



MANATEE REGIONAL MONITORING IN THE
MESOAMERICAN REEF REGION
WORKSHOP MINUTES

CLARION SUITES HOTEL, GUATEMALA CITY
OCTOBER 22 AND 23 2015

NOVEMBER, 2015

INTRODUCTION

Manatees, of the family *Trichechidae* and genus *Trichechus*, are large, fully aquatic, herbivorous marine mammals sometimes known as sea cows. They never leave the water and like all marine mammals they must breathe air at the surface. There are three accepted living species of Trichechidae, the Amazonian manatee (*Trichechus inunguis*), the West Indian manatee (*Trichechus manatus*), and the West African manatee (*Trichechus senegalensis*). (Deutsch, et al. 2008).

They measure up to 4.0 m long, weigh as much as 590 kg, and have paddle-like flippers. They are slow-moving animals that frequent coastal waters and rivers, and because of this, they are often accidentally hit by motorboats in crowded waters, and sometimes become entangled in fishing nets. They are also hunted for their meat, hides, oil, and bones. Today Manatees are declared by the IUCN as an endangered species (Hunter, 2013).

Studies show that the estimated manatee population in the Mesoamerican Reef system is between 1,000 to 1,500 manatees, one of the largest populations in its range of distribution. Being a prime tourist destination, the activities taking place in the Mesoamerican Reef region place pressure on the fragile environments, affecting numerous species, which live in or around the area, including the Antillean manatee, a subspecies of the West Indian (Petula, 2015).

MAR Fund and LightHawk identified the need to conduct a workshop with representatives from each country in the region to create an open dialogue venue that will allow the exchange of experiences, ideas and best practices on manatee research, monitoring and conservation along the MAR. The main objective of this first meeting is to define a single monitoring methodology that can provide information for establishing common conservation and management practices for this species, to be shared by conservation practitioners in the four countries.

OBJECTIVES

- To present the Initiative Regional Monitoring and Management of Manatees in the MAR region.
- To understand the needs of protected areas managers regarding manatee monitoring and management, and to provide responses and recommendations.
- To establish collaboration among partners to create a regional and participatory monitoring plan.
- Develop long-term vision: to conduct periodical surveys and share the information with decision-making entities, scientific community and general public.
- To coordinate and plan the next regional survey.

WORKSHOP DEVELOPMENT

Day One - October 22

Carlos Rodriguez, Strategic Advisor for MAR Fund, opened with welcoming words and greetings to all participants (see Participant List, Annex 1). He emphasized and highlighted the importance of the manatee as a flagship species as well as the importance of working on a threat analysis and the search for future individual and group work.

Enma Diaz, Executive Secretary of the National Council of Protected Areas (CONAP) of Guatemala, also made welcoming remarks, indicating that for CONAP it was an honor to have the presence of each participant. She stressed that to be able to move forward with this initiative, multi-sectoral efforts and support from strategic partners will be required. The final objectives is to promote conservation of the species.

Claudio González, Technical Coordinator of MAR Fund, highlighted the importance of the species and the importance of joining efforts regionally. He informed that throughout the day the participants would share their work, from different protected areas and from the four countries (see agenda, Annex 2). The monitoring methodology to be proposed for the region would also be shared.

Working rules were established.

PRESENTATIONS

Below you will find a succinct summary of each presentation made during the workshop, as well as the key issues discussed during the Q&A sessions.

All presentations can be found at the following link in the MAR Fund website: <http://www.marfund.org/regional-manatee-working-group/>

IMPORTANT: *The information contained in the workshop presentations belongs to the authors. Because some of these, results have not yet been published, please contact each author before using any of the data in any way or by any means*

1. Manatee Regional Monitoring in the Mesoamerican Reef Region workshop

Armando Ubeda, LightHawk

The manatee, an emblematic species, presents a low reproductive rate and is a vulnerable species to drastic climate and anthropogenic changes, which has reduced its distribution and abundance significantly. It has been declared an endangered species by the IUCN. The MAR is one region, we all share this species and have the opportunity to make a significant contribution.

Armando explained his background: Marine biologist/researcher - in 2008 he started working with LightHawk (NGO in USA, "accelerating conservation success, through the powerful perspective of flight"). It is an NGO that promotes dialogue and consensus, decision-making and work efficiency improvement.

Armando explained how the idea of regional monitoring started back in 2013, and how LightHawk led this effort.

He proposed considering the development of regular and participatory monitoring at the MAR level, expanding it in the future to include other Central American countries. He proposed carrying out monitoring in different seasons to provide useful information to area managers and government agencies.

Comments:

Zoe Walker, SACD/Wildtracks, (BZE). Shared her work with LightHawk for many years and how the collected information has helped them manage the area.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/a\)%20AUbeda_LightHawk.pdf](http://www.marfund.org/ManateeRegionalWorkshop/a)%20AUbeda_LightHawk.pdf)

2. Assessing Manatee Distribution and Abundance from Aerial Surveys

Holly Edwards, Florida Fish and Wildlife Conservation Commission (FWC), USA

There are several types of surveys:

- a. Intensive search surveys: document the change in use of a site over time, assess trends in counts, and define boundaries for seasonal sanctuaries to protect manatees.
- b. Distribution Surveys: document manatee spatial distribution and habitat use. This type of survey depends on weather and is not designed to allow statistical comparisons to be made over time and space.
- c. Abundance Surveys: this is the most challenging survey because it covers large areas. For this reason, areas are stratified, e.g.: areas where manatees are certain to be seen, areas where manatees are likely to be seen, and areas where manatees are less likely to be seen.

They have developed site surveys in Tampa Bay, Florida, for four years to determine how environmental factors affect manatees. Manatees were tagged with colored flags and GPS to be able to study their behavior and their movement.

Some areas that need to be surveyed have turbid waters; for example, at the mouths of rivers. These areas are not avoided during surveys, but special guidelines for these types of waters are used. In addition, other types of technology, such as drones, are used. They measure detectability.

Comments:

Benjamin Morales, ECOSUR, (MEX). Commented that analysis is being done to determine the types of surveys that will work in turbid waters.

Enrico Gasparri, MAR Fund, (GUA). Commented that it is best if studies are undertaken by research centers, and that it is important to focus the monitoring objectives clearly so that the results can provide information to make management decisions. This is because sometimes studies provide results and measurements that are not applicable to management.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/b\)%20Hedwards_Aerial%20Surveys_Fl.pdf](http://www.marfund.org/ManateeRegionalWorkshop/b)%20Hedwards_Aerial%20Surveys_Fl.pdf)

3. Results of 2014 Survey, Brief Description of Area Covered, Summary Stats: Number of Days, Miles, Hours, Counts

Holly Edwards, Belize; Benjamin Morales, Mexico; Ester Quintana, Guatemala.

This was the first pilot project in the region with the intent of applying a single manatee monitoring methodology throughout manatee habitat along the Caribbean of Mexico, Belize and Guatemala. The result for the entire survey gave a total of 425 manatee count.

3.a First Region-Wide Aerial Surveys of Antillean Manatees

Holly Edwards, Florida Fish and Wildlife Conservation Commission (FWC), Belize survey

As per the results of these surveys, Belize is the country with the highest density of manatees. The results identified that Manatees need fresh water and this could be the reason why the majority of them appear to be in Placencia, Belize.

Comments:

Benjamín Morales, ECOSUR, (MEX). Commented that the areas could have more manatee presence than what the survey showed. Every method has its flaws, which is why it is important to work together to minimize it.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/c\)%20Hedwards_Results_Bel_Survey2014.pdf](http://www.marfund.org/ManateeRegionalWorkshop/c)%20Hedwards_Results_Bel_Survey2014.pdf)

3.b Regional Survey of Manatees in the Mesoamerican Reef

Benjamín Morales, El Colegio de la Frontera Sur (ECOSUR), México survey

In Holbox the species has been observed since 2006. For the regional survey, the aerial route was designed based on previous studies and high historical presence of manatees. The result obtained with this survey was a total of 164 manatees.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/d\)%20BMorales_Results_Mex_Survey2014.pdf](http://www.marfund.org/ManateeRegionalWorkshop/d)%20BMorales_Results_Mex_Survey2014.pdf)

3.c Regional Survey of Manatee in the Mesoamerican Reef

Ester Quintana, University of South Florida (USF), Guatemala

The aerial survey routes were based on previous experiences in the country. At the center of Izabal Lake the survey was stopped because it is too deep. The survey went from the east side of Izabal Lake to a widening of the Río Dulce, locally called “El Golfete”, and down the west side of Izabal Lake. For Guatemala the surveyed areas overlapped with management areas: Lake Izabal–El Golfete; Sarstún area-Livingston, and Livingston–Motagua. The criteria used to separate the areas was a combination of habitat, if the area is a reserve and its use. The result obtained with this survey was a total of 45 individuals.

Comments:

Holly Edwards, FWC/OC, (USA). Commented that with constant good weather the probability of counting manatee individuals would be constant as well, but if the weather changed drastically, so would the count.

Ana Giró, HRI, (GUA). Commented that a sub area for Bahía la Graciosa should be created, since the water turbidity is much like the one in El Golfete and that the surveys should also be done in March (when visibility in the water is better).

Armando Ubeda (LightHawk). Commented that because this was the first coordination exercise between the three countries much was learned that will help improve the surveys in the region.

Ester Quintana, USF, (GUA). Mentioned that the main cause of death for manatees in Guatemala is due to illegal hunting and fishing nets.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/e\)%20EQuintana_Results_Gua_Survey2014.pdf](http://www.marfund.org/ManateeRegionalWorkshop/e)%20EQuintana_Results_Gua_Survey2014.pdf)

GROUP DISCUSSION

Armando Ubeda, LightHawk, asked the participants what their thoughts were regarding the aerial survey methodology. These were some of the observations shared:

- **José Juan Pérez, CONANP, (MEX).** It is important to use a standardized methodology, to be able to get scientific information that will support in management decisions. Not only considering the species habitat and the species, but other factors that may influence their distribution like anthropogenic impacts.
- **Benjamin Morales, ECOSUR, (MEX).** The main objective of this meeting is to share the methodology, begin with protected areas and communities, and tomorrow discuss the best methodology to be applied. The regional framework must be kept in mind, since it is a well-defined framework.
- **Mercedes Barrios, CECON/USAC, (GUA).** Mentioned that anthropogenic effects, boat traffic, tourism and coastal development, should be incorporated into the surveys, as well as studies on seagrass density. This kind of information will be useful to protected area administrators. To which Ester Quintana, USF, (GUA) answered, aerial surveys are used to answer specific questions and have limitations. For specific aspects direct field studies are required.
- **Hendryc Acevedo, CONAP, (GUA).** This workshop motivates them as area administrators and it is interesting to see how the information is systematized. What worries him is how monitoring can be sustainable in time and how to get government entities involved.
- **Roger Flores, CCO, (HON).** Commented that in 2010 a regional manatee conservation plan was worked on and there are conservation guidelines in it that can be applied to area management.
- **Mercedes Barrios, CECON/USAC, (GUA).** Sharing information is very important to achieve management decisions. One way to gather this information can be the surveys, but other information must also be raised on the field, so it can have the impact that we require. As a nation, we cannot just focus on a single species, the more integrated the proposal is, the better chance it has to be accepted.
- **José Juan Pérez, CONANP, (MEX).** It is preferable to take things slow, to be able to maintain them in the future and to be able to incorporate new sampling sites in the project. By doing the job properly, funds can be raised in the future. In Mexico, CONABIO has contributed a lot and efforts to protect the species are undertaken.
- **Zoe Walker, SACD/Wildtracks, (BEL).** We have a good team and we are willing to cooperate and share the information.

- **Holly Edwards, FWC/OC, (USA).** Commented these surveys will help make decisions that will affect many species. They will help identify what the impact to manatee and its habitat is and how these impacts affect other species as well. LightHawk also works in other projects, useful at ecosystem level not only at species level. One of the products will be to create a data base that is accessible to everyone and this will help to integrate the information.

PRESENTATIONS

4. PRESENTATIONS BY COUNTRY - NATIONAL PLANS AND MANATEE POPULATION STATUS

MEXICO

Action Program for Manatee Conservation

José Juan Perez, National Commission of Natural Protected Areas (CONANP), México

In Mexico the General Wildlife Law and Department of Priority Species for Conservation, oversee natural resources and species management: It works through Action Programs for the Conservation of Species (PACE, by its acronym in Spanish) helping achieve knowledge on the situation of each species, providing conservation strategies and management guidelines. The main objective of the program is to coordinate, promote and articulate the Federal Government's efforts in conservation and recovery of endangered species in the country.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/f\)%20JPerez_CONANP_Mex.pdf](http://www.marfund.org/ManateeRegionalWorkshop/f)%20JPerez_CONANP_Mex.pdf)

BELIZE

Status of Antillean Manatees in Belize

Edgar Correa, Forest Department, Belize

Belize is a regional stronghold of the Antillean Manatee. Its population is estimated to be between 800 to 1000 individuals. A recent aerial survey in 2014 counted 500 individuals. Belize is a signatory of several international commitments to protect threatened species, including manatees. Because of the threats to this species, such as coastal development, tourism, pollution, and illegal hunting, a Belize Manatee Recovery Plan (1998) was established.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/g\)%20ECorrea_ForestDepartment_Bel.pdf](http://www.marfund.org/ManateeRegionalWorkshop/g)%20ECorrea_ForestDepartment_Bel.pdf)

GUATEMALA

National Strategy for the Conservation of Manatee and its Habitat in Guatemala

Airam Lopez, National Council of Protected Areas (CONAP), Guatemala

The strategy was established with three general objectives: 1) Manage and protect the manatee habitat in the Guatemalan Caribbean region; 2) Protect and monitor the current manatee population in the Guatemalan Caribbean region and 3) increase the social and cultural importance of manatees throughout its natural distribution in Guatemala. It also focuses on resource management inside the Guatemalan Caribbean region.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/h\)%20ALopez_CONAP_Gua.pdf](http://www.marfund.org/ManateeRegionalWorkshop/h)%20ALopez_CONAP_Gua.pdf)

HONDURAS

Actions for the Conservation of Antillean Manatee in the Honduran Caribbean Biological Corridor (CBCH)

Iris Aquino, National Institute of Forest Conservation, Protected Areas and Wildlife (ICF), Honduras

In 2011 ICF created and approved the Manatee Biological Monitoring Protocol, which helped generate information regarding the status of the species. It also created capacities in institutions and communities on manatee monitoring.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/i\)%20IAquino_ICF_Hon.pdf](http://www.marfund.org/ManateeRegionalWorkshop/i)%20IAquino_ICF_Hon.pdf)

5. PRESENTATIONS BY AREA: DESCRIPTION OF WORK SITES, MANATEE CONSERVATION ACTIVITIES, THREATS AND CHALLENGES

MEXICO

Community Group Supporting Manatee Protection in Yalahau Lagoon

Gerardo Ávila, Manatee, Holbox, Chiquila (MANAHOLCHI)

ManaHolChi is a community group integrated by families that want to be part of manatee conservation activities, and who have worked on manatee surveillance and environmental education, searching for help for the manatee population.

Trainings for handling mammal beachings were received from 2009 through 2014. Project proposals regarding conservation, environmental education and natural resources were submitted to the corresponding entities..

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/j\)%20GAvila_ManaHolChi_Yum%20Balam_Mex.pdf](http://www.marfund.org/ManateeRegionalWorkshop/j)%20GAvila_ManaHolChi_Yum%20Balam_Mex.pdf)

Manatee Sanctuary in Chetumal Bay

Victor Hernandez, Ministry of Ecology and Environment (SEMA)

Benjamin Morales and Nataly Castelblanco have supported work done in the area. One of the main objectives has been to get children involved in the protection and conservation of the species. A beaching network emergency number (066) has been created, as well as a proposal on handling beached animals.

To be able to understand the trend in manatee population, local monitoring at sub-zone level, capture and marking with satellite radio, strengthening communities and mangrove and seagrass monitoring has been developed.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/k\)%20VHernandez_SEMA_Santuario%20del%20Manat%ed_Mex.pdf](http://www.marfund.org/ManateeRegionalWorkshop/k)%20VHernandez_SEMA_Santuario%20del%20Manat%ed_Mex.pdf)

BELIZE

Wildtracks and Manatees

Zoe Walker, Wildtracks, Sarteneja Alliance for Conservation and Development (SACD)

Wildtracks has contributed effectively to the increased viability of Antillean Manatees in Belize, facilitating the formation of the Transboundary Working Group. This group promotes communication and collaboration between transboundary protected area management agencies and maintains the manatee rehabilitation center capacity to meet the increasing demand.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/l\)%20ZWalker_Wildtracks_Corozal%20Bay_Bel.pdf](http://www.marfund.org/ManateeRegionalWorkshop/l)%20ZWalker_Wildtracks_Corozal%20Bay_Bel.pdf)

Turneffe Atoll

Nataly Castelblanco, National Council for Science and Technology (CONACYT)

Turneffe is the only atoll that reported the presence of manatees in salty waters. The observations are collected during aerial surveys, boat-based surveys or opportunistically. The data is collected in collaboration with several researchers, stakeholders and organizations. Sonar and drones have been used to analyze manatee's behavior in captivity.

Comments:

Ester Quintana, USF, (GUA). Commented that sonars have been used in Guatemala and manatees in the wild did not show any reactions to the sonar. The depth of the water and seagrass play an important part on manatee reaction to sonars.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/m\)%20NCastelblanco_CONACYT_UQRoo_Turneffe%20Atoll_Bel.pdf](http://www.marfund.org/ManateeRegionalWorkshop/m)%20NCastelblanco_CONACYT_UQRoo_Turneffe%20Atoll_Bel.pdf)

Efforts to Save the Endangered Manatees of Belize

Jamal A. Galvez, Sea 2 Shore Alliance

Research is good, but sharing information with the people and communities is very important. Protecting manatees means also protecting other ecosystems and species that find benefit in different habitats. Speeding boats are a problem that should be regulated, and must be addressed by demarcation and navigation routes, since boat injuries is the highest threat that affects manatees in Belize.

Comments:

Nataly Castelblanco, CONACYT UQROO, (BEL). Added that it is important to compare the number of deaths in relation to the population. Manatee death is not a problem that affects Belize only but all the region.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/n\)%20JGalves_S2SA_Belize%20River_Bel.pdf](http://www.marfund.org/ManateeRegionalWorkshop/n)%20JGalves_S2SA_Belize%20River_Bel.pdf)

Manatees in Our Neighborhood

Nicole Auil, Southern Environmental Association (SEA)

The Placencia Lagoon is very important for manatees. Tourism influx in Placencia is a threat that affects marine and terrestrial habitats. A management plan for Placencia Lagoon is in place and actions are being taken to have it declared as a protected area.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/o\)%20NAuil_SEA_Placencia%20Lagoon,%20Bel.pdf](http://www.marfund.org/ManateeRegionalWorkshop/o)%20NAuil_SEA_Placencia%20Lagoon,%20Bel.pdf)

Summary of Manatee Research 2014-2015

James Foley, Toledo Institute for Development and Environment (TIDE)

TIDE works on a ridge to reef protection approach. It started focusing on manatees again, with a manatee research collaboration with ECOSUR that aims to create a baseline on population distribution, behavior and habitat trends in Port Honduras Marine Reserve to improve management and prepare for future threats.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/p\)%20JFoley_TIDE_Port%20Honduras_Bel.pdf](http://www.marfund.org/ManateeRegionalWorkshop/p)%20JFoley_TIDE_Port%20Honduras_Bel.pdf)

HONDURAS

Current situation of the manatee (*Trichechus manatus*) in the Cuyamel – Omoa National Park, Ramsar Site 2,133

Roger Flores, Omoa Conservation Corps (CCO)

The park is located in the northern coast of Honduras, Department of Cortés. It has three ecosystems (mountain, wetland and coastal) that determine the existing biodiversity. Manatee displacement from the Chachahuala River to the Motagua River mouth has been observed due to abundant food availability.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/q\)%20RFlores_CCO_Cuyamel-Omoa_Hon.pdf](http://www.marfund.org/ManateeRegionalWorkshop/q)%20RFlores_CCO_Cuyamel-Omoa_Hon.pdf)

Generating Information by Effectively Managing the Cuero y Salado Wildlife Refuge with Biological Monitoring of the West Indian Manatee

Oscar Lanza, Cuero y Salado Foundation (FUCSA)

In 9 out of 10 sites within the Refuge, manatee sightings have been reported. Direct sightings, scanner, side-scan sonar and 360 sonars are the methodologies used, for which training was received. Sighting confirmation was applied whenever the sonar detected the presence of a manatee, although this is sometimes difficult because of water turbidity. The manatee count result was 67 manatees, Masica River being the place with highest recorded sightings.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/r\)%20OLanza_FUCSA_Barras%20de%20Cuero%20y%20Salado_Hon.pdf](http://www.marfund.org/ManateeRegionalWorkshop/r)%20OLanza_FUCSA_Barras%20de%20Cuero%20y%20Salado_Hon.pdf)

Day Two – October 22

GUATEMALA

Conservation and Manatee Monitoring (*Trichechus manatus*) in the Multiple Use Area of Sarstún River – AUMRS-

Silja Ramírez, Foundation for Eco-development and Conservation (FUNDAECO)

Manatee work came as a result of a seagrass program that began in the area, and the relation between manatees and seagrass was observed. The monitoring was done once a year for manatee and twice a year for seagrass. In 2005 one dead manatee was reported, which may have died of natural causes, since he was not hurt but had spots on its skin.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/s\)%20SRamirez_FUNDAECO_Rio%20Sarstun_Gua.pdf](http://www.marfund.org/ManateeRegionalWorkshop/s)%20SRamirez_FUNDAECO_Rio%20Sarstun_Gua.pdf)

University Protected Areas, Natural and Cultural Heritage
Mercedes Barrios, Center of Conservation Studies (CECON)

CECON protects rainforests, mangroves and estuaries by developing biodiversity and protected areas conservation models. It bases these models on investigations and conservation programs, focusing on environmental, social and economic sustainability. From 1993 to date different investigations on manatees and their habitat have been developed, including sighting documentation gathered during control and surveillance patrols.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/t\)%20MBarrios_CECON_ChoconMachacas_Gua.pdf](http://www.marfund.org/ManateeRegionalWorkshop/t)%20MBarrios_CECON_ChoconMachacas_Gua.pdf)

Manatee Study in the Wildlife Refuge Bocas Del Polochic
Heidy Garcia, Defenders of Nature Foundation (FDN)

Bocas del Polochic is a Ramsar wetland. From 2006 to 2010 annual aerial surveys were carried out. In 2014, through the regional aerial survey two important areas were identified for manatee in Guatemala: Bocas del Polochic and Bahia la Graciosa.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/u\)%20HGarcia_FDN_Bocas%20de%20Polochic_Gua.pdf](http://www.marfund.org/ManateeRegionalWorkshop/u)%20HGarcia_FDN_Bocas%20de%20Polochic_Gua.pdf)

Manatee Symbolic Species for the SIGAP Izabal
Hendry Acevedo, National Council of Protected Areas (CONAP)

The manatee is an emblematic species for the Guatemalan Protected Areas System (SIGAP). In consequence, activities, research and different projects have been taking place to address threats, such as hunting, boat traffic, habitat loss and contamination.

Comments:

Heidy García, FDN, (GUA). Commented that a cultural study regarding the use of manatee was done, and they found that whenever environmental conditions created a lack of food, local communities would hunt manatee to feed on.

To review the complete presentation please click here:

[http://www.marfund.org/ManateeRegionalWorkshop/v\)%20HAcevedo_CONAP_Punta%20de%20Manabique_Gua.pdf](http://www.marfund.org/ManateeRegionalWorkshop/v)%20HAcevedo_CONAP_Punta%20de%20Manabique_Gua.pdf)

GROUP DISCUSSION

6. MANAGEMENT NEEDS FOR PROTECTED AREAS AND NON-PROTECTED AREAS; MONITORING NEEDS FOR PROTECTED AREAS AND RECOMMENDATIONS

This group discussion was organized by country. In the introduction to the exercise, Armando Ubeda (LightHawk) asked that each country identify the threats to the species, management needs and resources needed to effectively manage and protect this species. Some threats, such as hunting, could not be resolved with surveys. However, it is important to determine what needs to be done to address the threats, and if it can be done at a regional level.

Each country group answered the following questions:

1. What are the current and emerging threats to manatees?
2. What are the priorities and needs concerning manatees? Specific management objectives?
3. What are your short and long term objectives for managing manatees?
4. What are your resource needs to meet management objectives?
5. How do you think you could contribute to the regional monitoring effort? What can you do to collaborate with other countries in the MAR region?
6. Is it in your plans to use aerial surveys? Are you conducting aerial surveys?
7. What are your weaknesses and strengths (technical capacity e.g. observers, researchers)?
8. How will the regional aerial survey will help you to address your management objectives (questions)?

Although each country developed its own analysis, in summary, the participants identified the threats to manatee populations and highlighted the importance of their conservation. They pointed out specific objectives to pursue, such as law enforcement, environmental education, interinstitutional coordination, training in and development of conservation programs, and socializing results, among others. It is important to share information and best practices throughout the region, and walk together as a region towards manatee conservation.

The Belize group specifically pointed out that it was important to address increasing manatee deaths in the Belize River, to understand and strengthen transboundary connectivity, to develop health assessments of manatees, as well as rescue and rehabilitation facilities.

Comments to the country presentations:

Arlene Young, CZMAI, (BEL). Stated that determining the status of the population is needed, as well as evaluating the health of the population. Nicole Auil, SEA, (BEL) added, there has been a long term study for manatee population health in only two locations, and they want to expand that knowledge base and include hotspots in pollution and the borders, since they don't have information there. Jamal Galvez added, that knowing the health of the population will help understand the species.

José Juan Pérez, CONANP, (MEX). The Mexican legal framework establishes the requirements for sustainable use of an endangered species, such as swimming with manatees. They include the development of a management plan, an impact evaluation analysis and specifying how the activity will be undertaken so it will not have a negative impact on the species.

Benjamin Morales, ECOSUR, (MEX). Added that in the northern part of Quintana Roo, manatee presence is constant. In the touristic corridor Cancun – Tulum, information gaps exist regarding pollution and manatee sighting.

Gerardo Avila (MEX). Added that what needs to be addressed in Yum Balam is fishing, with regulations and surveillance, the problem is not that they use nets, it is how they use them, by spreading them across very wide areas.

To view the complete results of each country group, please click on the following:

Honduras

[http://www.marfund.org/ManateeRegionalWorkshop/w\)%20Grupo%20Hon.pdf](http://www.marfund.org/ManateeRegionalWorkshop/w)%20Grupo%20Hon.pdf)

Guatemala

[http://www.marfund.org/ManateeRegionalWorkshop/x\)%20Grupo%20Gua.pdf](http://www.marfund.org/ManateeRegionalWorkshop/x)%20Grupo%20Gua.pdf)

Belize

[http://www.marfund.org/ManateeRegionalWorkshop/y\)%20Grupo%20Bel.pdf](http://www.marfund.org/ManateeRegionalWorkshop/y)%20Grupo%20Bel.pdf)

Mexico

[http://www.marfund.org/ManateeRegionalWorkshop/z\)%20Grupo%20Mex.pdf](http://www.marfund.org/ManateeRegionalWorkshop/z)%20Grupo%20Mex.pdf)

AGREEMENTS AND NEXT STEPS

Agreements,

- **Benjamin Morales (MEX)** as Co-chair of IUCN for Sirenia Specialist Group, a group of people who share a dedication to manatee & dugong research, offers an alliance with this initiative. That can be formally established with a letter and IUCN's logo can be added to this manatee regional conservation initiative.

Next Steps,

- Benjamin Morales will draft a letter to the IUCN Sirenia Group to establish the alliance and support the initiative.

- MAR Fund will enable a space on its website to publish the information, presentations and minutes of the workshop.
- LightHawk and MAR Fund will jointly develop a proposal to raise funds for approved activities.

CLOSING

María José González, MAR FUND

Thanked everyone's participation in the workshop, being the first regional one for manatee. She added that aerial surveys are a way of unifying monitoring protocols and information for this key species, but it will also be important to work on other common manatee conservation needs for the region.

References

Deutsch, C.J., Self-Sullivan, C. & Mignucci-Giannoni, A. 2008. *Trichechus manatus*. *The IUCN Red List of Threatened Species 2008*. Obtained on November 17 of 2015, on <http://www.iucnredlist.org/details/22103/0>

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Annex 1. Participant List

No.	NAME	COUNTRY	INSTITUTION	EMAIL
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Annex 2. Workshop Agenda

DAY 1 – Morning session - all participants

TIME	ACTIVITY	RESPONSIBLE	HOUR
15 min	Welcome	MAR Fund	8:30 AM
15 min	Opening of the event	Enma Díaz, Executive Secretary of CONAP	8:45 AM
25 min	Introduction of participants and their connection to research and conservation of manatees.	Everybody	9:00 AM
50 min	Background and history 1. Background (why are we here) What has been done and what we are trying to accomplish Why we decided to bring everybody together to collaborate in one regional survey 2. Introduction of team	Armando J. Ubeda	9:25 AM
10 min	Break	N/A	10:15 AM
80 min	Objectives of 2014 survey 1. Introduction - types of surveys, challenges, uses and successes 2. Regional 2014 a. Methodology b. Applications c. Our goals and objectives QUESTIONS	Dr. Holly Edwards	10:25 AM

60 min	<p>Result of 2014 survey – brief description of area covered, summary stats: number of days, miles, hours, counts,</p> <p>a. Mexico (how many hours, areas, flight paths)</p> <p>b. Belize</p> <p>c. Guatemala</p> <p>d. Combined data (maps)</p> <p>QUESTIONS</p>	<p>Benjamin Morales (a)</p> <p>Holly Edwards (b, d)</p> <p>Ester Quintana (c)</p>	12:45 PM
70 min	Lunch	N/A	

DAY 1 – Afternoon session - all participants

TIME	ACTIVITY	RESPONSIBLE	HOURL
60 min	<p>Presentation by country (national plans, status)</p> <p>QUESTIONS</p>	<p>Government representatives</p> <ul style="list-style-type: none"> ● Mexico ● Belize ● Guatemala ● Honduras 	2:15 PM
10 min	Break		3:15 PM
180 min	<p>Presentation by area</p> <p>a) Description of site</p> <p>b) Conservation activities</p> <p>c) Threats</p> <p>d) Challenges</p> <p>QUESTIONS</p>	LightHawk / MAR Fund	3:25 PM
10 min	Closing words for the day and explanation of the work methodology for the discussion next day	Armando Ubeda	6:25 PM

DAY 2 – Morning session - all participants

TIME	ACTIVITY	RESPONSIBLE	HOURL
120 min	<p>Discussion by group:</p> <ol style="list-style-type: none"> 1. Management needs for protected areas and non-protected areas 2. Monitoring needs of protected areas 3. Recommendations 	LightHawk / MAR Fund	8:30 AM
10 min	Break		10:30 AM
45 min	Continuation of group work	LightHawk / MAR Fund	10:40 AM
60 min	Agreements and next steps	Armando Ubeda / Claudio González	11:25 PM
10 min	Closing	MAR Fund	12:25 PM
60 min	LUNCH		12:35 PM

DAY 2 – Afternoon session – Research team

TIME	ACTIVITY	RESPONSIBLE	HOUR
180 min	<p>Discussion by group future surveys</p> <ol style="list-style-type: none"> 1. Define our objectives (distribution, abundance, minimum count, habitat use) 2. Survey Logistics <ol style="list-style-type: none"> a. What did we learn from 2014 surveys: What worked? What can be improved? b. Maps (standardize maps, how should they look and at what scale should they be, top sheet, GPS units etc.) <ol style="list-style-type: none"> i. Who is responsible for making the maps? Do we have resources to outsource this task? 3. Timing of surveys (what season or seasons and how often, this may be determined after talking to managers) 4. Pilots, plane and schedule (e.g., number of days needed to accomplish each segment) 5. Data entry 6. Observers and training <ol style="list-style-type: none"> a. Who is the primary observer for each country and who the secondary is, etc.) b. Criteria for observers c. Who needs to be trained 7. Data analysis and publication of results 8. Following steps <ol style="list-style-type: none"> a. Date for next meeting 	Research team	2:00 PM
15 min	Closing	Armando Ubeda / María José González	5:00 PM