they prefer the eggs of other species. No reports of leatherback consumption were reported in 2011. | |
| 2b) Do you evaluate these conservation measures? | X | | Evaluating the possibility of initiating activities through a national campaign to inform people on the importance of protecting this resource. | |
| 3a) If your country has leatherback turtle nesting beaches in the Eastern Pacific: Have you taken conservation measures to protect the nesting sites and their associated habitats? | X | | One of the measures taken was to stop the extraction of sand where sea turtles are nesting. These initiatives have been promoted by organized conservation groups like TORTUAGRO, in Cambutal of Tonosí, Los Santos province.<br>Currently programs to conserve D. coriacea nesting beaches are being supported by Conservation International like: Cambutal, La Cuchilla, Horcones, and Morro Puerco, in the province of Los Santos. | |
| 3b) Do you evaluate the conservation measures taken to protect those nesting sites and their associated habitats? | | X | Conservation measures are still not being taken and for protecting nesting sites and their associated habitats, one of the main problems is the lack of resources. | |

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| 4. Has your country adopted fishing techniques that reduce incidental capture and mortality of this species? | | X | One of the measures adopted is the mandatory use of Turtle Excluder Devices in trawlers. | |
| 5a) Is your country collecting information on incidental capture of leatherbacks in the following fisheries: | No information is available on this topic. | | | |
| Artisanal fisheries | | | | |
| i) Long-line | | X | | |
| ii) Gillnets | | X | | |
| iii) Other fishing gear (indicate which one(s)) | | | | |
| Industrial fisheries | | | | |
| i) Long-line | | X | | |
| ii) Gillnets | | X | | |
| iii) Other fishing gear (indicate which one(s)) | | X | | |
| 5b) Have you provided the IAC with information on incidental capture of leatherbacks in the following fisheries: | | | | |
| Artisanal fishing | | | | |
| i) Long-line | | X | | |
| ii) Gillnets | | X | | |
| iii) Other fishing gear (indicate which one(s)) | | X | | |
| Industrial fisheries | | | | |
| i) Long-line | | X | | |
| ii) Gillnets | | X | | |
| iii) Other fishing gear (indicate which one(s)) | | X | | |
| 6. Have you established agreements and/or understandings with countries fishing within international waters to adopt fishing techniques that reduce incidental capture of leatherback turtles? List which countries: | | X | We don't have any information on this topic. | |
| 7. Have you encouraged other non-Party states to the IAC, carrying out activities that affect leatherback turtles, to adopt measures in favor of their conservation, by means of bilateral, multilateral or regional contacts? | | X | | |
| 8. Have any cooperative agreements or alliances been established with pertinent organizations? List: | | X | In 2010, personnel from CI in Peninsula de Azuero and the President of Grupo TORTUAGRO, visited las Baulas Marine Park and Ostional, in order to learn and share experiences. It was decided to form a network of those people working on beaches where leatherbacks nest, similar to the ICAPO network.<br>In 2011 the Foundation Agua y Tierra was created, in which a sea turtle conservation program was established. | |

**(*) Specify actions implemented, name of the project or relevant document, location, objective(s), institutions responsible, contact, financial or other support (optional), results (both positive and negative) and duration.**

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**Resolution CIT-COP3-2006 R-1:** Hawksbill turtle conservation *(Eretmochelys imbricata)*

**ACCORDING TO RESOLUTION CIT-COP3-2006-R1, REPORT WHETHER YOUR COUNTRY:**

| | | RESOLUTION DOES NOT APPLY | | |
|---|---|---|---|---|
| **IS COMPLYING WITH THE FOLLOWING:** | **YES** | **NO** | **DESCRIBE ACTION (*)** | **DOES NOT APPLY** |
| 1. Has your country promoted synergies with other Conventions, treaties, international organizations, and/or regional fisheries bodies on the management and conservation of hawksbill turtles and their habitats? Indicate which one(s). | **X** | | Joint actions with ICAPO Network in projects and activities that allow for a better understanding of this species. Actions were initiated with the ICAPO network, WWF and CIMAD of Colombia to carry out studies that will allow us to understand the population status of this resource in Las Perlas Archipelago. In May a field trip was taken with personnel from CIMAD-WWF, ICAPO, ARAP and ANAM visiting the Pacific Coast of the Darién province from La Palma to Punta Cocalito close to the border with Colombia. Residents of these communities were surveyed allowing us to determine the presence of various species of sea turtles in the area, including the hawksbill. | |
| 2 a) Are you strengthening monitoring of the illegal use and trade of hawksbill turtles and their products? | **X** | | Confiscation of tortoiseshell products like spurs for cock fights, in places like Tocumen International Airport. Monitoring activities of the illegal use and sale of hawksbills and their products has increased. The support of the community has been crucial in this process, as more people are reporting illegal use and sale. | |
| 2 b) Are you enforcing pertinent hawksbill legislation? | **X** | | If evidence of infractions to the regulation is found during the operatives being carried out, a report is prepared and sent to the subsequent authorities so they may continue with the respective procedures and any corresponding sanctions. Complaints against 2 vendors selling hawksbill in the Santiago Bus Terminal, Veraguas province, have been presented and 2 in the Albrook Shopping Mall in Panama City. We are waiting for the report from ARAP's General Department of Inspection, Surveillance and Control indicating what stage of the process it's at and the type of sanction applied as well as the number of cases filed. | |

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| 2 c) Are activities being carried out in order to stop illegal trade of hawksbill products? | | X | | Through joint actions between the Inspections, Surveillance and Control Office of ARAP, the National Aeronaval Service and the National Police, operatives are performed in order to ensure compliance with regulations regarding illegal trafficking of sea turtle products or their byproducts. | |
| 3. Does your country support and strengthen the research and monitoring activities required to improve the scientific basis of conservation measures for the hawksbill turtle? Especially in: | Genetics | X | | | |
| | Migratory behavior | | X | Some of the Caribbean and Pacific nesting beaches are tagging sea turtles, in order to monitor migratory behavior. One turtle that was found in Las Perlas had traveled more than 400 km from Colombia; it was reported to the ICAPO Network. | |
| | Location and conservation status of foraging habitats. | | X | No research and monitoring activities are being done. | |
| | Location and conservation status of prey species. | | X | No research and monitoring activities are being done. | |
| | Population dynamics at foraging sites | | X | No research and monitoring activities are being done. | |
| | Integrity of nesting habitats | X | | The Agua y Tierra Foundation have carried out research and monitoring activities at Cambutal and Mata Oscura beaches. | |
| | Others (specify) | | | | |
| 4. As indicated in the recommendations from FAO's Technical Meeting on the conservation of marine turtles and fisheries that was held in Bangkok in 2004 and adopted by the 26th Session of FAO's Fisheries Committee (COFI), does your country carry out any activities mentioned in a) and/or b)? | a) Evaluate incidental capture of hawksbill turtles in jurisdictional waters. | | X | Activities financed by Conservation International have been carried out, like training members of Las Perlas Fishermen's Cooperative to monitor sea turtles in the Pacific.<br>Currently only occasional inspections are being done to determine the use of Turtle Excluder Devices. | |
| | b) Actions to mitigate incidental capture of hawksbill turtles in their jurisdictional waters. | | X | No only mitigation activities for the bycatch of hawksbill turtles in jurisdictional waters are carried out. | |
| 5. Does your country apply the precautionary approach when considering proposals for seismic exploration on priority marine habitats of the hawksbill turtle? | | | X | | |
| 6. Indicate if your country is strengthening the protection of important nesting and | a) Protection of nesting habitats | | X | Monitoring of hawksbill turtles at Mata Oscura beach, Veraguas province with help from Foundation Agua y Tierra-AAPEQ. | |

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| foraging habitats by declaring protected areas and regulating anthropogenic activities that adversely impact these habitats. | b) Protection of feeding habitats | **X** | | | |
| 7. Does your country promote exchange of technical capacity and collaborative research on hawksbill habitats among Parties as well as non Parties and other involved organizations in the Area of the Convention? | | **X** | | Only though the ICAPO Network, which has trained a Panamanian team.<br>The team is made up of members from the Agua y Tierra Foundation and TORTUAGRO Association who received training in Nicaragua. It is hoped that this exchange of technical capacity and collaboration results in concrete research activities.<br>Participation in the ICAPO network and various groups in the organization of the V East Pacific Regional Sea Turtle Symposium, held in Panama City on December 1-2, 2011. | |

**(*) Specify actions implemented, name of the project or relevant document, location, objective(s), institutions responsible, contact, financial or other support (optional), results (both positive and negative) and duration.**

## **Resolution CIT-COP3-2006-R2**: Reduction of the adverse impacts of fisheries on sea turtles

**ACCORDING TO RESOLUTION CIT-COP3-2006-R2, REPORT WHETHER YOUR COUNTRY:**

| IS COMPLYING WITH THE FOLLOWING: | YES | NO | DESCRIBE ACTION (*) | DOES NOT APPLY |
|---|---|---|---|---|
| 1.Adopted the "Guidelines to Reduce Sea Turtle Mortality induced by fisheries operations", of the United Nations Food and Agriculture Organization (FAO), including: | | | | |
| A.Research and monitoring of adverse impact of fisheries on sea turtles | | | | |
| • Collect information by fishery | | X | | |
| • Observer programs | | X | Currently, a consultation financed by the Marine Corridor of the Eastern Tropical Pacific is being executed that will result in an Observer Program for Panama.<br>This Project has already been submitted, but has not been implemented due to a lack of funds to hire staff to collect the information. | |
| • Research on sea turtle/fishery interactions | X | | Studies done by WWF through an Onboard Observers Program evaluated the effects of "J" shaped hooks over circle hooks and exchanged hooks in industrial longline fisheries.<br>Also with support from Conservation International the professor Angel Vega has been able to study and research sea turtle | |

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| | | | interactions with fisheries in the Gulf of Montijo. | |
| • Information on non-Party vessels | | X | | |
| • Cooperation with non-Party states to obtain information | | X | | |
| B. Mitigation measures for the following fisheries: | | | | |
| i) Long-line | X | | Executive Decree No. 486 of December 28, 2010 prohibits the use of longline fisheries (superficial, midwater and/or deep-water) in industrial and commercial fishing vessels (understanding that industrial fishing vessels are vessels that register six (6) gross ton or more). | |
| ii) Gillnets | | X | | |
| iii) Trawling (e.g., 1. TEDs: specify legally approved TEDs, their dimensions, material, and target species for that fishery, 2. time-area closures: specify geographical area, time of closure and target species for that fishery, 3. tow times and/or 4. other measures) | X | | Executive Decree No. 82 of April 1, 2005 establishes the use of turtle excluder devices (TEDs) all vessels dedicated to fishing with trawl nets, but it does not establish dimensions or materials for these devices. However, in Article 5, it's decreed that for TED inspections, the specifications established by NOAA's National Marine Fisheries Service will be used in order for the user to know everything related to the dimensions, materials and any other information regarding the device. The dimensions must be bigger than 32"x32", generally being 42"x50", with a circumference higher than 120", and majority made of 1/2" steel or aluminum tube.<br>Executive Decree No. 158 of December 31, 2010, established the periods in which the fishing of all species of marine shrimp is banned in Panama, which are distributed in the following way: From 12:01 a.m. on February 1 until 12:00 noon on April 11 and from 12:01 a.m. on September 1st until 12:00 noon on October 11. This ban applies to both industrial and artisanal fisheries.<br>Shrimp fishing vessels generally perform one (1) hour casts.<br>Currently ARAP's General Department of Inspection, Surveillance and Control carry out operations to verify the use of this device. | |
| iv) Other fishing gear (indicate which one(s)) | | X | | |

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| C. Training, education and dissemination | | | | |
| • Training, education and dissemination activities | X | | Training workshops are carried out with inspectors in order to inform and update them on the proper use of TEDs and the appropriate procedure when boarding a vessel. Personnel from the Research and Development Office is trained and updated in TED usage in international workshops and then they spread the information to personnel in the Inspections, Surveillance and Control Office. Some 35 inspectors have been trained on the use of TEDs, how to correctly take the corresponding measures for a good inspection on TED usage onboard the vessels. At the same time, the inspector is taught how to repeat the information to fishermen so that they may gain more confidence and skills in using the TEDs for better fishing.<br>These workshops continue to be held so that the personnel in charge of enforcing this legislation have the necessary tools that allow them to verify the correct use of this device and to correctly fill out the forms requested. | |
| D. Harmonization of policies and legislation | | | | |
| • Modifications to instruments | X | | | |
| E. Capacity building | | | | |
| • Creation of a national sea turtle committee/network | X | | The regulation establishing a National Sea Turtle Protection and Conservation Committee is in its final stage. It should become official by the end of this year.<br>This National Sea Turtle Protection and Conservation Committee of Panama is still waiting to be formalized. Some legal procedures are impeding its official existence and the creation of bylaws for this working group. | |
| F. Financing | | | | |
| • Financial support obtained to implement guidelines in this resolution | X | | There is no funding to implement the guidelines of this resolution.<br>Resources are not directly assigned, one must fundraise with donor organizations to execute actions and implement guidelines. | |
| G. Socio-economic considerations | | | | |
| • Support socio-economic activities that | | X | There is no support for socio- | |

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| help mitigate adverse impacts of fisheries on sea turtles | | | economic activities that help reduce the adverse impacts of fisheries on sea turtles. Funds must be sought, and in reality, it would be much easier if funds were assigned in order to be able to carry out mitigation activities. | |
| H. Other aspects | | | | |
| • Environmental impact studies for mariculture projects | X | | | |
| 2. Sent information and documents on sea turtles created by your country to the Secretariat of the Convention? List documents. | | X | Information on activities and events carried out.<br>Reports are continuously sent to the IAC on activities and events held, highlighting information on the V East Pacific Regional Sea Turtle Symposium held from December 1-2, 2011, in Panama City.<br>Report on the participation in the inter-regional workshop on large scale spatial marine planning and trans border management of marine mammals, held in Panama City from May 21-24 of 2012. | |
| 3. Initiated activities that assist the Convention Secretariat in contacting non Party States through established mechanisms, especially in the area of the Convention, so that they may provide, in a cooperative spirit, the Secretariat with available data on incidental sea turtle catches in their fisheries? | | X | | |
| 4. Supports the Convention Secretariat, through established mechanisms, to commence discussions with regional fishery management organizations in order to develop Memorandum of Understandings. | X | | Particpate together with countries that make up the Action Plan for Marine Environments and Coastal Zones of the Southeast Pacific of the Permanent Commission for the South Pacific (CPPS) and form part of the Sea Turtle Scientific and Technical Committee through the Regional Program for Sea Turtle Conservation in the Southeast Pacific. | |

**(*) Specify actions implemented, name of the project or relevant document, location, objective(s), institutions responsible, contact, financial or other support (optional), results (both positive and negative) and duration.**

## **Resolution CIT-COP4-2009-R5:** Adaptation of sea turtle habitats to climate change

**ACCORDING TO RESOLUTION CIT-COP4-2009-R5, REPORT WHETHER YOUR COUNTRY:**

| IS COMPLYING WITH THE FOLLOWING: | YES | NO | DESCRIBE ACTION (*) | DOES NOT APPLY |
|---|---|---|---|---|
| 1 a) Have marine and coastal habitats on which sea turtles depend been included in national plans and programs for adaptation to climate change? Specify habitats and plans | X | | Marine and coastal habitats on which sea turtles depend and their adaptation to climate change are being considered within Panama's | |

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| | | | Action Plan for Sea Turtle Conservation. | |
| 1 b) Are these plans for adaptation to climate change being implemented? | | X | Panama's Action Plan for Sea Turtle Conservation is currently being created and it is hoped that the sources for financing its implementation are presented at the same time. | |
| 2 a) Are corrective measures and measures on adaptation to climate change included within management plans and/or protection and conservation programs for sea turtles and their habitats? | X | | Corrective measures and measures on adaptation to climate change are being included in Panama's Action Plan for Sea Turtle Conservation. | |
| 2 b) Are you evaluating the corrective measures and measures on adaptation to climate change included within management plans and/or protection and conservation programs for sea turtles and their habitats? | | X | | |
| 3. Have you identified any organizations or pertinent expert groups as possible partners to work on the topic of adaptation by sea turtles to climate change? Please list. | X | | A National Climate Change Committee exists, led by the National Environmental Authority (ANAM) and the Smithsonian Tropical Research Institute (STRI). | |
| 4. Have you carried out research and monitoring to improve knowledge of the effects on, and vulnerability of sea turtles and their habitats, to climate change? | | X | | |
| 5. Has your country hosted capacity building workshops for monitoring techniques and/or adaptation to climate change? | | X | | |
| 6. Has your country implemented mitigation measures for non-climatic threats as a way to improve the resilience of populations to the impacts of climate change? Specify which ones. | | X | Monitoring of La Cuchilla beach in the province of Los Santos and at Mata Oscura beach in the province of Veraguas, relocating nests in danger of being predated or eroded. | |

**(*) Specify actions implemented, name of the project or relevant document, location, objective(s), institutions responsible, contact, financial or other support (optional), results (both positive and negative) and duration.**

### c.2 National and International Mandates

*List actions that are being carried out to comply with national and international mandates (Ex: inspections, confiscations, sanctions, etc.)*

In the case of Panama, the sanctionable administrative cases for possession of wildlife products or byproducts, in this case sea turtles, are initiated on their own or by complaint. The ones initiated on their own are done so as a result of the Inspections, Surveillance and Control Office of the Aquatic Resources Authority of Panama (ARAP) when operatives are carried out on land at sea turtle nesting beaches. These operatives are intensified during different times of the year when there are mass nesting events or big arribadas (July to December). But in the case of La Marinera Beach Reserve in

Guánico Abajo, the operatives must be performed year round due to its ecological value and strategic location in relation to the other beaches.

When the process is initiated because of a complaint, most commonly they are called in by residents of nesting beaches, ecologists or conservationists. The country's Ecological Police also make great efforts and it is part of their job as well since they perform a great number of turtle egg confiscations in the early hours of the morning as part of their routine operatives on our beaches. When the confiscation is carried out by the Ecological Police, they detain the possible offenders and confiscate the sea turtle eggs in order to send them to the proper authorities outside the areas administrated by ARAP.

In protected areas administered by the National Environmental Authority (ANAM), the Ecological Police send a specific report along with the confiscated eggs or evidence. ARAP receives the report and its inspectors count the number of confiscated eggs in front of the possible offenders. Then they prepare and file a report on each of the offenders and they are given a citation for their defense. The ARAP lawyer must go to the police station where the possible offenders are being temporarily held and the Police Magistrate is requested to authorize their release. The Inspections, Surveillance and Control Office of the ARAP in Panama is called so that they may indicate what the final destination of the turtle eggs should be, depending on their current state and the number of hours that have passed since they were taken from the beach where the turtle layed them. When the eggs are confiscated by inspectors during the land operatives, the product is confiscated, but the reason for their confiscation is explained to the offenders while citing the regulations they have violated and the turtle eggs are counted in front of them. The confiscation report is then filled out, citation for the defense is issued, a report is prepared and the case is sent to the Regional Director of ARAP who then sends it to the lawyer so that he/she may conduct the preliminary investigation of the case. After the preliminary investigation is done, it is sent to the Inspections Surveillance and Control Office of the ARAP in order to continue the due legal process.

The following considerations need to be taken into account with regards to the operatives and the procedures to confiscate products and by-products of sea turtles in Panama:

- The sanctionable administrative cases for possession of turtle eggs must follow due process and be sent to the Prosecutor's Office on Environmental Matters in order to open an environmental criminal procedure. These offenders must be punished and made an example of in order to change their attitude or they will continue to damage or affect these species since they know that they will only be given a monetary sanction.
- Request that when ARAP's Inspection, Surveillance and Control Office in Panama receive a case for possession of sea turtle eggs or sea turtle abuse, it should be forwarded with authenticated copies to the Prosecutor's Office on Environmental Matters in order for it to follow due process.

- Our country has regulations and international agreements that protect these species, but for the most part we only legally work these cases in the administrative arena. These recommendations are only for our institution because the National Environmental Authority follows a different procedure. These procedures need to be unified and standardized.
- A lot more could be legally done in order to create awareness among the population about the great value these species have.
- In regards to the report on the confiscation of sea turtle products or by-products, the regional offices of ARAP use the same one that is available to the Inspection, Surveillance and Control Office.
- It is important to request a legal revision from ARAP's Legal Counsel Office of the confiscation protocol and operatives that ARAP must carry out with regards to sea turtle procedures.
- The procedure that is followed in other provinces must be standardized so that the same one is implemented all over the country when it comes to these cases.
- A commission made up of technicians from ARAP and ANAMA, as well as their respective Legal Counsel Offices and representatives from the Department of Judicial Investigation (DIJ) of the Office form Crimes Against the Environment, is currently preparing a Protocol for Confiscating Sea Turtle Products and Byproducts so that those responsible for reporting these infracture will have established procedures on the correct way to do so. Thus ensuring that the processes they begin will comply with all requirements and can achieve their objective of penalizing and sanctioning these types of illegal behavior.

***d._ Application[submission] of exceptions established in the Convention***

*Describe in detail the exceptions allowed in accordance with article IV, item 3(a,b,d) and Annex IV of the text of the Convention, in accordance to the procedure established by the COP (Doc. CIT-COP5-2011-R2). Attach management program.*

**CIT-CCE3-2010-Doc.-6**
**Exception**
**CAÑAS ISLAND WILDLIFE REFUGE**
**NATIONAL ENVIRONMENTAL AUTHORITY**

**I. GENERAL INFORMATION**

Introduction:

The Cañas Island Wildlife Refuge, as well as the Cañas and Guánico coastal communities, are declared protected areas through Municipal Agreement Nº 11 of April 21, 1993, issued by the Municipal Counsel of the District of Tonosí. Afterwards, the National Institute of National Renewable Resources, issued Resolution Nº 010 of J.D. -

94 of June 29, 1994 declaring Cañas Island in the Los Santos province a Wildlife Refuge, which is currently administrated by the National Environmental Authority (ANAM) where they carry out a project for the Sustainable Management of Sea Turtles with the community. The inhabitants pointed out that a decrease in the nesting sea turtle population has been observed at this site.

Background

Location: Cañas Island Wildlife Refuge belongs to the Tonosí District, Los Santos Province. The protected area includes costal, marine and island areas with a total of 24,284.44 acres. The Island covers 832.5 acres of this surface. The length of the beach is 13 kilometers.

From 1975 to 1980, the MIDA (Ministry of Agricultural Development) carried out important activities for the protection of sea turtles. Back then the RENARE (National Renewable National Resources Office) existed and part of its activities consisted of building an artificial hatchery which was fenced in with caña brava and was used to relocate eggs in order to artificially incubate them. Logically, the technique and management of these eggs was not the most adequate. However, it is known that many hatchlings did emerge.

When RENARE became INRENARE in 1986, activities for the Protection and Conservation of Sea Turtles were taken up again; but due to pressure from the inhabitants of the island, they had to authorize the regulated exploitation of sea turtle eggs. The institution also obtained funds to pay the inhabitants for the protected nests. One inhabitant, Mr. Pablo Pérez, was hired to work with the institution and the University of Panama in the protection and collection of nests.

Between 1994 and 2002, the United Multiple Island Services Cooperative was responsible for co-managing the program for the sustainable management of sea turtle eggs together with ANAM.

Since 2003, they began working with the Cañas Island community and the Intergroup Committees, since that was considered to be the best way of coordinating with the community. The economic benefits were distributed in order to solve the social problems of the community. This has been done through agreements or work regulations, which are revised each year and any corrections, changes or improvements needed are made to better their aplicability and to improve control and protection of sea turtles.

Everyone knows that throughout time there has been an overexploitation of sea turtle eggs, not only by the inhabitants of Cañas Island, but also by people from other parts of

the country, mainly from the Herrera and Los Santos provinces, who make trips just to collect turtle eggs.

Another important aspect is the number of turtles that die in artisanal fishing vessel nets. Because of trammel nets, this situation has worsened from 1987 to 1989, the reason for which the U.S. Government was forced to embargo shrimp fishing to Panama, for not complying with international commitments for the protection of sea turtles.

According to the information collected between 1997 and 2000, turtle arribadas have exceeded 60,000 individuals per year and the number of eggs was immense and likewise the number of hatchlings born. During this time, up to 7 arribadas occurred each year and there were even up to 2 arribadas in the months of September and October where around 10,000 turtles per arribada arrived at the beaches to lay eggs. In the last years, from 2007 to 2009, this panorama has changed where a maximum of 4 small arribadas per year have been registered with 1000 to 4000 turtles per arribada.

During the early 80s, specifically in 1983, the first hatchery was created where the sea turtle nests collected at the beaches were relocated so that they may hatch and be released. This 670 square meter hatcher was an open area that remained that way until 1987 and then it was fenced in that year with mangrove wood until 1995 when the Cooperative fenced it in with reinforced cyclone wire, but it had to be abandoned in 1998 due to conflicts over the land.

The second hatchery was built in 2000 by the Sustainable Development Committee (CDS) with funds from the Rural Poverty Project and has recorded over the past years, a decline in the percentage of hatching success in the nests incubated in the hatchery. This could be related to contamination from the bacteria in the hatchery's substrate produced by residues left by the shells and eggs, due to its intensive use over the years, little rotation, reduced size and, introduction of crabs and dogs. Due to this pollution, it has not been used for the past two years (2008 and 2009).

Type of soil and use:

The soil is sandy and lime type, of alluvial origin and highly fertile, which has favored agricultural development even though it requires severe management of the activity and where ranching is not currently practiced.

Current regulatory framework:

- Law No. 5 of January 3, 1989, which came into effect in Panama on May 1, 1989.
- International Trade of Endangered Species of Wild Flora and Fauna Convention (CITES). Law 14 of October 28, 1977, which came into effect in Panama on November 19, 1978.

- Convention for the Conservation of Migratory Wild Animal Species, or Bonn Convention. Law No. 5 of January 3, 1989.
- Interamerican Convention for the Protection and Conservation of Sea Turtles, Law No.8 of January 4, 2008.
- Wildlife Law 24.
- General Environmental Law 41
- Board of Directors Resolution No. J.D. 010-94," establishes the protected area".
- Resolution Nº AG-0051-2008 "In regards to the endangered fauna and flora."

Currently we are working on preparing a regulatory code for the sustainable extraction and use of sea turtle eggs (*Lepidochelys olivacea*), since the regulatory framework that was used until 2009 was through agreements with the organized community. Nonetheless, in 2010 these agreements were not reached due to problems with the community in regards to their applications for titles so the information collected was not consistent.

II. BIOLOGICAL INFORMATION

The information presented must demonstrate that the use does not infringe the objectives of the Convention. This can include, among others:

Information on the populations present:

Five species of sea turtles have been reported nesting in the Cañas Island Wildlife Refuge: the green turtle (*Chelonia agassizii*), hawksbill turtle (*Eretmochelys imbricata*), loggerhead turtle (*Caretta caretta*), leatherback turtle (*Dermochelys coriacea*) and Olive Ridley turtle (*Lepidochelys olivácea)*. National and international laws protect all of them. However, the species of *Lepydochelys olivacea* turtle is the one that arrives in arribadas and is the only one whose eggs are allowed to be exploited.

Geographic Distribution:

The Cañas Island community is approximately 15 km from the district's main community; and 7 km from the town of Cañas. To get to the Island's town, one must cross an esturary approximately 700 meters by boat. Geographically, Cañas Island is located on the southeastern side of the Azuero Peninsula, in the Búcaro Bay, between the Tonosí and Cañas rivers.

Research carried out or underway:

Some specific research has been carried out on sea turtles. However, the information that has been gathered has been obtained over the years with the help of some community members and public employees. Some have been trained in monitoring techniques but the Institution recognized that the monitoring process needs to

systemized as well as gather more information. Therefore, a method of gathering data (monitoring of arribadas and solitary turtles) is being prepared and standardized and currently being used at La Marinera Beach, a protected reserve administered by ARAP, which has already gathered important information on sea turtle behavior and populations (*Lepidochelys olivacea*).

Population Trends:
It is not possible to present a population trend with the current data.
1. Relocation of nests at the same beach
2. Hatchery use
3. Protection of natural nests
4. Mixture of the use of hatcheries and the protection of natural nests
5. Collection of solitary turtles.
6. Protection of arribadas

Even though sea turtle egg extraction management has existed in Cañas Island Wildlife Refuge for almost 36 years, no long or medium term scientific research programs have been developed. Tagging and environmental education activities with the community are isolated. Currently, the information on the arribada phenomenon at this site is limited so it is difficult to detail the number of resulting nests, as well as other aspects related to the nesting process (hatching success, emergence success, duration and frequency of the arribadas, percentage of nests collected).

Description of the ecosystem:

The area of the island and the protected area belong to the Tropical Rainforest region. On the island, the natural vegetation was almost entirely cut down for agricultural purposes. Currently, the vegetation is being recovered in some sectors. However, within the Wildlife Reserve, mangrove communities can be found with red mangrove (*Rhizophora mangle*), white mangrove (*Laguncularia racemosa*) and black mangrove (*Avicenia nitida*) among others; from which the population obtains resources for their survival.

## REGISTRY AND STATISTICS ON SEA TURTLE MANAGEMENT BETWEN 2003 AND 2009 IN THE CAÑAS ISLAND WILDLIFE REFUGE

**Table N°1: Information according to the number of nesting turtles**

| Years | Total Number of Nesting Turtles | Nesting Turtles within the Protected Area (Hatchery) | Nesting Turtles outside the Protected Area (Hatchery) | Dozen of eggs collected by the community for sale | Number of Hatchlings (Neonates) |
|---|---|---|---|---|---|
| 2003 | 5,798 | 1,711 | 4,087 | 35,056 | 153,990 |
| 2004 | 5,069 | 1,605 | 3,464 | 32,304 | 72,657 |

| | | | | | |
|---|---|---|---|---|---|
| 2005 | 6,651 | 1,618 | 5,033 | 41,051 | 123,230 |
| 2006 | 8,760 | 3,845 | 4,915 | 41,873 | 96,368 |
| 2007 | 6,308 | 1,576 | 4,732 | 41,657 | 72,146 |
| 2008 | 15,155 | 10,601 | 4,554 | 41,947 | 362,145 |
| 2009 | 6,606 | 1,807 | 4,799 | 41,059 | 66,769 |
| Total | 54,347 | 22,763 | 31,584 | 274,947 (=32,994 turtles) | 947,305 (reach adulthood 9,473) |

**Table N° 2; Information according to the number of eggs laid.**

| Years | Total turtle eggs laid per year | Turtle eggs laid within the Protected Area (hatchery) | Turtle eggs laid outside the Protected Area (hatchery) | Dozen of eggs collected by the community for sale | Number of hatchlings (Neonates) |
|---|---|---|---|---|---|
| 2003 | 579,800 | 171,100 | 408,700 | 420,672 | 153,990 |
| 2004 | 506,900 | 160,500 | 346,400 | 387,648 | 72,657 |
| 2005 | 665,100 | 161,800 | 503,300 | 492,612 | 123,230 |
| 2006 | 876,000 | 384,500 | 491,500 | 502,476 | 96,368 |
| 2007 | 630,800 | 157,600 | 473,200 | 499,884 | 72,146 |
| 2008 | 1,515,500 | 1,060,100 | 455,400 | 503,364 | 362,145 |
| 2009 | 660,600 | 180,700 | 479,900 | 492,708 | 66,769 |
| Total | 5,434,700 | 2,276,300 | 3,158,400 | 3,219,364 | 947,305 |

**Table Nº 3: Community profit (collectors) in Cañas Island, from the sale of sea turtle eggs from 2003 to 2009**

| Years | Dozens of eggs collected by the community for sale | Price per dozen paid by the committee to the collectors in the community B/. | Price per dozen sold by the committee to local buyers (intermediaries) B/. | Committee profits per dozen for project administration and social affairs B/. | Community income (collectors) for the sale of turtles eggs on the Island (B/.) | Committee income for the sale of eggs for project administration and community social issues (B/.) |
|---|---|---|---|---|---|---|
| 2003 | 35,056 | 0.50 | 0.65 | 0.15 | 17,528.00 | 5,258.40 |
| 2004 | 32,304 | 0.50 | 0.65 | 0.15 | 16,152.00 | 4,845.60 |
| 2005 | 41,051 | 0.60 | 0.75 | 0.15 | 24,630.60 | 6,157.65 |
| 2006 | 41,873 | 0.60 | 0.75 | 0.15 | 25,123.80 | 6,280.95 |
| 2007 | 41,657 | 0.75 | 0.85 | 0.10 | 31,242.75 | 4,165.70 |
| 2008 | 41,947 | 0.75 | 0.85 | 0.10 | 31,460.25 | 4,194.70 |
| 2009 | 41,059 | 0.75 | 0.85 | 0.10 | 30,794.25 | 4,105.90 |
| Total | 274,947 | ----- | ------ | ----- | 176,931.65 | 35,008.90 |

NOTE: The committee responsible for the administration of the turtle project bought the eggs from the community collectors at a price of B/.0.50 in 2003 and 2004 and they sold them to the buyer at B/.0.65; while in 2005 and 2006, they bought then for B/.0.60

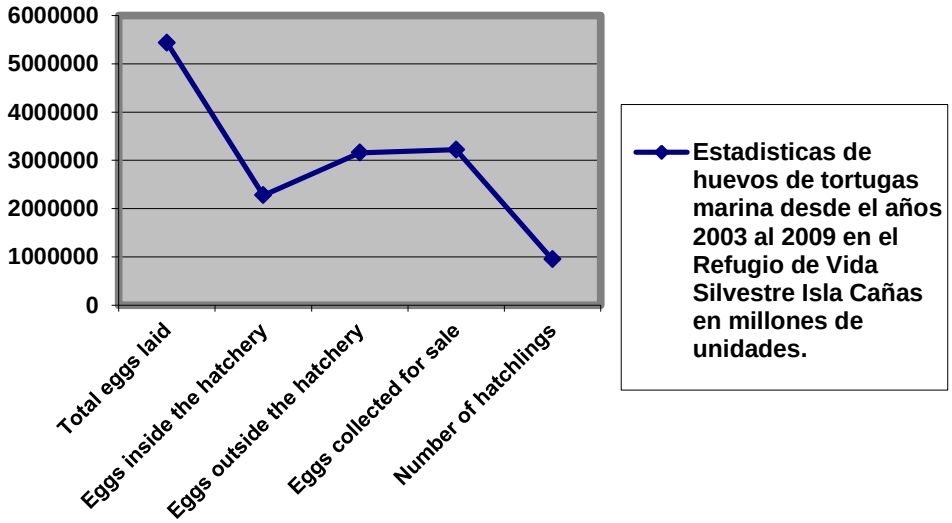
and sold them for B/.0.75 and in 2007, 2008 and 2009, they bought them for B/.0.75 and sold them for B/.0.85. The Committee has a profit margin per dozen that has varied between B/.0.10 and B/.0.15, which is obtained when the dozen eggs is sold to the local buyers (intermediaries).

**Table N° 4: Local Buyers' (intermediaries) profit margin for the sale of sea turtle eggs in the Cañas Island Wildlife Refuge**

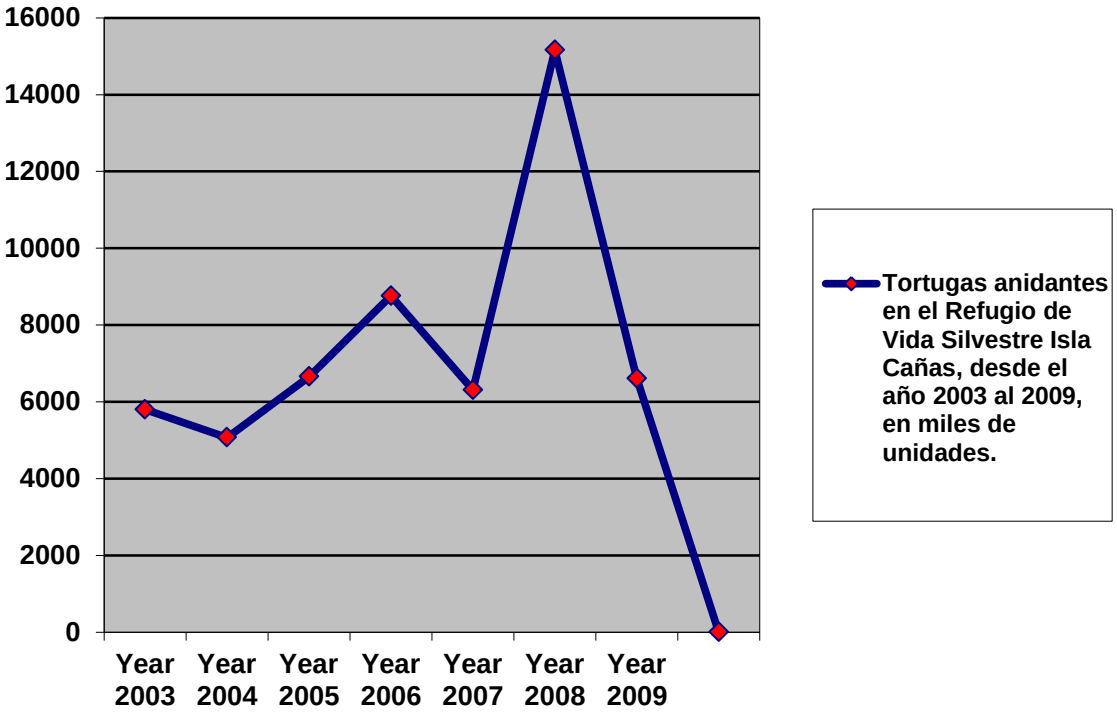
| Years | Dozens of eggs collected by the community for sale | Price per dozen sold by the committee to local buyers B/ | Price per dozen sold by the local buyers (intermediaries) to outside destinations. B/. | Committee and collector income from the sale of turtle eggs B/. | Local buyer (intermediaries) global income B/. | Local intermediary profit (B/.0.45 per dozen) |
|---|---|---|---|---|---|---|
| 2007 | 41,657 | 0.85 | 1.30 | 35,408.45 | 54,154.10 | 18,745.65 |
| 2008 | 41,947 | 0.85 | 1,30 | 35,654.95 | 54,531.10 | 18,876.15 |
| 2009 | 41,059 | 0.85 | 1.30 | 34,900.15 | 53,376.70 | 18,476.55 |
| Total | 124,663 | ------ | ----- | 105,963.55 | 162,061.9 | 56,098.35 |

In the commercialization chain, local buyers (intermediaries) sell the eggs to the so-called external recipients at an average price of B/.1.the dozen, which indicates that each local buyer has earned B/.0.45 cents a dozen in the last three years.

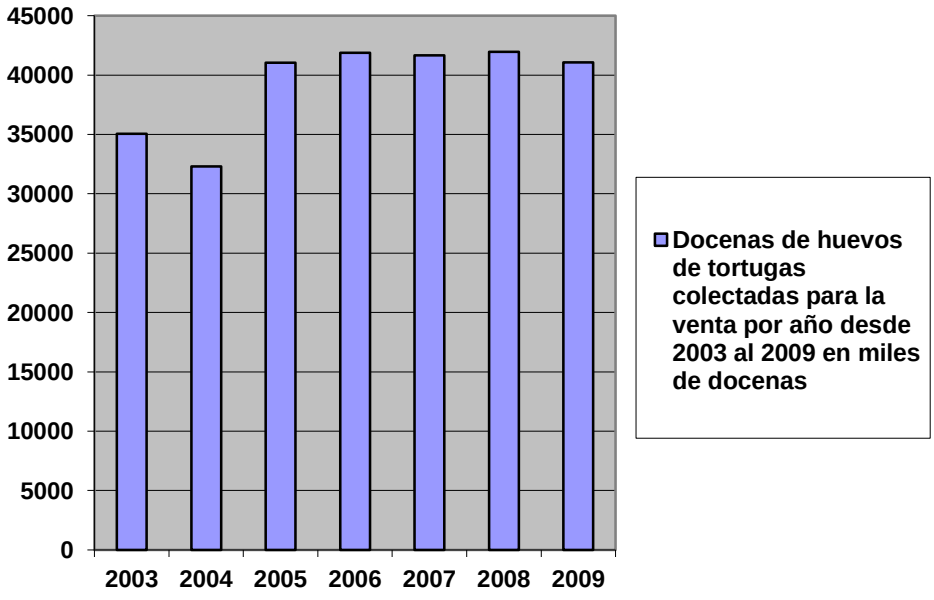
**Graph N°1: Turtle eggs laid and collected by the community for sale and number of hatchlingss from 2003 to 2009**



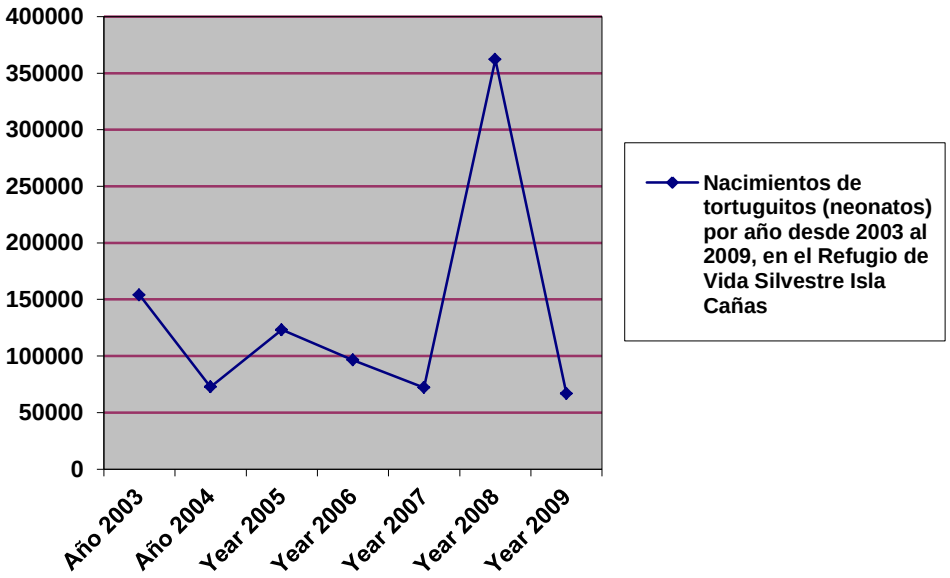
**Graph N° 2: Number of turtles nesting per year from 2003 to 2009**



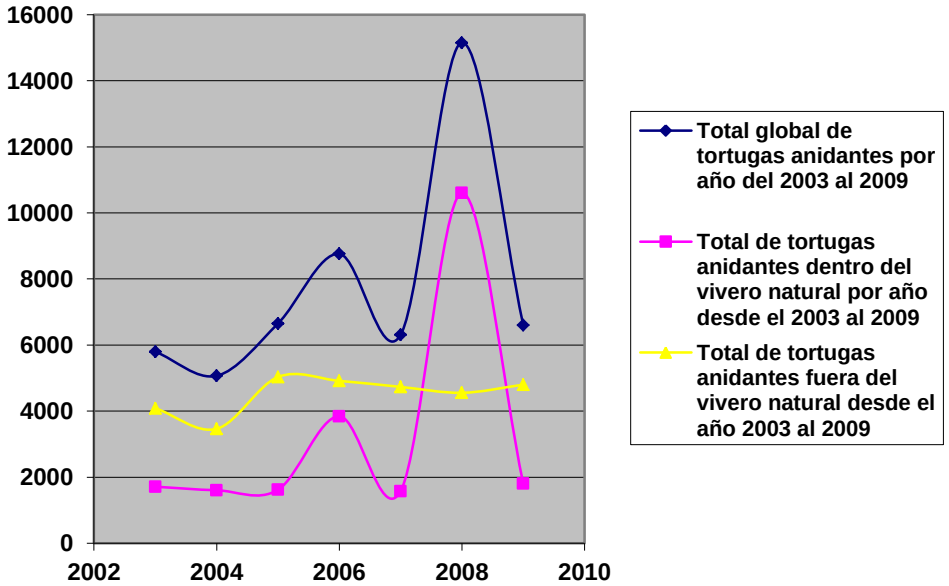

**Graph N° 3: Number of dozens of turtle eggs collected by the community for sale from 2003 to 2009**



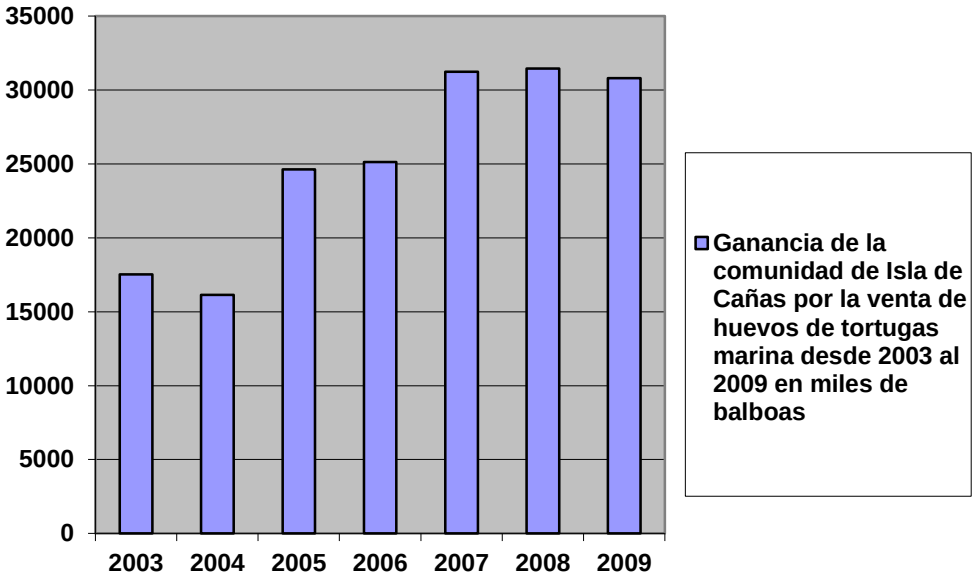
**N° 4: Number of hatchlings from 2003 to 2009**



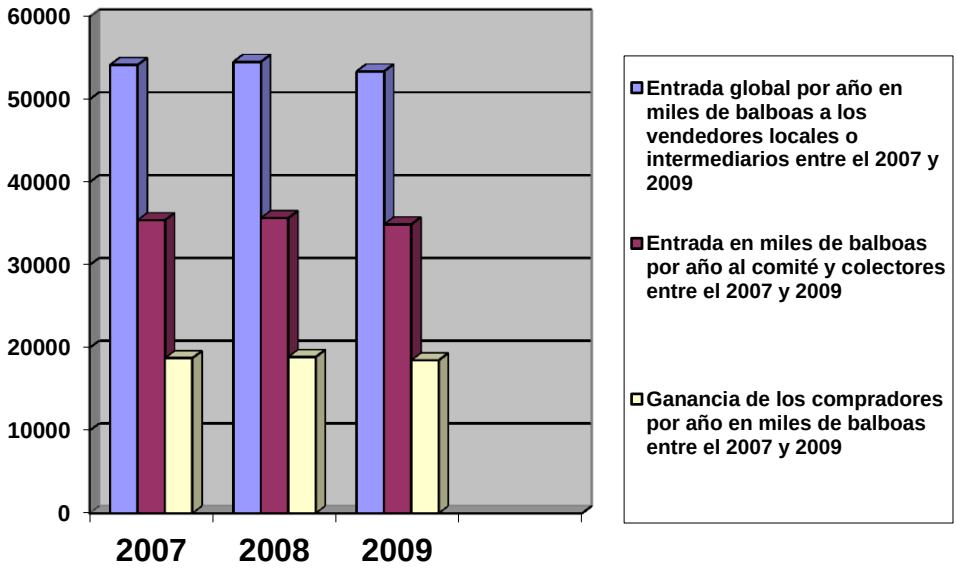

**Graph N° 5: Total number of turtles nesting inside and outside the natural hatchery from 2003 to 2009**



**Graph N° 6: Cañas Island Community Profit from the sale of sea turtle eggs from 2003 to 2009**




**Graph N° 7: Local buyers' (intermediaries) profit from the sale of sea turtle eggs from the Cañas Island Wildlife Refuge from 2007 to 2009**




By analyzing the information gathered in these tables and graphs about the community's management of the turtle egg (*Lepydochelys olivacea*) exploitation project in the Cañas Island Wildlife Refuge between 2003 and 2009, it can be observed in

Tables N° 1 and N°2 and in graph N° 1 that the number of nesting turtles during those seven years was 54,347, which almost comes to a total of 5,434,700 eggs laid.

Within the natural hatchery (which is an area of approximately 1 km where the extraction of eggs is forbidden), approximately 22,763 turtles came to lay eggs during that period, which could equal 2,276,300 eggs; on the other hand, the number of turtles laying eggs outside the natural hatchery (which is an area where the collection of eggs for thier sale is allowed) 31,584 turtles arrived to lay their eggs, which equals 3,158,400 eggs. This indicates that in the exploitation area 98,821 more turtles arrived than in the natural hatchery.

During the last seven years, the Cañas Island community has collected 274,947 dozens of eggs for sale, which equals 3,219,364 eggs laid by 32,994 turtles. If the number of eggs that were collected for sale is compared with the number of eggs laid by turtles in the exploitation area, it can be observed that 610 more nests were collected than is allowed, meaning that those were looted from the natural hatchery where collection is prohibited. During the 7 years of managing the project, 947,305 hatchlings or neonates were born, which equals 17.4% of the total of eggs laid on the Island and 41.62% of the total eggs laid within the natural hatchery. Scientific data indicates that for every 100 turtles born, one reaches adulthood. Using this data as a reference, it can be pointed out that from 2003 to 2009, we have worked for an adult population of 9,473 turtles, which in the future can arrive to lay eggs on the beaches of the Cañas Island Wildlife Refuge. Sea turtles differ on when they reach sexual maturity from one species to another. In the case of the Olive Ridley turtle (*Lepidochelys olivacea*), according to scientific studies, it can reach reproductive age between the ages of 10 and 15 years; on the other hand, the turtles can lay eggs 2 to 3 times in the same year and take up to 3 years to lay eggs again.

In tables N°1 and N° 2 and graph N° 2, the number of turtles that have arrived on Cañas Island to lay eggs per year from 2003 to 2009 can be observed, where the number does not vary a lot during the years 2003, 2004, 2006, 2007 and 2009 and it is between 4,842 and 6,651 turtles; while in 2006, 8,760 turtles arrived and in 2008, the number of turtles was much higher with 15,155 coming to lay eggs.

In regards to the number of eggs collected for sale in the 7 years recorded and according to table N°1 and N° 2 and graph N° 3, the community 3,219,364 eggs or 274,947 dozens, stays even throughout the years, with 32,304 to 41,947 dozens collected.

For the hatchlings or neonates, table N°1 and N°2 and graph N° 4 point out that during 2004, 2007 and 2009, the number of hatchlings does not vary, remaining between 66,769 and 72,657 and this increases during 2003, 2005, 2006 and 2008 with 153,990; 123,230; 96,368 and 362,145 neonates born respectively.

Graph N° 5 and tables N°1 and N°2 reflect the behavior of turtles arriving to lay eggs each year between 2003 and 2009, inside the natural hatchery as well as outside, and these reflect that during all the years except 2008 more turtles lay their eggs outside the natural hatchery which translates in more eggs being collected by the community.

Table N° 3 and graph N° 6 indicate that the Cañas Island community received between 2003 and 2009, a total profit of B/.176,931.65 for the sale of turtle eggs and that the least amount that was earned per year was of B/.25,123.80 and the highest amount was B/.31,460.25. On the other hand, the different committees during those 7 years, received a total of B/.35,008.90 for the administration of the turtle project and community social issues and the lowest amount they managed was B/.4,105.90 and the highest was B/.6,280.95

Table N° 4 and graph N° 7 indicate that between 2007 and 2009, local buyers or intermediaries (approximately 20 people from the Island) earned a total of B/.56,098.35, while the community – collectors (approximately 140 inhabitants of the Island) – earned B/.95,367.20 during those same years and the Committee that administers the turtle project (for the administration of the project and community social issues) earned B/.10,596.35. Throughout the chain of commercialization, the intermediaries received 34.62%, the collectors 58.85% and the committee 6.53%. The intermediaries were definitely benefited the most since their main role was to buy the eggs from the Committee and sell them to external buyers, generally in Panama City and Colon.

## III. SOCIOECONOMIC AND CULTURAL INFORMATION

The Parts must demonstrate that the use complies with what is established in Article IV.3, incise a. This information may include, among others:

Socioeconomic and cultural characteristics of the beneficiaries:

### Social and Economic Aspects of Cañas Island

### 1. Demographic Characteristics

The brief document is limited to the Cañas Island community, since this is the area within the Wildlife Refuge where the turtles mainly come ashore to nest and it is the only community where turtle egg extraction is permitted.

### District, Community and Settlement General Description

The 2010 national census reports a population of 9,787 inhabitants in the Tonosí district, which means a population density of 7.6 inhabitants per Km2 in its 1,294.3 km2 it contains 11 townships and 160 settlements. Of these townships, Cañas Island has 397

inhabitants. However, it must be pointed out that the Cañas Island township did not exist for the 2000 census. This community was part of the Cañas township and during the year 2000, had a total population of 994 and for the 2010 census, it was 650. In the Los Santos province, there is a tendency to decrease in population, not compensated by growing vegetation like in other parts of the Azuero region where migration is an important factor.

**TABLE 1. DETAILS THE POPULATION OF TONOSÍ DISTRICT, LOS SANTOS PROVINCE FOR THE 2000 – 2010 CENSUS**

| Township | People 2000 | People 2010 |
|---|---|---|
| **TOTAL** | 9,736 | 9,787 |
| TONOSÍ | 2,282 | 2,257 |
| ALTOS DE GÜERA | 751 | 632 |
| CAÑAS | 994 | 650 |
| EL BEBEDERO | 1,389 | 1,332 |
| EL CACAO | 932 | 1,049 |
| EL CORTEZO | 734 | 662 |
| FLORES | 528 | 664 |
| GUÁNICO | 1,006 | 996 |
| LA TRONOSA | 668 | 637 |
| CAMBUTAL | 452 | 511 |
| ISLA DE CAÑAS | 0 | 397 |

**TOTAL PAÍS : LOS SANTOS : TONOSÍ**

**Structure by Sex**

In much the same way, in 2010, the census registered a total of 9,787 people for the Tonosí District, of which 5,371 were men and 4,416 women, with a ratio of 12 men per 100 women. In the Cañas Island township (2010), 397 inhabitants were registered, with 210 men and 187 women (Masculinity Index of 112).

**TABLE 2. DETAIL OF THE POPULATION BY SEX IN THE TONOSÍ DISTRICT, LOS SANTOS PROVINCE ACCORDING TO THE 2010 CENSUS**

| Township | People | Men | Women |
|---|---|---|---|
| **TOTAL** | 9,787 | 5,371 | 4,416 |
| TONOSÍ | 2,257 | 1,201 | 1,056 |

| | | | |
|---|---|---|---|
| ALTOS DE GÜERA | 632 | 357 | 275 |
| CAÑAS | 650 | 356 | 294 |
| EL BEBEDERO | 1,332 | 732 | 600 |
| EL CACAO | 1,049 | 606 | 443 |
| EL CORTEZO | 662 | 367 | 295 |
| FLORES | 664 | 365 | 299 |
| GUÁNICO | 996 | 532 | 464 |
| LA TRONOSA | 637 | 360 | 277 |
| CAMBUTAL | 511 | 285 | 226 |
| ISLA DE CAÑAS | 397 | 210 | 187 |

**TOTAL PAÍS : LOS SANTOS : TONOSÍ**

**Population growth**

With a life expectancy at birth of 76 years for the province, one of the highest in the country for regions with a rural economy, the province's geometric growth index (per 100 inhabitants) for the year 2000 was of -0.1, a contrast conditioned in part by immigration and the problems with land distribution. The same success obtained with regards to the quality of life for the region, has since many years ago, been a expulsion factor as well, since its capacity for offers to a population with higher social expectations cannot be fully satisfied without migrating to the agricultural border as well as the cities.

All these indicators confirm the tendency of an aging population in the Herrera and Los Santos provinces, in part due to the exodus of the younger population, more so the women than the men.

2. Economy

**Current use of the land**

The immediate area of influence of the protected area includes areas of mangroves and dry land. It has been developed as a ranching, rice and corn growing area at an industrial or semi-industrial level. There are large farms in the area that leads to Tonosí. All these farms use agricultural machinery or agrochemicals, like fertilizers and pesticides, in some cases using low-flying aircrafts. There two business installations nearby as well, a shrimp farm and an agricultural one. All these farms run parallel to the mangrove line of the Cañas Island estuary.

Before the creation of the Cañas Island township, it can be seen that a little more than 77 % of the used surface is dedicated to cattle grazing land. In the Cañas Island,

according to data from the 70s, in the 832.5 acres of surface, approximately 400 were considered for agricultural use. In 1970, these lands were used for agricultural and ranching between two peasant settlements created between the residents from the island and the population of nearby land settlements from Cañas. The eastern part of the main settlement was dedicated to ranching, and the central and western for agricultural production. Stanley Heckadon (1983), an investigator of this history, indicates that a number of reasons including the cultural differences with regards to technological innovations and social organizations, contributed to the dissolution of these settlements. Currently, the majority of the land is used for agriculture.

We consider the number of families to be around 100 since the last census, which was done after the visit by the socioeconomic team, reported 89 families, suggesting that some of the houses are no longer occupied. Therefore, we believe that the number of heads of households must be around 100. This would imply an average of 8 acres per family. But as we have also indicated, the distribution of land was not equal after the settlement was eliminated. It is also likely that there are many families that have very little land, just like others that may have more than 10 acres through possessing or purchasing it.

There is no livestock on the island, especially after it became a protected area. The land is parceled according to traditional formulas, since nobody possesses deeds to the land and the parcels may be transferred from user to owner through a buying and selling, a practice accepted by the residents. They say that the surface of the island that is used for the production of watermelon is of 200 acres, under the exploitation of about 50 producers (Periódico IMA, 2004). The information indicates that a total of 100 producers are estimated for that period. In other words, the average surface per producer is around 4 acres, and the same quantity is distributed among the rest of the 50 producers from other areas.

**Production and extraction cycles**

In economic terms, the community is organized according to agricultural production and **sea turtle egg extraction** seasons. There are also occasional services aiding national and international tourists, attracted both by the beaches as well as the arribadas, but this is a relatively new process. Agricultural activities are divided into planting phase during the rainy season and planting during the dry season. During the first, subsistence crops, preferably rice and corn, are planted as well as beans and chilies that have commercial value. During the phase at the end of September and August, the land is prepared for planting watermelon and melon, which have a high commercial value. In the middle of these seasons, the extraction of turtle eggs is performed from July to December although it may extent to March but with a lower production, but as an individual activity, not organized into teams.

Along with local producers, there are external leasers from nearby localities that cultivate watermelon and beans. Some of the young men from the community work as peons, both for the local producers and for others on dry land, including occasional participation in artisanal fisheries activities, a complementary activity, although it seems to be that most are not specialized fishermen; it is only an occasional activity. In the data from the census (PRONAT, 2009), only one person accepted working on artisanal fisheries, which is not a representative fact, but it is an indicator of the members' orientations.

**Agricultural production**

The production and sale of watermelon, melons and chilies, a relatively new process on the island, begun around the year 2000, has probably partially improved the local economy. These products activate almost the entire population since they generate an important income depending on climate conditions due to the fact that the soil is appropriate for these types of products. This activity, as well as collecting eggs and the emerging tourism is elements that have seen to be improving the individual and collective earning conditions. However, during the validation workshop, the assistants' comment was to reject the assumption of an income higher than a hundred dollars. On this element, precise information was not obtained regarding profits and the investments that correspond to the planting and harvesting period of these farmers.

According to data from 2004 and 2007 published in newspapers, there are around 50 watermelon producers in the community, and maybe another 50 (including relatives within the same family) dedicated to other areas. The 50 producers plant about 200 acres of watermelon. Outside the normal agrochemical supplies for weed and pest control and fertilizer, technology seems to be traditional due to the high costs and lack of financing sources. In other parts of the province, with the use of technology and financial support, the costs are higher that 3000 dollars per acre, but their yield is high according to conditions of the exploitation market. At Cañas Island, they produce for the national market. Supporting this production is the IMA (Agricultural Marketing Institute) through the construction of a collection center on the boarding port in order to guarantee that the heat of the sun does not damage the fruit.

Characterization of the traditional/cultural use
Historically, the population of Cañas Island, as well as the rest of the Los Santos province, has exploited turtle eggs as a source of food and income, but there is no evidence that the inhabitants kill the turtles for their meat. These practices have been reported primarily in the Caribbean coast (Bocas del Toro, Colón).

Product commercialization, if the case (Commercialization chain, income generated for immediate users and benefit distribution pattern among others)

**Turtle egg extraction as a complement of the domestic economy**

In the beginning, the arribadas (defined as the synchronized presence of more than 100 turtles on the same beach) began in July and ended around December, even though the nestings (generic concept for all activities related to turtles laying eggs) continued until March. However, accounting registers begin in July, when the arribadas are obvious, which determines when the collectors organize into teams. Along the 13 to 14 kilometers of beach, the collectors or producer's work 12 or 13 kilometers, leaving 1 km free called a natural hatchery where the nests are protected from human or predator (dog and bird) attacks. In the remaining 12 kilometers, the population extracts the eggs.

An artificial nesting area of 5 by 5 meters has also been established beside the egg deposit hut. In this lot, the eggs are "relocated" in artificial "nests" for reproduction. In both places there is a strict control of relocating and hatching that has allowed control of up to 95% of effectiveness in survival to the shoreline.

**Collector organization.**

In the registers since 2003, the inhabitants as collectors have been organized into 7 groups or teams of 22-23 people, with a total of 157 people, all residents of the island of which 18 or so work effectively, and the rest are either people who generally live alone or because of their age are considered "retired" but are included in the benefits of the collection. In other words, all the families benefit from the collection. On of the last statistics(from 2006), established 6 teams with 23 – 25 members with a total of 150 people. 77 men and 73 women work in them. Each of the 7 groups has an opportunity once a week to collect eggs (one for every day of the week) during the high season. This means 4 times a month during the most productive period of six months, or 4 x 6 = 24 wages. If there is more than one person in each house, it is possible to multiply the number up to a maximum of 48. The workdays take place during nighttime shifts including the early morning.

Women participate in these shifts according to the head of the teams' assignment. In the 6 teams of 2006, 3 had women as coordinators. The members of the team distribute themselves along the 12 km coast, with 1 km per person that they periodically patrol during their shift. The majority of benefits are equally distributed at the end of the work day. The benefits depend on the arribadas and the effective sightings in order to reach the proper quotas. In the km of natural hatchery, extraction is prohibited and the process develops under the protection of one member of the team during each shift. Their benefit depends on the group's total extraction in the entire area.

The day's collection goes to a central deposit controlled by the Committee who pays the collecters and takes care of selling them to the intermediary who pays the corresponding codes that legalize the transportation of the product out of the island. Among the

members of the community are intermediaries of other intermediaries. Their number varies but can reach up to 20 local people that buy for others. The process implies and additional earning. They sell them to the consumer in the capital or in nearby towns. The addresses can be located in the popular neighborhoods like Cerro Batea, in the San Miguelito district in the city of Panama.

The demand also comes from several towns in Los Santos, etc. It is likely that the intermediaries prefer to resell in the capital since they can get a better price than in the smaller towns.

Prices: Between 2003 and 2006, the prices have fluctuated from 0.50 to 0.65 per dozen to the collector. The intermediaries pay the Committee around .80 the dozen. Price rises according to distance. The price in Panama City rises up to 1.20 per dozen, or B/.0.10 per unit. (Note: this estimate does not refer to the value on the island, but on the price in Panama City, which can fluctuate according o demand and place). However, the sale at a lower price also happens caused by the lack of immediate demand for a perishing product. In the 2005 reports, there were several months in which they were sold for 0.15 and 0.10 cents a dozen. (2005 Reports, ANAM).

Income: Income fluctuates because of the collection, depending on the number of turtles that arrive during the months of July to November. These primarily occur at night. Each team works once a week and what is collect is taken to the Committee's deposit. The Committee pays according to the sales. The collectors are paid for one part of the delivery at 0.65 the dozen according to demand. There are times were the demand strongly falls and the price falls to 10 cents per dozen like it was previously indicated. Collections outside the season during December to March are paid at B/ 1.00 the dozen. But the product obviously decreases. The demand is greatly conditioned by consumer's cultural practice relating the product to aphrodisiacs, with consumption being more conspicuous in popular bars and cantinas. This factor is spread throughout the population of the country and there are probably other sources of turtle egg collections from other parts of the country where it is prohibited. Total income fluctuates from 15,000 to 23,000 dollars for the 7 teams in 2005 and they reached a total of 157 people.

**Other uses for Committee income**

The process of collecting and selling eggs implies an profit of 0.15 per dozen for the Committee, whose activities generates operating costs such as payments for workdays, gas, materials, etc., but there are also areas destined towards community social service including funds for the school, supporting social needs, etc. In this way, a part of the Committee's income is returned to the community in the form of salary payments, allowances and social service.

**IV. MANAGEMENT PROGRAM**

Currently we are waiting to begin preparing the Management Plan for the protected area.

In complying with Article IV.3 (b)i, the Parts that will present an exception must establish and present a specific Management Program for sea turtles that establishes a limit extractive use. It is recommended that the Management Plan contain at a minimum the following information or specifications:

- Conservation, control and protection measures that will be implemented

A Protected Area is established at the beach (known as Natural Hatchery) and the areas of artificial hatcheries management.

- Monitoring and evaluation (indicators and verifiers)

These actions are performed with the help of the Mesoamerican Biologic Corridor of the Panamanian Atlantic (CBMAP).

- Monitoring and evaluation (indicators and verifiers)

Once a year (aproxim. 10 years), the Management Effectiveness Monitoring of Protected Areas Program (PMEMAP) is carried out, whose objective is to primarily evaluate the administration of the area. However, the subject of biological monitoring is not included in the reports generated, even though we can add that this mechanism does not exist within the protected area. In the same manner, scientific research practically doesn't exist and in regards to nesting and hatchings, we rely on information from field personnel (rangers) and other members of the community that support this work, but a standardized methodology has not been established at this point.

- Exploitation plan and methodology:

Exploitation is permitted during the arribada months from July to November.

- Stipulated period for the use of the resource:
  5 months

- Impact of use over the target species and other sea turtle species at a local regional scale

The island's inhabitants are the only ones that may exploit the resource (turtle eggs). People from other communities are not allowed to benefit from this resource. However, there is a lot of illegal extraction, not only in the refuge, but in other areas of the province were turtles also come to shore. Only Olive Ridley (*Lepydochelys olivacea)*

turtle eggs may be extracted. The rest of the species are prohibited. However there is evidence that eggs are extracted from other species as well.

- Limitations, obstacles y threats:

Lack of resources to monitor the eggs sold and the protection of nesting beaches.

For the development of the Cañas Island Wildlife Refuge, a consultancy has been planned in order to develop a Management Plan for the Site.

In May 2011, a meeting took place in the Research and Development Office of the ARAP with the presence of the General Director, Licdo. Franklin Kwai Ben, Marino Eugenio Abrego, ARAP biologist, responsible for the National Sea Turtle Protection and Conservation Program, Licda. Marina Gallardo link from ANAM's Protected Areas in the Los Santos province and Licdo. Alexander Montero, Protected Areas Wildlife Technician from ANAM. During this meeting, the definition of strategies that control sea turtle egg extraction in Cañas Island was discussed, present before the ARAP the concern surrounding the management of turtle eggs at a national level and the presentation of a research proposal to be performed jointly in order to learn about the populational behavior of Olive Ridley turtles in Cañas Island. As a result of the meeting, it was agreed to work more closely, focused on developing joint research actions and project presentations. This creates the need to unify criteria in order to optimize efforts and resources in regards to international and moral commitments to protect these chelonians that suffer from a great many natural threats as well as human ones. It was agreed that since the ARAP was the Focal Point in regards to sea turtles, they will be allowed to participate in meetings that take place regarding the Cañas Island Wildlife Refuge with the purpose of supporting projects that may come up about turtle monitoring like was it being done in Las Marinera Beach. ARAP commits to revising the research project in order to contribute on the basis of their experience so it is important to organize other meetings in order to discuss the Cañas Island Research Proposal and it is very important to establish strategies between both institutions in order to minimize egg extraction and illegal hunt at a national level. Hopefully, actions and strategies can be defined within the short term in order to gain effective results.

- Deadline:
  5 years

**Actions carried out to reach agreements with the community in order to comply with that requested by the Inter-American Convention for the Protection and Conservation of Sea Turtles regarding the request for an Exception to harvest eggs in the Isla Cañas Wildlife Refuge.**

# Inter-American Convention for the Protection and Conservation of Sea Turtles

## Panama

## Annual Report 2012

On Thursday, August 23 of 2012 in Isla Caña, Tonosí District, a meeting was held with the residents of the village of Isla Cañas in the Los Santos province for the following reasons: to present the Recommendations of Inter-American Convention for the Protection and Conservation of Sea Turtles on the exception presented by ANAM to Extract Turtle Eggs for subsistence use in the Isla Cañas Wildlife Refuge; to inform the residents of the Isla Cañas community on the global status of sea turtles and on the need to use self-sustainable alternatives that help conserve them; to present models used by communities that interact with the resource in the region; to exchange ideas between the residents of the Isla Cañas community and representatives of state institutions that visits well as search for alternatives to the extractive use of sea turtle eggs.

Government representatives from the National Environmental Authority (ANAM), who administer the site at both the regional and national administrative level, Panama's Tourism Authority (ATP) and ARAP as Technical Focal Point for Sea Turtles, attended the meeting along with more than 50 residents from the area.

After the opening remarks from Mr. David Vergara, ANAM's Regional Administrator from the Los Santos Province, Mr. Marino Abrego, Panama's Delegate of the IAC Scientific Committee, gave a presentation in form of a forum, using slides to present the global status of sea turtles, the sustainable initiatives carried out in some countries of the region and presented the specific recommendations made by the IAC in the case of Isla Cañas. A questions and answer session followed, clarifying doubts of the residents of the community as well as a conversation to listen to the residents requests and concerns related to the protection of sea turtles and the extractive use of their products.

Some residents expressed their discontentment and pointed out that some families need the project in order to have a source of income and that currently, the resource is being lost to those individuals who come from outside to extract the eggs on the beach. They emphasized that it is important to have an agreement with ANAM so that they can organize all of the groups that will be helping take care of the beach.

At the end of the meeting, Mr. David Vergara intervened, requesting that the community grant ANAM a sensible amount of time to analyze the results and different regulations, to see what solutions exist. Once they have an answer, another meeting will be called in order to present the alternatives and take actions regarding the project to harvest and commercialize sea turtle eggs from the Isla Cañas Wildlife Refuge.

Among the results it is important to mention that the community resisted signing the attendance list and their distrust and discontentment with the Institution was perceived, some residents requested that they make financial contributions to them so that they may cooperate with the conservation since they allegedly make a living from this resource, and only 3 or 4 receive salaries. Mr. Marino Abrego from Panama's Authority on Aquatic Resources (ARAP) was finally able to give his presentation on the global

status of sea turtles and strategies for a sustainable management of sea turtle eggs after many interruptions from some residents; Ms. Karla Barrios from Panama's Tourism Authority (ATP) spoke to the community on different tourism alternatives that can be implemented in the area and they responded by saying they don't believe in tourism and that it would actually result in a loss, since the tour companies currently operating do not allow foreigners to leave income in the community. Some residents implied that foreigners come to the beach on the island to poach sea turtle eggs. The leaders intervening were obviously very angry with the prohibition of the consumption of sea turtle eggs claiming that they make their living with this activity and expressed their desire in signing an agreement to manage this resource or threatened to put an end to it and go against ANAM. ANAM tried to speak with the community and explained that they will be analyzing the results of the meeting in order to inform them at a later time as to what steps will be taken. A night patrol was done on the beach where a number of poached sea turtle nests were encountered.

The residents of the community were in disagreement with the decisions of the IAC, and stated that they would not accept the ban on harvesting sea turtle eggs.

It must be taken into consideration that the community, to a certain extent, is willing to help conserve this resource, but they do not have enough trained personnel to manage the Refuge. The Protected Area has only four (4) park guards, which work on a rotating basis, and when there are arribadas they only have one (1) park guard which makes it difficult to protect the entire area of the natural hatchery. These patrols are carried out in the early morning hours in the company of an employee from the National Police.

Included in the pending commitments of ANAM Panama are:

1. Review the legal aspects applicable to this case with a Legal Advisor.

2. Propose the making of a regulation (not an Agreement) that allows an arrangement establishing the benefits and responsibilities between the parties to collect sea turtle eggs for subsistence and their commercialization during certain times of the year, while the Management Plan for the Protected Area is being created.

3. Coordinate a meeting with authorities from the National Police to review the topic of detaining and also regulating the sanctions for fees and sanctions for illegally harvesting sea turtle eggs.

4. Consult, for the purpose of approving, a sea turtle Monitoring Program that ANAM has been implementing for years, to start it again and apply it in the case of Isla Caña.

5. Campaign against the buying and selling of sea turtle eggs.

6. Prepare and implement an Environmental Education Plan in the protected area.

7. Send a note to the IAC informing them on the current situation Isla de Cañas Wildlife Reserve, progress made in regard to the recommendations submitted to ANAM and request that the IAC provide us with an advisory committee to help the Refuge converse with residents and support us by helping find a solution to the problem.

8. Nominate a Chief of the area who is not from the community of Cañas.

9. Remodel the infrastructure of the agency in the Refuge, since it is in a very poor condition.

Included in the committments to be undertaken by ANAM Regional are:

1. Recover to the existing Artificial Hatchery, which was built with support that CBMAP offered to the cooperative, so that it can be inhabited and put into use.
2. Summon a meeting with members from the Ecotourism Group on the Island, so that they comply and pay ANAM the mandatory fee to take tourists to the Island, since many of them are not doing so. Agreements with the tour companies will be made at this meeting.
3. Coordinate a beach cleaning activity to commemorate Ocean Month (in September). The date proposed for this beach and community clean up in Isla Cañas was September 22 at which time they hope to remove logs and trash from the beach.
4. Summon a meeting with the community leaders of Isla Cañas in the Regional Administration of Los Santos (outside of the Wildlife Refuge), and prepare a consensual document to manage and commercialize sea turtle eggs.

The Tourism Authority of Panama assumes the following commitments:
1. Request VoBo to participate in the beach cleaning activity on September 22 to help clear it of the large amount of trash and logs found in the area and get local authorities involved in the event.

2. To participate in the next inter-institutional meeting in Panama to be held on Friday, August 31 en ANAM – meeting place.

3. To present the concerns expressed during the field trip regarding tourism, as well as what needs to be improved in order develop tourism in the Isla Cañas Wildlife Refuge.

**Part III (Research information)**

***a._ Threats***

*Describe threats* ***(Coastal development, incidental capture, direct use, contamination and pathogens, and climate change)*** *by species, with information on the area and activities taken to control them in the following table.* Lo = *Lepidochelys olivacea*; Lk =

*Lepidochelys kempii*; Dc = *Dermochelys coriacea*; Ei = *Eretmochelys imbricata*; Cc = *Caretta caretta*; Cm = *Chelonia mydas*.

| Species | Threat(s) | Actions |
|---|---|---|
| Lo | *Sand extraction*<br>*Beach erosion*<br>*Constructions and infrastructures on the beach*<br>*Poor tourism administration*<br>*Egg collection*<br>*Compression*<br>*Beach traffic*<br>*Light pollution*<br>*Depredation of eggs and neonates by domestic and wild animals*<br>*Agricultural, industrial and water waste*<br>*Hydrocarbon Pollution*<br>*Obstacles on the beach*<br>*Waste in the ocean*<br>*Illness*<br>*Natural Phenomenon*<br>*Incidental Capture*<br>*Climate Change*<br>*Pollution*<br>*Floods*<br>*Collisions with vessels, accidents* | This is a highly impacted species, considering it has one of the most numerous populations, including the fact that their nesting behavior occurs throughout the whole year and from July to December nests in mass or arribadas. There have been nestings in a number of beaches throughout the Pacific coast. A number of specimens can be found in open sea. Given the situation, awareness campaigns and workshops are carried out. Community groups and fishermen associations organize and research and monitoring patrols are carried out on the beaches. It must be mentioned that these efforts are carried out both by government institutions (ARAP and ANAM) as well as NGOs (Mar Viva, Sea Turtle Conservancy, AAMVECONA, International Conservation) working together.<br>At beaches like Cambutal, Horcones, La Cuchilla, La Enjarma and Morro Puerco, in the province of Los Santos, ilegal harvesting and sale of turtle eggs ocurrs. In 2011, the sale of sea turtle eggs through the Isleños Unidos Co-op was observed in Río La Villa, Los Santos province.<br>At Mata Oscura Beach, in Veraguas province, the main threat is the dogs owned by people in the community that predate nests on the beach. At Mata Oscura Beach there is also constant sand extraction that is being done with permission from local authorities (mayor and representative). The presence of a hatchery in Cambutal, Los Santos province, has helped to reduce this problema although it is still beind done, official complaints agains those responsible have been recieved.<br>In 2011 a resolution was made by the governor of Mata Oscura prohibiting dogs on the beach at night, however, the problem still exists.<br>In 2011, a resolution prohibiting the commercial extraction of the beach was made. However, extraction is constantly being done with small vehicles.<br>The Agua y Tierra Foundation has been working on creating public awareness in the communities by holding environmental education workshops in Mata Oscura, Cambutal and Santiago of Veraguas. |
| Lk | | This species had not been reported in the Caribbean coast Panama. |
| Dc | *Sand extraction*<br>*Beach erosion*<br>*Constructions and infrastructures on the beach*<br>*Poor tourism administration*<br>*Egg collection*<br>*Hunt*<br>*Compression*<br>*Ingesting trash*<br>*Beach traffic*<br>*Light pollution* | Campaigns are carried out in order to reduce looting and the death of this species in marine costal areas and in Bocas del Toro beaches. NGOs establish work agreements with community organizations and the University of Panama in order to carry out joint activities oriented towards research and scientific extension and community participation is promoted in the protection, monitoring and reproduction of wildlife and ecotourism development. Sea Turtle Conservation Programs have been established that contribute to creating awareness and reducing threats against this species. In the Guna Yala Region, communities organize and |

| | | |
|---|---|---|
| | *Depredation of eggs and neonates by domestic and wild animals*<br>*Obstacles on the beach*<br>*Affectations of other associated habitats*<br>*Waste in the ocean*<br>*Illness*<br>*Natural Phenomenon*<br>*Incidental Capture*<br>*Climate Change*<br>*Pollution*<br>*Floods*<br>*Collisions with vessels, accidents* | protect this species. In the case of the Armila community, monitoring on beaches is organized, data is collected and the remigration of turtles that arrive to lay eggs on the beach of 4.5 km is registered. At the end of may, the Turtle Festival takes place. In 2011, the second edition took place.<br><br>Towards the middle of May, 2012, the Scientific and Cultural Sea Turtle Festival was held for the third year in a row. Community members, tourists, and delegates from the governmental sector participated in the event. Each year this event gains wider acceptance from the Panamanean community given that it promotes the protection and conservation of the leatherback turtle. Those that attend the event pass on their awareness and encourage further collaboration and support of these types of events. |
| Ei | *Sand extraction*<br>*Beach erosion*<br>*Constructions and infrastructures on the beach*<br>*Poor tourism administration*<br>*Egg collection*<br>*Hunt*<br>*Compression*<br>*Trash consumption*<br>*Beach traffic*<br>*Light pollution*<br>*Depredation of eggs and neonates by domestic and wild animals*<br>*Obstacles on the beach*<br>*Affectations of other associated habitats*<br>*Waste in the ocean*<br>*Illness*<br>*Natural Phenomenon*<br>*Incidental Capture*<br>*Climate Change*<br>*Pollution*<br>*Floods*<br>*Collisions with vessels, accidents* | With regards to this species, they are very much affected in the nesting beaches, especially in the Caribbean. Its meat is consumed in areas like Bocas del Toro. Very little is known about use of tortoiseshell in the confection of garments, but in some areas garments are produced that are sold in public stands until they are reported and confiscated. However, there have been reports of confiscated products like spurs for fighting roosters in Tocumen International Airport. As with other species, support is requested from organized groups in the community that report on illegal activities or infractions regarding sea turtles.<br>During this period, various pieces made with tortoiseshell were confiscated, the reports on the sale of these products have been filed and are in the hands of the Panama's Authority on Aquatic Resources and they have proceeded to carry out their confiscation. Products have been confiscated in the Transportation Terminal in Santiago in the province of Veraguas and in the Albrook Shopping Mall.<br><br>In the Azuero Peninsula, people claim that hawksbill eggs have a better flavor and, therefore, prefer to consume eggs from this species. Environmental education workshops have been held in in order to create public awareness amongst the communities of Mata Oscura, Cambutal and Santiago of Veraguas.<br><br>At Mata Oscura Beach, in Veraguas province, the main threat is the dogs owned by people in the community that predate nests on the beach. In 2011 a resolution was made by the governor prohibiting dogs on the beach at night, but the problem still exists.<br><br>At Costa Abajo of Colón (Coclé del Norte, Caimito, Petaquilla, Palmilla, Belén) consumption of hawksbill eggs and meat is also observed. There is currently no direct take of this species, but it is retained if caught incidentally or poached on nesting beaches. More information on this subject is being gathered so that resources may be allocated and begin taking actions in the area. |
| Cm | *Sand extraction*<br>*Beach erosion*<br>*Constructions and infrastructures on the* | With regards to this species, few specimens have been reported on the beaches, jut like the previous ones, there are a number of negative impacts in nesting areas. The reports of |

| | | |
|---|---|---|
| | *beach*<br>*Poor tourism administration*<br>*Depredation of eggs and neonates by domestic and wild animals*<br>*Obstacles on the beach*<br>*Affectations of other associated habitats*<br>*Waste in the ocean*<br>*Natural Phenomenon*<br>*Incidental Capture*<br>*Climate Change*<br>*Floods*<br>*Collisions with vessels, accidents* | incidental or accidental capture, depredated nests and reproductive females sacrificed are few. This information must be corroborated through regional links like ARAP and ANAM.<br>At beaches like Cambutal, Horcones, La Cuchilla, La Enjarma and Morro Puerco, in the province of Los Santos ilegal harvesting and sale of turtle eggs is seen. The presence of a hatchery has helped to somewhat reduce this problem, but it still occurs.<br><br>At Mata Oscura Beach, in Veraguas province, the main threat is the dogs owned by people in the community that predate nests on the beach. In 2011 a resolution was made by the governor prohibiting dogs on the beach at night, but the problem still exists.<br><br>At Costa Abajo of Colón (Coclé del Norte, Caimito, Petaquilla, Palmilla, Belén) consumption of hawksbill eggs and meat is also observed. There is currently no direct take of this species, but it is retained if caught incidentally or poached on nesting beaches. More information on this subject is being gathered so that resources may be allocated and begin taking actions in the area. |
| Cc | *Sand extraction*<br>*Beach erosion*<br>*Constructions and infrastructures on the beach*<br>*Poor tourism administration*<br>*Egg collection*<br>*Hunt*<br>*Compression*<br>*Trash consumption*<br>*Beach traffic*<br>*Light pollution*<br>*Depredation of eggs and neonates by domestic and wild animals*<br>*Obstacles on the beach*<br>*Affectations of other associated habitats*<br>*Waste in the ocean*<br>*Illness*<br>*Natural Phenomenon*<br>*Incidental Capture*<br>*Climate Change*<br>*Pollution*<br>*Floods*<br>*Collisions with vessels, accidents* | This species is also reported on both of our country's coasts. There is not a lot of information and efforts are needed in order to review their current situation with current data. Among the problems that this species faces is the hunt for their meat and their shell, even though their hunt as food is currently not the most important one. A bigger problem just like with other species is the lack of safe beaches due to tourism, disruption and building that stop the turtles form lying eggs in these areas. Incidental capture on long line fisheries of sub adult specimens was known in previous years. Other fishing gears such as deep water trawling nets may also be impacting this species as well as others. Another factor that may be affecting them is marine pollution and waste. Our limited institutional efforts focus on creating awareness within the communities through local community programs.<br>At Costa Abajo of Colón (Coclé del Norte, Caimito, Petaquilla, Palmilla, Belén) there is currently no direct take of this species, but it is retained if caught incidentally, mentioning that is is very scarce and aggressive when caught in the nets. More information on this subject is being gathered so that resources may be allocated and actions be taken in the area. |

### *b._ Research*

*Describe scientific research that is being carried out in the country relating to sea turtle population assessments including tagging, migration, and genetic studies, as well as those relating to conservation issues including habitat monitoring, fisheries interactions, disease, etc. Provide a list of references for the information used in this report and note how to obtain them when needed.*

In La Marinera Beach during 2010, the more relevant aspects of nestings initiated since 2009 have been determined, which establishes a baseline in order to compare the results of the following years taking into account that in 2010, there was heavy rainfall due to the La Niña phenomenon. These actions have allowed for the establishment on homologous work methodology in the region for gathering data on solitary nestings and arribadas, primarily of the Olive Ridley (*Lepidochelys olivacea*) turtle. Female nesting turtle measures in La Marinera Beach evidence size ranges similar to the nesting females on another nesting beach in this region, indicating similarities in the population that requires further studies (Season Report, Playa La Marinera 2011).

During monitoring activities, 5 arribadas or mass nestings were observed in La Marinera Beach that generally lasted for 2 to 3 nights, with turtles nesting during the day and in 15 day and 1 month intervals, which depended on the frequency of the rain and moon cycle. The greatest frequency was observed in the central part of the beach, showing that the section of the beach perfered by turtles coincided with the section that had fewer changes throughout the year. Having observed two (2) nesting turtles tagged on La Marinera Beach on other beaches like Guánico Abajo and Cambutal, it was shown that they could nest at different beaches during the season. Data from the hatchery shows a good hatching success when compared to data from natural nests in other studies, offering an alternative to rescue those nests found in areas of high risk in La Marinera beach, primarily those that are in danger of being lost to the effects of erosion and runoff. The hatchery is also an excellent tool for collecting data on relocated nests (Season Report, Playa La Marinera 2011).

The Study on the Conservation and Management of Olive Ridley Lepidochelys olivacea nests at La Marinera Beach, done by Rodríguez, J. 2012, took into consideration the building of an experimental hatchery and spatial distribution of nests. To build the hatchery all of the sand at the site was removed to a depth of 75 cm then sieved. After cleaning the sand, posts were put up and enclosed with a wire fence to prevent animals from entering the hatchery. Quadrants were roped off every 50 cm inside the hatchery in order to comply with recommended nest distance and density. A galvanized steel cylinder was made to encircle each nest and then it was covered with a fine wire mesh. The cylinder was made to prevent predation by crabs, birds and small animals. The mesh was used to prevent presence of insect larva. A ticket with nest data and date relocated as well as estimated hatching date was placed in each nest.

Markers were made to identify natural nests. Small plastic bottles were tied with 10 cm of nylon string to 2 inches of a ¾" PVC pipe to which another nylon string 20 cm long was tied and connected to another ¾" PVC 4 inches long. 250 of these markers were made. Two hundred and twenty five nests were marked in situ during the 3 arribadas at La Marinera Beach in the following way: 50 nests during the arribada that happened on August 19 and 20, 100 nests during the arribada on September 16 and 17 and 75 nests during the arribada from October 17 to 19. 40 nests were relocated to the experimental

hatchery where hatching data was recorded from October to December of 2011. Data on the hatching of arribada nests was recorded for August and September and excavations were done 3 days after hatchlings emerged in order to give the hatchlings ample opportunity to emerge adequately and to not interrupt the natural process. Data was recorded on emerged hatchlings from 50 nests selected at random, for the purpose of knowing how many successfully go towards the beach. In order to do this, a wire mesh fence was placed around the selected nests once their hatching date got close and it was checked daily. In the hatchery, all hatchlings that emerged were counted for every nest and excavations of both nests in the hatchery and natural nests were done, digging up the nests, counting the broken shells and closed shells that did not hatch, using a method that classifies the unhatched eggs by phase of embryonic development or stage. The results of this work are reported in the 2013 Report.

A study carried out by Ruiz, R.A. & Rodríguez, J. 2011 regarding the Characterization of Sea Turtle Nesting Beaches in Coiba National Park, Veraguas province, Panamá emphasized that four of the five species of sea turtles present in its territorial waters had been confirmed along the beaches of Panama's pacific coast; the hawksbill turtle (Eretmochelys imbricata), the leatherback turtle (Dermochelys coriacea) that are classified as Critically Endangered by the IUCN Red List; the green turtle (Chelonia mydas), an Endangered species and the olive ridley (Lepidochelys olivacea) classified as Vulnerable.

Currently very little bibliographical information on reproductive, feeding and migratory habitats of sea turtles in the Pacific of Panama exists. This study identified four species of sea turtles nesting on the beaches in Coiba NP. It mentions the presence and sightings of sea turtles on the island of Coiba and its surrounding area since the XVI century (Mittermeier y Milton, 1978). Nesting of the green or black turtle, Chelonia mydas, an endangered species, was confirmed at the beaches of Manila, Rio Amarillo, Damas and Punta David on Jicarón Island. Reproductive and feeding activities were also observed at sea. Leatherback turtles, Dermochelys coriacea, a critically endangered species, nests at Manila beach.

As for the beach characterizations, predominant plant and animal species present on the eight beaches surveyed were recorded. Samples of sand were taken for granulometria and analysis of organic content at four sites on the beaches showing the presence of medium, coarse and very course sand at sea turtle nesting beaches. This information collected will serve as base line data for future studies. This protected area offers a unique opportunity in the Pacific coast of Panama to research and protect the five species of endangered sea turtles along with their coastal marine environments offering reproductive, feeding and migration habitat. The establishment of a sea turtle program involving key stakeholders is urgently needed and should include the following components: scientific research, environmental education, protection and community

participation for the best management and conservation of sea turtles at Coiba National Park and its buffer zone.

The study on the Evaluation of Fishing Impacts on Sea Turtles in the Gulf of Chiriqui, western Pacific of Panama by Vega, A., and Robles, 2010, includes three types of fishing gear: gillnets, vertical lines and bottom and surface longlines. Each type of fishing gear is used to exploit different types of resources, and thus they operate from estuary zones, surrounded by mangroves, up to the border of the platform and areas around islands and smaller rocky islands. This study was done between March of 2009 and June of 2010, with the presence of onboard observers on artisanal fishing vessels. The observers collected information on the species of sea turtles caught by the different types of fishing gear, in order to determine the incidence of each one of them on the different species of sea turtles. To quantify the occurrence, the number of sea turtles caught for every one thousand hooks set was calculated per cast for longlines and gillnets. 36 sea turtle specimen were incidentally caught, representing the 3 species of the Cheloniidae family. 58 % of the captures were Lepidochelys olivacea, followed by Chelonia mydas agassizii (33%) and Eretmochelys imbricata, with less than 1%. 69% of the turtles were retrieved alive and were returned to sea. The rest were dead and were consumed by the fishermen (31%). By type of fishing gear, in the horizontal bottom longline 7 of the 17 turtles were retrieved alive, and in the superficial longline 15 of the 16 were alive. In gillnets, the three turtles caught were retrieved alive. The total effort recorded for bottom longlines was 78,415 hooks set, with greatest incidence during the second semester of the year. However, they only captured turtles during 4 moths (April, August, February and March), with an average of 1.04 turtles/1000 hooks, with the majority of the occurance in the month of April (2.9 turtles/1,000 hooks). In the superficial longlines 13,533 hooks were set, with an average incidence of 1.32 turtles/1,000 hooks.

In the case of gillnets or entangling nets, three E. imbricata turtles were caught (two in April and one in June), in 250 casts during the sampling year (0.012 turtles/cast). If incidence is measured in terms of the total number of hooks set or entangling nets cast there were 0.22 turtles/1,000 hooks (approximately one turtle every 4,600 hooks) for bottom longlines and 1.18 turtles/1,000 hooks (approximately one turtle every 846 hooks)with surface longlines. For entangling nets it was approximately one turtle every 83 casts. Some conclusions of this work can be emphasized, in particular that the different types of fishing gear evaluated in this study presented different rates for sea turtle capture. The highest values for incidental capture occurred in superficial and bottom longlines, followed by gillnets and vertical lines, in which no turtles were captured. In the longlines, sea turtles belonging to the species Chelonia mydas agasszzi and Lepidochelys olivacea were captured, while with the gillnets, only the species Eretmochelys imbricata was captured and associated with estuary and mangrove areas.

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The study carried out by Meylan, P., Meylan, Anne and Ordoñez, C. 2012, called Sea Turtle Ecology and Migration in the Province of Bocas del Toro and Nöbe Buglé Region, Panama, reports that by providing continuity to the sea turtle research and recovery project in the province of Bocas del Toro and Ngöbe Buglén Region, a slow recovery of nesting hawksbill populations in the area was observed in 2011. 1208 hawksbill nests were recorded for this year in the study sites in the region, and 779 hawksbill nests in the PMNIB and Bocas del Toro province, for a total of 1987 nests. It is important to remember that Bluff Beach was added to our study in 2011 (153 nests). Unfortunately, poaching of turtles on some beaches has increased, such as in Roja Beach and Punta Vieja, due to the lack of interest from the communities to help in their conservation, as well as to illegal fishing that still occurs at sea. These problems can drastically affect our objective to recover nesting hawksbill turtle populations due to the fact that the female population shares nesting beaches in the Isla Bastimentos Marine Park, others beaches in the Province of Bocas del Toro and beaches in the Ngöbe Buglé Region.

During 2011 in Chiriqui Beach, traps were placed over hawksbill turtle nests to reduce depredation by dogs. The traps resulted in a reduction of this problem, but did not completely eliminate it. The participation of the community, ANAM representatives and governmental and territorial representatives is very important, to help us implement better control of dogs in the communities during the nesting season. Thousands of hatchlings have been released on all of the study beaches, but we have to remember that not all of these animals make it to endure their long life cycle, it is estimated that only one of 1000 hatchlings will reach adult reproductive age, thus their survival success is very low.

The researchers suggest that more support is needed from governmental institutions to control illegal fishing of turtles at sea, since each year more divers are observed both within and outside the PNMIB, as well as harpooning of turtles in the PNMIB and Comarca Ngöbe-Bugle. Furthermore, from what has been observed during 2011in terms of an increase in poached nests and turtles on some beaches, the work being done on creating public awareness is important but so is the surveillance or constant operatives, which can greatly reduce this problem. They emphasize further that these results be taken into consideration to search for alternatives to protecting beaches of Punta Vieja, Polo, Bluff Beach and Roja Beach. Since these areas are prone to many negative impacts, whether from surrounding communities, their easy access, coastal development occurring near them and others, they can result in negative results on the work we are carrying out.

The density of olive ridley (Lepidochelys olivacea) nests during the 2010 nesting season was less than 2 n/m2 at La Marinera Beach, Tonosí, Pacific of Panamá, which is advantageous for a high hatching success and sustainability of arribadas on this beach.

The arribadas in the months of August, September and November at La Marinera Beach were relatively small, with no more than 3000 turtle nests per arribada. The olive ridley showed preference for nesting in the central sectors of the beach (4 to 7) in its high zone, where there is little influence from tides.

A study on the Evaluation of Nest Density of Olive Ridley Turtles, *Lepidochelys olivacea*, at La Marinera Beach, Guánico Debajo of Tonosí, Los Santos Province was carried out by Ozzy Vázquez, 2012 student at the Marítima International University of Panamá. The study concluded that the density of olive ridley turtle (Lepidochelys olivacea) nests during the 2010 nesting season was less than 2 n/m2 at La Marinera Beach, Tonosí, Pacific of Panamá, which is advantageous for a high hatching success and sustainability of arribadas on this beach. The arribadas in the months of August, September and November at La Marinera Beach were relatively small, with no more than 3000 turtle nests per arribada. The olive ridley showed preference for nesting in the central sectors of the beach (4 to 7) in its high zone, where there is little influence from tides.

A result of this research were the recommendations to prevent the harvesting of olive ridley turtle (Lepidochelys olivacea) eggs at La Marinera Beach (depending on trained personnel to manage this species and its nesting beaches), to carry out granulometria studies and to do a biophysical characterization of La Marinera Beach, mainly in the sectors and zones identified as preferred nesting sites. Environmental Education programs on sea turtles should be initiated directed at members of the communities surrounding La Marinera beach so that they understand the importance of their conservation. In addition, a co-management program of the La Marinera Reserve Area, between ARAP and non-governmental organizations should be established to gain improved protection of this area and promote the preparation of a Management Plan for the La Marinera Reserve Area. These actions should achieve adequate management and contribute to the sustainability of olive ridley turtle populations in the region, especially in the sectors preferred for nesting on the arribada nights.

***c._ Other activities***

*Include information on: environmental education activities, programs to establish and manage protected areas, and cooperative activities with other Party countries.*

Training sessions and fieldwork sessions on sea turtles has been performed with Biology, Geographic Tourism and Ecology students from the University of Panama, Central Campus and Regional University Center of Colon and the International Maritime University of Panama (UMIP) with participation from the students in La Marinera Beach, Cambutal and Mata Oscura. These students have been learning and training at a national and international level on the scientific study of sea turtles. Their primary objective is to increase conservation efforts for these reptiles in Panama. The

main objective or interest is to increase scientific abilities of the Panama's future professionals, and also to, aid the sustainable development of the coasts. For these reasons, we are exploring the opportunity to perform a field study on "Scientific Systematization of Sea Turtle Nesting Data in the Costa Abajo of the Colon province" place where Mr. Generoso Muñoz has empirically registered sea turtle nesting data during 12 years as part of the "Sea Turtle Conservation and Reproduction Project" located in Sector San Roque Beach Coclé del Norte Township, Donoso District, Colon Province, Republic of Panama.

Awareness and environmental education campaigns have been carried out along with U.S. Peace Corps Volunteers in the Mata Oscuro communities in the province of Veraguas and in Guánico Abajo and Cambutal in the province of Los Santos. The joint efforts with Organized Groups and NGOs (APUCHAM and TortuGuías) in communities like Punta Chame, Panamá must be mentioned.

The efforts and actions of private and public institutions towards the protection and conservation of sea turtles must be pointed out especially: ARAP and their Regional Offices through the National Sea Turtle Protection and Conservation Program, Coordination of the National Committee for the Protection and Conservation of Sea Turtles in Panama and the ANAM, the ANAM through the support f protection and conservation activities in protected marine-costal areas, International Conservation (CI) through the CI-Fundespa Marine Program, the Smithsonian Tropical Research Institute(STRI) through the Cooperation Agreement ARAP-STRI, the University of Panama and International Maritime University of Panama (UMIP) with the support of research, monitoring and volunteer students, Agua y Tierra Foundation (FUNDAT) with their actions towards the Conservation of Sea Turtles in the Azuero Peninsula, TortuGuías Foundation through their Sea Turtle Awareness and Conservation project, Sea Turtle Conservation Group, Tourism and Agricultural Development in Cambutal (TORTUAGRO) and the Association for the Protection and Conservation of Sea Turtles of Guánico (PROTORTUGAS) in process supporting sea turtle protection and conservation activities, the Fishing and Ecotourism Agropecuarian Association of Quebro (AAPEQ) through their project of an Environmental and Sea Turtle Conservation Center supported by the UNDP-PPD, and Peace Corps volunteers through their through their Sea Turtle Protection and Conservation Program through Community Environmental Education actions in Mata Oscura (Veraguas), Cambutal and Guánico Abajo (Los Santos).

During the 2011 and 2012 period, the Agua y Tierra Foundation has held environmental education workshops, using a participatory and dynamic methodology called "Turtles Forever", with the participation of members from coastal communities, university students (UMECIT and UMIP) and personnel from ANAM (Veraguas). A volunteer program for activities related to sea turtles was carried out with the participation of

university students, professionals and community members in activities like beach monitoring and environmental education.

The V Southeast Pacific Regional Sea Turtle Symposium was held in Panama City from December 1-2, 2011, in the Earl Silas Tupper building of the Smithsonian Tropical Research Institute (STRI). During the event, speeches were given along with all of the other planned activities including a Panel of Regional Experts, accomplishing important interactions which allowed us to identify those opportunities needed in order to strengthen regional research initiatives and management. This event included the following thematic areas: Research and Monitoring, Conservation and Sustainable Management, Fisheries Interactions and Threats, Legislation and International Cooperation, Environmental Education and Community Participation and Biological and Veterinary Aspects. This allowed for agreements to be made to work together in order to better understand the conservation status and management of sea turtles in the Eastern Pacific as well as the technological advances that contribute to the knowledge on these species in order to make decisions among the countries in the region.

Panama's Aquatic Resources Authority (ARAP), as Technical Focal Point on Sea Turtles in Panama, called to strengthen joint efforts and to successfucly carry out this important regional event, thus forming the Organizing Committee of the V Southeast Pacific Regional Sea Turtle Symposium with representatatives from public entities like the National Environmental Authority (ANAM), The University of Panama, The ime International University of Panama (UMIP), scientific research institutions like the Smithsonian Tropical Research Institute (STRI) and non-governmental organizations like Foundation MarViva, the Agua and Tierra Foundation (FUNDAT), Conservation International and the Permanent Commission of the South Pacific (CPPS), in addition to the valuable collaboration of the TortuGuías Foundation and the Association Friends of Animals and Nature, AAAN.

Holding the V Southeast Pacific Regional Sea Turtle Symposium provided numerous individuals involved in sea turtle research and conservation with the opportunity to:

1. Present and discuss their work and experiences regarding sea turtle conservation management and research in countries in the Southeast Pacific.
2. Learn about other initiatives for sea turtle conservation being developed in other regions.
3. Propose joint conservation actions to be carried out in the region.
4. Promote the increase in specialists and sea turtle research in the region.
5. Promote outreach between researcher's and search for possible solutions for sustainable protection and conservation.

By forming an Organizing Committee and the high level of commitment to the project from those that are part of it, enabled us to fulfill the established work plan as well as the logistical aspects needed to hold a successful V Southeast Pacific Regional Sea Turtle Symposium. Interaction with representatives from Public Entities, Research

Institutes and Non-Governmental Organizations directly involved in sea turtle protection and conservation was important, allowing for better and closer relationships to be formed with key actors to coordinate and collaborate on future actions regarding sea turtles at a national and regional level.

Panama's Authority on Aquatic Resources, who chaired the Organizing Committee, received significant help in executing the V Southeast Pacific Regional Sea Turtle Symposium, highlighting the following:

1. The National Environmental Authority (ANAM) helped with the preparation of promotional materials and publicity of the event, including advertising through their website.
2. The University of Panama promoted the V Southeast Pacific Regional Sea Turtle Symposium on their website, provided volunteers on the day of the event, and their Vice Chancellor of Student Affairs supported the opening ceremony.
3. The Maritime International University of Panama together with ARAP were in charge of transporting the participants to and from the lodging site, to and from the Bus Stop located in Albrook, and to and from the Earl Silas Tupper Auditorium, where the event was held. They contributed with the participation of a technical person from the Department of Research, Development and Innovation and provided the participation of student volunteers to assist the participants during the symposium, which started on November 30 and ended on December 3 of 2011.
4. The Smithsonian Tropical Research Institute (STRI) provided the Auditorium in the Earl Silas Tupper Center, the Conference Room and hosted the welcome reception for international and national participants and representatives from the Government of Panama. They also contributed to the Scientific Program by analyzing, reviewing and selecting the talks. Cooperation with Panama's Authority on Aquatic Resources occurred within the framework of the collaborative agreement between the two institutions.
5. The MarViva Foundation collaborated with ARAP providing financial support and assisted with the required procedures to comply with the commitments acquired from the suppliers. They also promoted and circulated information on the event.
6. The Agua and Tierra Foundation (FUNDAT) played an important role in the organization and preparation of the V Southeast Pacific Regional Sea Turtle Symposium, by making drawings, flyers and invitation letters; providing support to the Secretariat of the Organizing Committee in the form of creating lists, preparing agendas and help with the minutes; as well as in recruiting volunteers.
7. The participation of Conservation International was very important to carrying out the V Southeast Pacific Regional Sea Turtle Symposium providing it with significant financial support, advising the Organizing Committee, as well as helping to plan it and execute the established timeline.
8. In addition to acting as the financial administrator of the donations provided by Conservation International, the registration fees and other donations, the Natura Foundation played an important part in guiding and advising the Organizing

Committee on how to implement the project. They also provided the Meeting Room where the Organizing Committee carried out their work and played a critical role in the logistics both before and during the Symposium.

9. As Technical Focal Point on Sea Turtle topics, Panama's Aquatic Resources Authority chaired the Organizing Committee, which was in charge of coordinating, directing and executing actions in order to successfully develop the V Southeast Pacific Regional Sea Turtle Symposium. With help from the Data Processing Center, the Symposium website was installed on their platform, uploading information regarding the Symposium so that the participants could learn more and obtain information regarding the event. ANAM, STRI, MarViva, and the Maritime International University of Panamá collaborated with ARAP in preparing informational and promotional materials on the Symposium through their Public Relations Departments. ARAP was responsible for hiring and paying suppliers, as well as coordinating the production of informational and promotional materials. ARAP was also responsible for planning and executing the V Southeast Pacific Regional Sea Turtle Symposium according to its established Work Plan and within the budgetary limitations. A Budget with estimated expenses was also made and a letter of understanding with the Natura Foundation to administer the funds donated by Conservation International and a procedure for acquiring goods and services was prepared.

At the end of the V Southeast Pacific Regional Sea Turtle Symposium, the Declaration of Panama was approved, where the participants from the Southeast Pacific countries present reaffirmed their commitment to continue working in favor of sea turtle protection and conservation in order to achieve the recovery of these species and reduce their threats; recognizing the importance of regional integration and forming strategic alliances among key actors to strengthen research and monitoring activities, conservation and sustainable management, governing and legislation, and environmental education. The need to continue holding events like the regional symposium was mentioned, thus proving a forum for the stakeholders involved to share their knowledge and experiences. Lastly, it is important to encourage follow-up activities to the regional symposia that would help to improve this exchange of experiences and knowledge, as well as the standardization of research and monitoring methods. During this event, 13 talks were done on research and monitoring; 14 on conservation, management and community work.

With the help of Conservation International, the Action Plan for the Conservation of Sea Turtles in Panama is currently being developed, which will strengthen the commitments the country has made under the different conventions or agreements that its party to in regards to sea turtle conservation and protection. The Work Plan for this Action Plan includes an updated assessment of the conservation status of sea turtles in Panama (through bibliographical revision, interviews and expert consultations); as well as holding three workshops in order to validate the assessment and complement the

Action Plan, for each region of the country (east, central and west) and a final workshop for its approval. The Action Plan integrates habitat management planning, sea turtle population surveys and their recovery, multisectorial training, community participation and environmental education initiatives. Participation of community members is essential including fishermen, conservationist groups, governmental personnel, business owners, in reality all stakeholders involved in the process, as well as concerned citizens, have a role to play in their management, the conservation and effective protection of sea turtle populations and their marine habitats in coastal communities and other marine zones of Panama. The results of this consultation will be presented in the 2013 Annual Report.

**Part IV: Annexes**

**Table 1: Species Present**

*Place an X in the box when the species listed is present in the oceanographic basins of your country as established in Article III of the text of the Convention. Lo = Lepidochelys olivacea; Lk = Lepidochelys kempii; Dc = Dermochelys coriacea; Ei = Eretmochelys imbricata; Cm = Chelonia mydas; Cc = Caretta caretta.*

| Species | Pacific Ocean | Atlantic Ocean | Caribbean Sea |
|---|---|---|---|
| Lo | X | | |
| Lk | | | |
| Dc | X | | X |
| Ei | X | | X |
| Cm | X | | X |
| Cc | X* | | X |

** There is no scientific proof, only anecdotal information.*

**Table 2: Important nesting sites for sea turtle conservation**

a. *This table is intended to report information on the priority nesting beaches (for example, sites with greater abundance, endemism, genetic importance, others) for each species. For beaches that have multiple species nesting, enter that beach under the list for the primary nesting species. When entering information on nesting beaches, information is to be entered for each species independently. Indicate the names of nesting sites and the nesting season months for each site.*
b. *Geographic location: Specify latitude and longitude in degrees, minutes and seconds - provide one or two points of reference for nesting sites (if available).*
c. *Extension: Provide the total length (in Kilometers) of the nesting beach.*
d. *Declared protection area: Indicate if the area is declared as some type of protected area.*

*e. Protection measures: Indicate if any type of protection measures are in place at the nesting site (For example, turtle safe lights).*

*f. Annual nesting abundance: Where possible, provide information on the total number of females and/or nests deposited at the nesting beach. If a specific value is not available, please provide a range for annual number of nesting females or nests deposited. If data are unavailable, enter 'unknown' or 'unavailable'. The ranges for annual number of females are: 0-10, 11-100, 101-500, 501-1000, 1001-5000, 5001-10000, 10001-50000, 50001-100000, >100000. The ranges for annual number of nests are: 0-10, 11-100, 101-500, 501-1000, 1001-5000, 5001-10000, 10001-100000, 100001-500000, >500000. On a separate sheet, provide a brief description/justification on why each site that was mentioned is considered important (sites with greater abundance, endemism, genetic, others). Include historical information (graphic and/or tables) showing the population status of each species present at the site.*

*g. Information from tagging program: Indicate if there have been any tagging activities at the nesting beach. This includes flipper tagging, passive integrated transponder (PIT) tagging, and satellite telemetry programs. If possible, on a separate sheet or as attached reference provide greater detail about the type of tagging efforts conducted. Also provide satellite telemetry maps or flipper tag recovery information if available.*

*h. Tissue sampling: Indicate if there has been tissue sampling conducted at this site. This includes skin, blood, and other body tissues. On a separate sheet, or as attached references, describe these tissue sampling programs in greater detail. For example, were samples collected for genetic, contaminant, and/or stable isotope studies?*

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| Spp | Name of Priority Nesting Site (Regular nesting) | Season | Geographic Location (Lat/Long) in Degrees, Minutes, and Seconds | | | | | | | | | | | | | | | | | | | | | | | | | | | | Extension (km) | Declared Protection Area | Protection Measures | Annual Nesting Abundancen | | Tagging Program | Tissue Sampling |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Beginning | | | | | | | | | | | | | | Ending | | | | | | | | | | | | | | | | | | | Femlaes | Clutches | | |
| Lo | Isla Cañas | Jul-Dec. | 7 | ° | 16 | ' | 23 | " | N | 80 | ° | 25 | ' | 09 | " | W | to | | ° | | ' | | " | N | | ° | | ' | | " | W | 14.5 | yes | | 7 | | No | No |
| | La Marinera | Jul-Dec | 7 | ° | 15 | ' | 24 | " | N | 80 | ° | 25 | ' | 36 | " | W | a | | ° | | ' | | " | N | | ° | | ' | | " | W | 0.8 | yes | | 7 | | Yes | Yes |
| | Mata Oscura | May-Dec. | 7 | ° | 28 | ' | 17 | " | N | 80 | ° | 56 | ' | 21 | " | W | a | 7 | ° | 26 | ' | 37 | " | N | 80 | ° | 55 | ' | 03 | " | W | 4.0 | no | patrols | | 200 | no | no |
| | Cambutal | May-Dec. | 7 | ° | 14 | ' | 54 | " | N | 80 | ° | 30 | ' | 07 | " | W | a | 7 | ° | 14 | ' | 59 | " | N | 80 | ° | 29 | ' | 31 | " | W | 1.0 | no | | | 350 | no | no |
| | La Cuchilla | May-Dec. | 7 | ° | 14 | ' | 58 | " | N | 80 | ° | 29 | ' | 27 | " | W | a | 7 | ° | 14 | ' | 49 | " | N | 80 | ° | 28 | ' | 48 | " | W | 1.5 | no | patrols | | 500 | no | no |
| | Horcones | May-Dec. | 7 | ° | 14 | ' | 32 | " | N | 80 | ° | 33 | ' | 30 | " | W | a | 7 | ° | 14 | ' | 17 | " | N | 80 | ° | 31 | ' | 43 | " | W | 3.5 | no | | | 500 | no | no |
| | Morro Puerco | May-Dec. | 7 | ° | 14 | ' | 49 | " | N | 80 | ° | 27 | ' | 27 | " | W | a | 7 | ° | 14 | ' | 30 | " | N | 80 | ° | 26 | ' | 35 | " | W | 1.7 | no | | | 1000 | no | no |
| | Morrillo | May-Dec. | 7 | ° | 29 | ' | 39 | " | N | 80 | ° | 57 | ' | 50 | " | W | a | 7 | ° | 28 | ' | 37 | " | N | 80 | ° | 56 | ' | 26 | " | W | 3.0 | no | | | 100 | no | no |
| Lk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dc | Horcones | Dec.-feb. | 7 | ° | 14 | ' | 32 | " | N | 80 | ° | 33 | ' | 30 | " | W | a | 7 | ° | 14 | ' | 17 | " | N | 80 | ° | 31 | ' | 43 | " | W | 3.5 | no | | | 5 | no | no |
| | Rincón | April-jul. | 8 | ° | 59 | ' | 55 | " | N | 80 | ° | 43 | ' | 26 | " | W | a | 9 | ° | 00 | ' | 39 | " | N | 80 | ° | 41 | ' | 44 | " | W | 3.6 | no | | | 25 | no | no |
| | San Roquito | April-jul. | 9 | ° | 03 | ' | 53 | " | N | 80 | ° | 36 | ' | 31 | " | W | | 9 | ° | 04 | ' | 06 | " | N | 80 | ° | 35 | ' | 56 | " | W | 1.2 | no | patrols | | 5 | no | no |
| | Manila | jan.-mar. | 7 | ° | 22 | ' | 06 | " | N | 81 | ° | 46 | ' | 52 | " | W | | 7 | ° | 20 | ' | 26 | " | N | 81 | ° | 42 | ' | 23 | " | W | 9 | no | | | 3 | no | no |
| Ei | Mata Oscura | June-ago. | 7 | ° | 28 | ' | 17 | " | N | 80 | ° | 56 | ' | 21 | " | W | a | 7 | ° | 26 | ' | 37 | " | N | 80 | ° | 55 | ' | 03 | " | W | 4.0 | no | | | 12 | no | no |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Morrillo | April-jul. | 7 | ° | 29 | ' | 39 | " | N | 80 | ° | 57 | ' | 50 | " | W | a | 7 | ° | 28 | ' | 37 | " | N | 80 | ° | 56 | ' | 26 | " | w | 3.0 | no | | | 20 | No | no |
| | Rincón | April-jul. | 8 | ° | 59 | ' | 55 | " | N | 80 | ° | 43 | ' | 26 | " | W | a | 9 | ° | 00 | ' | 39 | " | N | 80 | ° | 41 | ' | 44 | " | w | 3.6 | no | | | 8 | no | no |
| | Petaquilla | April-jul. | 8 | ° | 56 | ' | 43 | " | N | 80 | ° | 46 | ' | 57 | " | W | | 8 | ° | 57 | ' | 46 | " | N | 80 | ° | 45 | ' | 40 | " | w | 3.8 | no | | | 10 | no | no |
| | San Roquito | April-jul. | 9 | ° | 03 | ' | 53 | " | N | 80 | ° | 36 | ' | 31 | " | W | | 9 | ° | 04 | ' | 06 | " | N | 80 | ° | 35 | ' | 56 | " | w | 1.2 | no | | | 14 | no | no |
| Cm | Mata Oscura | Oct.-feb. | 7 | ° | 28 | ' | 17 | " | N | 80 | ° | 56 | ' | 21 | " | W | a | 7 | ° | 26 | ' | 37 | " | N | 80 | ° | 55 | ' | 03 | " | w | 4.0 | no | patrols | | 20 | no | no |
| | Cambutal | Oct.-feb. | 7 | ° | 14 | ' | 54 | " | N | 80 | ° | 30 | ' | 07 | " | W | a | 7 | ° | 14 | ' | 59 | " | N | 80 | ° | 29 | ' | 31 | " | w | 1.0 | no | | | 40 | no | no |
| | La Cuchilla | Oct.-feb. | 7 | ° | 14 | ' | 58 | " | N | 80 | ° | 29 | ' | 27 | " | W | a | 7 | ° | 14 | ' | 49 | " | N | 80 | ° | 28 | ' | 48 | " | w | 1.5 | no | patrols | | 30 | no | no |
| | La Enjarma | Oct.-feb. | 7 | ° | 14 | ' | 49 | " | N | 80 | ° | 28 | ' | 48 | " | W | | 7 | ° | 14 | ' | 46 | " | N | 80 | ° | 28 | ' | 01 | " | w | 1.5 | no | | | 300 | no | no |
| | Morro Puerco | Oct.-feb. | 7 | ° | 14 | ' | 49 | " | N | 80 | ° | 27 | ' | 27 | " | W | a | 7 | ° | 14 | ' | 30 | " | N | 80 | ° | 26 | ' | 35 | " | w | 1.7 | no | | | 50 | no | no |
| | Río Amarillo | Jan.-mar. | 7 | ° | 23 | ' | 37 | " | N | 81 | ° | 37 | ' | 54 | " | W | a | 7 | ° | 22 | ' | 54 | " | N | 81 | ° | 37 | ' | 15 | " | w | 1.6 | no | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

*The intervals for the number of females are:*

1. *0-10,*
2. *11-100,*
3. *101-500,*
4. *501-1000,*
5. *1001-5000,*
6. *5001-10000,*
7. *10001-50000,*
8. *50001-100000,*
9. *>100000.*

*The intervals for the yearly number of nesting are:*

1. *0-10,*
2. *11-100,*
3. *101-500,*
4. *501-1000,*
5. *1001-5000,*
6. *5001-10000,*
7. *10001-100000,*
8. *100001-500000,*
9. *>500000*

# Inter-American Convention for the Protection and Conservation of Sea Turtles

## Panama

## Annual Report 2012

**Table 3: Important in-water sites for sea turtle conservation**

a. *This table is intended to contain information for the priority in-water sites for each species. For marine habitats that have multiple species present, enter the specific site under the heading for the priority species at that site. Indicate whether or not there is in water occurrence and/or foraging sites for that species.*
b. *Geographic location: Describe the in-water site in general, providing the name of the site and points of reference at sea, when available. If possible add the geographic location in Lat/Long coordinates.*
c. *Declared protection area: Indicate if the area is declared as some type of protected area.*
d. *Information from tagging program: Indicate if there have been any tagging activities at the in-water site. This includes flipper tagging, passive integrated transponder (PIT) tagging, and satellite telemetry programs. If possible, on a separate sheet, or as attached reference provide greater detail about the type of tagging efforts conducted. Also provide satellite telemetry maps or flipper tag recovery information if available.*
e. *Tissue sampling: Indicate if there has been tissue sampling conducted at this site. This includes skin, blood, and other body tissues. On a separate sheet, or as attached references describe these tissue sampling programs in greater detail. For example, were samples collected for genetic, contaminant, and/or stable isotope studies?*

| **Species** | | Description of geographic location | Declared Protection Area | Tagging Program | Tissue Sampling |
|---|---|---|---|---|---|
| Lo | In water Occurrence | Los Santos province, La Marinera Beach. | Yes | Yes | Yes |
| | Foraging Sites | | | | |
| Lk | In water Occurrence | | | | |
| | Foraging Sites | | | | |
| Dc | In water Occurrence | Zapatillas Keys (PNMIB), Larga Beach, Escudo de Veraguas Island and Chiriquí Beach in Bocas del Toro. | Yes | Yes | |
| | Foraging Sites | Bastimentos Island Marine National Park | Yes | Yes | No |
| Ei | In water Occurrence | Zapatillas Keys (PNMIB), Larga Beach, Punta Vieja and Escudo de Veraguas Island in Bocas del Toro. | Yes | Yes | No |
| | | Punta Rincón, Costa Abajo, Colón | No | No | No |
| | Foraging Sites | Bastimentos Island Marine National Park. | Yes | Yes | No |
| Cm | In water Occurrence | Zapatillas Keys (PNMIB), Larga Beach and Punta Vieja in Bocas del Toro. | Yes | Yes | No |
| | Foraging Sites | Playa El María, Parque nacional Coiba, provincia de Veraguas. | Yes | No | No |

| | | | | | |
|---|---|---|---|---|---|
| Cc | In water Occurrence Foraging Sites | Bastimentos Island Marine National Park. | Yes | Yes | No |

During the 2009, technicians from the Aquatic Resources Authority of Panama (ARAP), Master students from the International Maritime University of Panama (UMIP), began the project "Actions for the Conservation Sea Turtles in the Nesting Beaches located in key points of the Panamanian Pacific" in playa La Marinera, in the Tonosí district of the Los Santos province. The funds donated by International Conservation for this project were administered by the UMIP. The project was technically executed by the ARAP with the advice of the Smithsonian Tropical Research Institute (STRI). With this project, Olive Ridley turtle (*Lepidochelys olivacea)* nestings began to being monitored. A biometry program was carried out for the first time on this beach and the Tagging Program was also begun. At the same time, the bases were established to integrate Panama into the Global Arribada Monitoring Program, by invitation of Dr. Roldán Valverde. Additionally, by monitoring sea turtles in La Marinera Beach, other actions are being supported by International Conservation such as: The UMIP Volunteer Program with Marine Biology students, a video and brochure was prepared allusive to the conservation of sea turtles in Panama, training sessions in the Santa Catalina community in the province of Veraguas, Las Tablas, La Marinera in the Los Santos province and the headquarters of the UMIP in Panama City. The ARAP also established a Volunteer Unit where students from the University of Panama (Campus Octavio Méndez Pereira) participate; as well as biology and tourism students from the Regional University Center in Colon, and members and volunteers of TORTUGÍAS Foundation.

In conclusion, research activities are carried out highlighting the determination of the optimal conditions for sea turtle conservation on La Marinera Beach through tagging, collecting and evaluating biological, biometric and environmental data related to the nesting and hatching of turtles in 2010. The information was gathered during nighttime monitoring patrols along the 600 meters corresponding to the nesting area. The data was collected in the 600-meter area, which was marked off every 50 meters. The data considered for this evaluation were length and width of the carapace, weight of nesting female, remigration, state of the turtle and nest data for their hatching. In order to compare hatching success, both natural nests and the nests placed in the artificial hatchery were considered. In La Marinera Beach, only female specimens of Olive Ridley turtle (*Lepidochelys olivacea )* have been seen nesting. It has been determined that their average straight carapace length is 60.9 cm and 54.5 cm wide, and thier curved carapace length is 66 cm and 70.8 cm wide, with an average weight of 36.1 Kg. This species' nests are found in the middle zone of the beach, between segments 4 to 6, laying an average of 93.3 eggs with a hatching success of 79.3 % (Season report, 2011).

Tissue samples have also been taken from Olive Ridley turtles (*Lepidochelys olivacea*) at La Marinera Beach, Guánico Abajo, Tonosí district, Los Santos province, Panama in

order to perform a genetic characterization of the nesting colonies of the Eastern Pacific, based on a thin sample highly variable genetic markers can be analyzed in order to improve information exchange and the capacity of organization to work towards the conservation of sea turtles in the region. The study performs a genetic characterization in La Marinera Beach in order to identify if its population is genetically different from other colonies and the degree of connectivity between them. Priority conservation areas (ex. migratory corridors) are identified that contribute to the survival of the species based on integrative analysis of the genetic, biological and oceanographic information obtained in the region. By analyzing the results, we hope to make joing recommendations with the National Committee for the Protection and Conservation of Sea Turtles in Panama (CNPCTMP) so that they may be included in the preparation of the Action Plan for the Conservation of Sea Turtles in Panama.

Samples were taken during the 2010-2011 nesting season in the months from July to December. During this time, nighttime patrols are performed in order to locate females in the process of laying eggs and tissue samples are taken from the females until 50 samples are taken from each beach. The females sampled were tagged in order to avoid duplicate samples. In order to obtain the samples, sterile technics are used in order to avoid the risk of hurting the animals (Fitzsimmons *et al.,* 1999). The tissue was placed in a jar with saline solution (DMSO) for later analysis. After performing the biopsy, the animals' wound is cleaned and an antiseptic solution is applied to avoid infections. The tissue samples were sent to the Molecular Ecology Lab of the University of Australia for their analysis where the DNA is extracted using standardized methods (Innes *et al.*, 1995) and amplified using microsatellites and mitochondrial DNA tags.

During the 2010 season, 100 hawksbill female turtles were found a total of 325 times on the beaches of Zapatillas Keys. Night patrols took place almost throughout the entire season on both keys, 13 female hawskbills were observed on the beaches of both keys. All the turtles found on the nesting beaches were tagged, or their tag number was recorded, and lost tags were replaced with new ones. No tissue samples were collected for genetic analysis on the beach in Zapatilla during 2010. But genetic and blood samples were collected for hormone analysis in January according to SE/A-132-10, (Report ANAM, Meylan-Ordoñez, mayo 2011).

During 2010, the sea turtle research and recovery project in the Bocas del Toro and Ngöbe Buglé region was continued. Each year has seen a slow increase in the nesting population of hawksbill turtles in the area, registering 1261 hawksbill nests in the study area and 559 hawksbill nests in the province of Bocas del Toro, for a total of 1820 nests. Unfortunately the capture of sea turtles at some beaches like Playa Roja has increased due to the community's lack of interest in assisting conservation efforts (ANAM Report, Meylan-Ordoñez, May 2011).

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