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**USAID REGIONAL PROGRAM FOR THE MANAGEMENT
OF AQUATIC RESOURCES AND ECONOMIC ALTERNATIVES**



Participants and organizers of the training workshop at Tortuguero,
Costa Rica

USAID PROGRAM FOR THE MANAGEMENT OF AQUATIC RESOURCES AND ECONOMIC ALTERNATIVES

7 October 2011

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USAID REGIONAL PROGRAM FOR THE MANAGEMENT
OF AQUATIC RESOURCES AND ECONOMIC ALTERNATIVES

PROCEEDINGS FROM THE TRAINING WORKSHOP IN MONITORING AND CONSERVATION TECHNIQUES AT SEA TURTLE NESTING BEACHES

4 - 9 SEPTEMBER, 2011

SEA TURTLE CONSERVANCY JOHN H. PHIPPS BIOLOGICAL
FIELD STATION
TORTUGUERO, COSTA RICA

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ii PROCEEDINGS FROM THE TRAINING WORKING IN MONITORING AND CONSERVATION
TECHNIQUES AT SEA TURTLE NESTING BEACHES



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EXECUTIVE SUMMARY

The objective of this report is to provide a summary of the Training Workshop in Monitoring and Conservation Techniques at Sea Turtle Nesting Beaches that was held at the Sea Turtle Conservancy's Biological Field Station in Tortuguero, Costa Rica, site of the world's longest-continuous sea turtle research and protection program, which is defined as a "Sea Turtle Center for Excellence" under the MAREA Project. This report includes the agenda for the workshop, a participant list, a review of the activities conducted, conclusions from discussions held with workshop participants, a summary of the participant evaluations and recommendations for future workshops.

INTRODUCTION

The training workshop entitled '*Monitoring and Conservation Techniques at Sea Turtle Nesting Beaches*' was held at the STC's John H. Phipps Biological Field Station at Tortuguero, Costa Rica from 4 – 9 September, 2011. The workshop was conducted by STC Scientific Director, Dr. Emma Harrison, sea turtle biologist Belinda Dick, and STC Research Coordinator, Cristina Ordoñez; STC Field Coordinator, Catalina González Prieto, assisted with STC's 2011 team of Research Assistants.

OBJECTIVES OF THE TRAINING WORKSHOP

The 4-day workshop aimed to build regional capacity in sea turtle research and conservation by providing 20 biologists, resource managers and coastal stakeholders with a theoretical understanding of sea turtle biology and the threats they face in Central America. In addition, each participant received specialized instruction and practical training in standard field monitoring techniques for sea turtle nesting beaches.

WORKSHOP PARTICIPANTS

A total of 20 individuals from six Central American countries participated in the workshop: three were from Honduras, three from Panama, four from El Salvador, three from Nicaragua, two from Guatemala and five from Costa Rica (See Appendix 1). All participants had prior experience working directly with sea turtles and were hoping to gain further skills in sea turtle monitoring and conservation techniques to apply in their home country.



WORKSHOP AGENDA

The agenda for the workshop was approved by USAID as part of STC’s activities for the MAREA program. However, some minor adjustments were made for logistical and programmatic reasons; a copy of the final agenda is presented in Appendix 2.

WORKSHOP ACTIVITIES

DAY 1 – MONDAY 5 SEPTEMBER

The first day began with a presentation on the MAREA Program and a summary of the specific objectives for the workshop. The rest of the first day was dedicated to informational presentations on the evolution and biology of sea turtles, species identification, and a review of the conservation status of sea turtles in Central America. This was followed by the presentation of three case studies of sea turtle monitoring projects at Tortuguero, Costa Rica; Chiriquí Beach, Panama and the work of Pro Peninsula in Baja California, Mexico. After each presentation there was a question and answer session.



Workshop instructor Belinda Dick gives a presentation on the importance of standardized data

Day 1 concluded with a supervised 3-hour night patrol on the beach, during which workshop participants observed the different phases of sea turtle nesting behavior and data collection methods, and also had an opportunity to practice species identification techniques that were presented earlier in the day. Participants were also exposed to the role of sea turtle tourism as a source of sustainable income for many members of the Tortuguero community.



Workshop instructor Cristina Ordoñez gives a presentation about standard measurements

DAY 2 – TUESDAY 6 SEPTEMBER

Day two started with a review of the importance of collecting standardized data, and an introduction to the basic monitoring techniques used on sea turtle nesting beaches in the region, including study site



selection, demarcation of the study area, periodicity of monitoring activities and research permits. This was followed by sessions discussing tagging techniques and the collection of biometric data; theoretical presentations were supported by practical training in the correct protocol for the application of flipper tags, and taking standard carapace measurements.

The afternoon was dedicated to a lengthy discussion of nest management options, which included identification of nests, marking of nests *in situ*, decisions on nest relocation, the use of hatcheries as a conservation tool, best practices for sea turtle hatcheries and methods to determine hatching and emerging success.

By dividing the group into smaller teams of 5 people, each workshop participant was given the opportunity to gain personalized, hands-on experience in collecting and recording standard carapace measurements during the 4-hour night patrol. Each team was led by a member of STC staff, to comply with the conditions of the STC research permit at Tortuguero.



Workshop participants practice constructing nests for relocation activities

DAY 3 – WEDNESDAY 7 SEPTEMBER

The first activity on the morning of day three was an open discussion session, in which workshop participants were asked the following question:

Taking into consideration what you have learned so far, whether in the informational or practical sessions, what can you take back to apply to your beach?

There follows a summary of the participant’s responses.



Workshop instructor Dr Emma Harrison teaches Jose Ricardo Velasquez from El Salvador how to apply flipper tags

- The participants noticed differences in the behavior of both the people working on the beaches and the sea turtles themselves, mentioning that the green turtles at Tortuguero were extremely skittish when compared to the species they are used to working with, and this calls for a change in the behavior of the person working with the turtle, who needs to be more cautious.
- Many participants commented upon the respect given to the turtle, or the concern for her wellbeing throughout



the nesting process; for example, not using lights, approaching her from behind in small groups, etc. At most of the projects at which participants work the priority is nest protection; they will sometimes even bring the turtle directly from the water up the beach to lay her eggs. The majority of the group felt that the concept of respecting the entire nesting process was an important one to take back and share with their colleagues.

- Also, since Tortuguero has an extremely large green turtle population many participants were impressed at the sheer number of turtles coming ashore to nest, as well as the fact that each female didn't need to be watched over or every nest managed. This helped reinforce the fact that sustained conservation efforts on a nesting beach can result in population recovery, and long-term work with a community can reduce human impacts to sea turtles and their nests to the point that not every nests needs to be protected or relocated to a hatchery.
- Comments were also made on the strict adherence to monitoring protocols, and the discipline and training of the researchers.
- Participants compared tourist activities on their study beaches with the system in place at Tortuguero. They viewed Tortuguero as an exemplary model, for the following reasons: there are limited hours when tourists can access the beach, and there is control on the number of visitors allowed. At the majority of beaches where participants are working there are no efforts to control tourism during the turtle nesting season.



An open discussion session in which participants talked about the applicability of workshop to their nesting beaches



Eduardo Altamirano from Nicaragua practices taking carapace measurements

- The use of hatcheries as a form of nest management was a topic of discussion. Many participants realized that they have never done control studies to compare hatching success between nests left *in situ* with those relocated to a hatchery, and are interested in doing so.
- Participants realized that different projects collect different data. Therefore, each project must clearly define their own objectives and collect the data necessary to achieve them. This is especially important when both financial and human resources are limited.



- The potential for tourism to provide an alternative economic resource was commented upon by many participants. They viewed the Turtle Spotter Program and the use of trained guides at Tortuguero as positive options and successful examples of how to benefit local communities.
- One individual mentioned applying the use of turtle spotters at their beach, not for the benefit of tourists, but to assist researchers; since hawksbill turtles are often missed as they spend less time on the beach. Another participant added that this system would be advantageous at their beach, because currently monitors use big flashlights to scan for turtles, rather than walking to find them. It was also agreed that an additional benefit of having turtle spotters on the beach was the potential to dissuade poachers.
- Some participants expressed interest in having more information about how a beach being located within a national park would affect their ability to monitor and protect nests; it was clarified with participants that a talk by the national park administrator, scheduled on the agenda for later that day, would include that subject.
- Participants were interested in gaining more experience in how to form committees, which would integrate local community members and government officials, and provide opportunities to create joint proposals that allow the establishment of sustainable funding opportunities. A common problem appeared to be that many projects only have sufficient funds for a limited time, for example one year, and no continuity after that period. It was suggested that a collaborative strategy be adopted for countries within the region facing similar problems to seek international cooperation and joint funds.
- One suggestion for a sustainable program was to not focus only on turtles and their nesting beaches, but rather to take an ecosystem approach and protect all habitats in the area. This was seen as especially important in areas that have a very short nesting season, as tourists and/or NGO's tend to leave the beach area once the nesting season is over.
- Everyone agreed that the results of a successful conservation program take time to observe and, therefore, it is essential to have a long-term commitment. In addition to this, it was believed that with support from the government, proper training and community outreach, there would be less poaching of sea turtles and their eggs.
- The session ended with an apt comment from one workshop participant; *"The session is closing, but we are not finished yet and I still have a lot to learn and look forward to it"* (Nestor Díaz, Nicaragua).



Participants share experiences of environmental education and outreach



Following on from the discussion session, there was a presentation about the importance of precise data collection, and the need to establish protocols that allow data to be collected systematically and in the same manner each year. Another topic that was discussed was the value of an effective data management system.

The topic of environmental education and community outreach was discussed in an open forum, with participants sharing their personal experiences of different strategies and techniques that had been used to disseminate information and raise awareness in communities in their countries. It was an opportunity to learn more about the role that education and outreach plays in sea turtle projects in the region, and to explore the value of incorporating such activities into a conservation or monitoring program.

Participants were asked to respond to the following statement:

Share your personal experiences on what has proved effective, or not, in terms of environmental education and outreach activities within your community.

The following is a summary of some of the responses.

- The majority of the participants are members of the communities in which they work.
- Participants were in agreement that communities are a valuable resource and can provide projects with considerable local knowledge, due to many years of experience interacting with sea turtles in the area.
- There was a common acceptance that it was important to work with all community members, including both children and adults, since often they “don’t see an animal, but an opportunity to eat” (Kenneth Lewis, Costa Rica).
- A discussion on how to eliminate the market for sea turtles and their products was initiated, and it quickly became apparent that very few people actually benefit directly from a sea turtle conservation project, definitely not enough to address the current problem. Participants were asked for ideas on how to deal with this situation, and one response was very succinct “It is very difficult to work with people, but not impossible. If they want to do it, they will” (Enrique Viji, Honduras). It was stressed that as leaders in their respective communities it is important to maintain a continuous dialogue with local people, never alienate them, and also involve them in the decision making process.
- The group agreed that community support is the key to a successful project.
- Participants provided examples of how creating local committees can be successful, by getting both the civil society and municipality or local governments involved. In this way, each entity is represented and has a vote so that it is not just the municipality or government that gets to make decisions. In addition, any errors in management are made together and joint responsibility is taken.
- Examples of national campaigns related to sea turtles were provided, such as the “I don’t eat sea turtle eggs” campaign in Guatemala; these were seen as effective ways of conducting outreach and raising public awareness.



The afternoon session commenced with a presentation about ecotourism related to sea turtles; there was also a short discussion on the role of volunteers in sea turtle conservation and monitoring projects. Tortuguero was used as a case study to discuss the pros and cons of ecotourism on sea turtle nesting beaches; with specific reference to the Turtle Spotter Program. One of the turtle spotters gave a short talk about the program, followed by a question and answer session. Participants had an opportunity to also talk to tour guides during a visit to Tortuguero National Park's (TNP) Cuatro Esquinas park guard station; where they observed the guides receiving their permits from national park staff for the evening's tours. There followed an informal presentation from the Administrator of TNP, Elena Vargas Ramírez, who shared with workshop participants the role of the park guards in enforcing national laws pertaining to sea turtles.

Due to the early start on Day four, the night patrol on Day three was offered as an optional activity for those participants who wanted to gain additional experience putting into practice some of the techniques they had been taught earlier in the workshop.

DAY 4 – THURSDAY 8 SEPTEMBER



Workshop participants learn how identify sea turtle nests during a track survey

Day four began with practice in the field doing a track survey; participants were shown how to distinguish between nesting and non-nesting emergences, and how to record data effectively. A supervised nest excavation was performed on a nest for which hatchling emergence had been observed by STC researchers two days earlier; participants had an opportunity to categorize nest chamber contents, according to established regional protocols.

There was a general review session, during which participants could ask the instructors about any of the topics presented during the workshop. One particular subject of interest, and debate, was the determination of hatching and emerging success; participants were shown examples of possible scenarios from nest excavations and worked through the calculations with the instructors.

To assess the understanding of the information presented during the workshop, and to determine areas that could be altered in future training activities, a quiz was given to the participants. The group was divided into five teams of four people, trying to divide participants from the different countries between the groups. Each team was



asked to answer several general questions relating to sea turtles in Central America and then was given a series of specific questions to answer according to the species provided to each group. Questions on nest excavations and how to calculate hatching and emerging success were also given. An example of the quiz is shown in Appendix 4. The instructors evaluated the responses of each team; in general participants had a good understanding of the general concepts that were presented, and there was only slight indication of some misunderstanding of the more specific questions relating to data collection protocol. Concepts were understood and participants could apply them correctly to the examples presented.

The workshop formally concluded with the presentation of a certificate to each of the participants (See Appendix 5 for a copy of the certificate). Each person also received a CD containing copies of the presentations, and materials relevant to the different themes presented during the workshop (See Appendix 6 for a list of the materials included on the CD).



Workshop participants from Panama, Costa Rica, El Salvador and Nicaragua complete the evaluation quiz

PARTICIPANT EVALUATIONS



Carmen Soriano from El Salvador receives her participation certificate from Dr Emma Harrison and Julio Barquero Elizondo

As part of the assessment of the workshop, each participant was asked to complete a USAID Client Satisfaction evaluation (See Appendix 7). The evaluation provided participants with an opportunity to assess all aspects of the workshop, divided into several topics; course content, installations and service, instructor and relevance of the course. Each topic included several related questions, such as the standard of the materials, the comfort of the work area, the knowledge of the instructors and if the workshop fulfilled participant expectations. Participants could score each point as Excellent, Very Good, Good or Average. There was also a section at the end of the evaluation where participants could make additional comments, or suggestions on ways in which the activity could be improved in the future.



In all of the different areas, the majority of participants awarded Excellent, Very Good or Good scores. Overall, participants were very satisfied with the presentations, saw an appropriate balance of practical and informational sessions, thought the workshop was well organized, felt the instructors were experienced and had a good command of the material, and felt that the workshop met their expectations and was very applicable to their situation. The only area in which there were a significant number of Average awards was in regard to the comfort of the location where the workshop was conducted; many people complained about the lack of fans in the room where presentations were given. Comments were made during the workshop about the uncomfortable temperature, and instructors gave their apologies at the time, and also made attempts to resolve the issue by minimizing the time that participants spent in the room; several of the open discussion sessions were held outside as a result. Following the conclusion of the meeting, Sea Turtle Conservancy took the comments about comfort to heart and installed new ceiling fans in this facility to make it more comfortable for future meeting participants.

There were several interesting observations and suggestions made by participants in the open comment section, including;

1. Training workshops should be conducted more frequently.
2. Workshops should not be limited to those people working at beach projects, but should also incorporate government officials.
3. The menu should include items that appeal to the gastronomic tastes of the different countries.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

1. The workshop fulfilled all of the objectives stated in the original proposal which were:
 - To build regional capacity in sea turtle research and conservation by providing participants with a theoretical understanding of sea turtle biology, threats they face and their current status in Central America.
 - Provide up to 20 biologists, resource managers and coastal stakeholders with intensive instruction and practical training in monitoring techniques that can be utilized in their country of origin to develop or establish sea turtle research programs, including track surveys, flipper tagging, biometric data collection, nest marking and hatchery management techniques. Supervised night patrols will provide an opportunity for hands-on experience with nesting sea turtles.



- Give an introduction to ecotourism related to sea turtles as a means of providing alternative economic resources to coastal communities historically dependent on sea turtles, and financial support for sea turtle research and conservation initiatives.
- 2. Participants had a high degree of satisfaction with the quality of the workshop content and the topics that were presented.
- 3. Participants enjoyed the different formats used during workshop sessions, which included presentations, practical training, open discussion, and question and answer.
- 4. Workshop participants felt that the workshop was very informative, and that some of the methods and techniques learned could be applicable at their own nesting beach projects.

RECOMMENDATIONS

1. Similar training workshops or exchanges should be conducted on a regular basis throughout the Central America to build sea turtle research and conservation capacity in the region.
2. Workshops should be conducted with government officials and resource managers to provide information about sea turtles in Central America and protection and management options to ensure their continued survival.
3. Regional networks are key to providing the level of international collaboration that is necessary to implement effective sea turtle protection and conservation initiatives.
4. Include additional topics relating to shared coastal marine resources in the region.



APPENDICES

APPENDIX 1. LIST OF WORKSHOP PARTICIPANTS

| Name | Institution | Country | Telephone | E-mail |
|------|----------------------------------|-------------|-----------|--------|
| | BICA-Utila | Honduras | | |
| | COPROTOGOLF, Comité Punta Ratón | Honduras | | |
| | Comité Tortugas Playa Venado | Honduras | | |
| | APPRORENANB | Panamá | | |
| | ANABOCA | Panamá | | |
| | AAMVECONA | Panamá | | |
| | ADESCOIM | El Salvador | | |
| | CODEPA/ICAPO | El Salvador | | |
| | CODEPA | El Salvador | | |
| | FUNZEL | El Salvador | | |
| | Comité Tortuga | Nicaragua | | |
| | Fundación LIDER | Nicaragua | | |
| | Fauna y Flora Internacional | Nicaragua | | |
| | Cooperativa Pesca La Barrona | Guatemala | | |
| | Universidad de San Carlos | Guatemala | | |
| | Costa Rica Wildlife Sanctuary | Costa Rica | | |
| | International Student Volunteers | Costa Rica | | |
| | ASOMIPAG | Costa Rica | | |
| | Costa Rica Wildlife Sanctuary | Costa Rica | | |
| | Fundación La Tortuga Feliz | Costa Rica | | |

| Instructors | | | | |
|-------------|------------------------|------------|--|--|
| | Sea Turtle Conservancy | Costa Rica | | |
| | Sea Turtle Conservancy | Costa Rica | | |
| | Sea Turtle Conservancy | Panama | | |

| MAREA Program Representative | | | | |
|------------------------------|-------|------------|--|--|
| | MAREA | Costa Rica | | |



APPENDIX 2. COPY OF THE FINAL AGENDA FOR TRAINING WORKSHOP IN MONITORING AND CONSERVATION TECHNIQUES ON SEA TURTLE NESTING BEACHES

| DAY 1 – Sunday 4 September | | |
|-----------------------------------|--|---|
| Time | Activity | Objective(s) of Activity |
| Morning | Travel from San Jose, Bocas del Toro and Talamanca to Tortuguero | <ul style="list-style-type: none"> Collect workshop participants from Guatemala, Honduras, El Salvador and Nicaragua at the airport and travel to Tortuguero by bus/boat Participants from Panama and Costa Rica travel to Tortuguero by bus and boat from Moín |
| 4.30pm | Arrival at STC John H. Phipps Biological Station in Tortuguero | <ul style="list-style-type: none"> To greet participants and assign each person to a dormitory Tour of the STC Biological Station and an explanation of station rules |
| 6.30pm | Dinner | |

| DAY 2 – Monday 5 September | | |
|-----------------------------------|---|---|
| 7.00am | Breakfast | |
| 8.00am | Welcome activity | <ul style="list-style-type: none"> To introduce participants and share previous experiences with sea turtles To present agenda and discuss workshop objectives |
| 9.00am | Introduction to sea turtle biology | <ul style="list-style-type: none"> To teach participants about the life cycle of sea turtles |
| 10.30am | Coffee Break | |
| 11.00pm | Species identification and nesting behavior | <ul style="list-style-type: none"> To teach participants how to identify different species of turtle and the phases of the nesting process If possible observe turtle tracks on the beach |
| 12.30pm | Lunch | |
| 1.30pm | Status of sea turtle populations in Central America | <ul style="list-style-type: none"> To inform participants about the species of sea turtles found in Central America, their current status and threats |
| 3.30pm | Coffee Break | |
| 4.00pm | Case studies of sea turtle monitoring projects | <ul style="list-style-type: none"> To provide real examples of on-going sea turtle monitoring projects, including Tortuguero, Chiriquí Beach and at least one other location |
| 6.30pm | Dinner | |
| 8.30pm | Night patrol | <ul style="list-style-type: none"> To allow participants to observe nesting sea turtles, and to learn the different phases of the nesting process To observe the different field techniques; including flipper tagging, biometric data collection |



APPENDIX 2. CONTINUED

| DAY 3 – Tuesday 6 September | | |
|------------------------------------|---|---|
| Time | Activity | Objective(s) of Activity |
| 7.00am | Breakfast | |
| 8.00am | Introduction to field monitoring techniques | <ul style="list-style-type: none"> • To provide participants with information about the importance of standardization of monitoring projects • Give basic information about different methods used to monitor sea turtles at nesting beaches, including study site selection, track surveys, etc. |
| 10.30am | Coffee Break | |
| 11.00am | Introduction to tagging methods | <ul style="list-style-type: none"> • Discuss different methods of tagging turtles • Practice flipper/PIT tagging |
| 12.30pm | Lunch | |
| 1.30pm | Biometric data collection | <ul style="list-style-type: none"> • Introduction to biometric data collection, including carapace measurements, nest marking, etc • Practice carapace measurements and nest marking |
| 3.30pm | Coffee Break | |
| 4.00pm | Nest management | <ul style="list-style-type: none"> • Identification of nests and nest marking <i>in situ</i> • Relocation of nests • Discussion about the use of hatcheries in sea turtle conservation • Information about best practices for hatchery management • Determination of hatching and emerging success • Practice nest relocation |
| 6.30pm | Dinner | |
| 8.30pm | Night patrol | <ul style="list-style-type: none"> • Allow participants to put into practice the training sessions; including flipper tagging, biometric data collection and nest marking • Interact with tourist activities on the beach, and observe the tourist system in practice |



APPENDIX 2. CONTINUED

| DAY 4 – Wednesday 7 September | | |
|--------------------------------------|---|--|
| 7.00am | Breakfast | |
| 8.00am | Review of the field techniques and additional practice sessions | <ul style="list-style-type: none"> • Allow participants to raise questions, concerns or make comments about the patrol the previous night • Review methods and conduct additional practice sessions of flipper tagging and carapace measurements if necessary |
| 10.00am | Coffee Break | |
| 10.30am | Data management | <ul style="list-style-type: none"> • To discuss with participants the importance of precise data collection, and the need for effective data management |
| 11.30am | Environmental education and community outreach | <ul style="list-style-type: none"> • To discuss with participants the value of conducting environmental education and outreach with local communities |
| 12.30pm | Lunch | |
| 1.30pm | Turtle-related tourism and volunteers | <ul style="list-style-type: none"> • To introduce the theme of ecotourism activities related to sea turtles • To discuss with participants the role of volunteers in sea turtle monitoring projects • Use Tortuguero as a case study to address problems and present the Turtle Spotter Program |
| 3.00pm | Coffee break | |
| 3.30pm | Visit to Tortuguero National Park and the village | <ul style="list-style-type: none"> • Opportunity to visit Tortuguero National Park and speak to park officials about laws pertaining to sea turtles in Costa Rica • Opportunity speak to key stakeholders involved in sea turtle ecotourism; eg. tour guides and turtle spotters |
| 6.30pm | Dinner | |
| 8.30pm | Night patrol | <ul style="list-style-type: none"> • Optional night patrol – To provide participants the opportunity to gain practical experience in field monitoring techniques |



APPENDIX 2. CONTINUED

| DAY 5 – Thursday 8 September | | |
|-------------------------------------|--|---|
| 5.00am | Track survey | <ul style="list-style-type: none"> • Conduct a supervised track survey to teach participants how to identify turtle species and distinguish between successful and unsuccessful nesting attempts • Conduct a nest excavation if possible |
| 9.00am | Breakfast | |
| 10.00am | Review of the field techniques and additional practice sessions | <ul style="list-style-type: none"> • Allow participants to raise questions, concerns or make comments about the patrol the previous night • Review methods and conduct additional practice sessions of flipper tagging and carapace measurements if necessary |
| 12.30pm | Lunch | |
| 1.30pm | Revision of material | <ul style="list-style-type: none"> • To test participants about the information that they have received during the workshop; either as short exam or a quiz |
| 2.30pm | Closing activity | <ul style="list-style-type: none"> • To evaluate the workshop with participants; to get recommendations for future workshops • Presentation of certificates to all participants |
| 6.30pm | Dinner | |
| DAY 6 – Friday 9 September | | |
| 7.00am | Breakfast | |
| 8.00am | Travel from Tortuguero to San Jose, Talamanca and Bocas del Toro | <ul style="list-style-type: none"> • Take participants from Tortuguero to the airport in San Jose and to Moín, Talamanca and Bocas del Toro by boat/bus |



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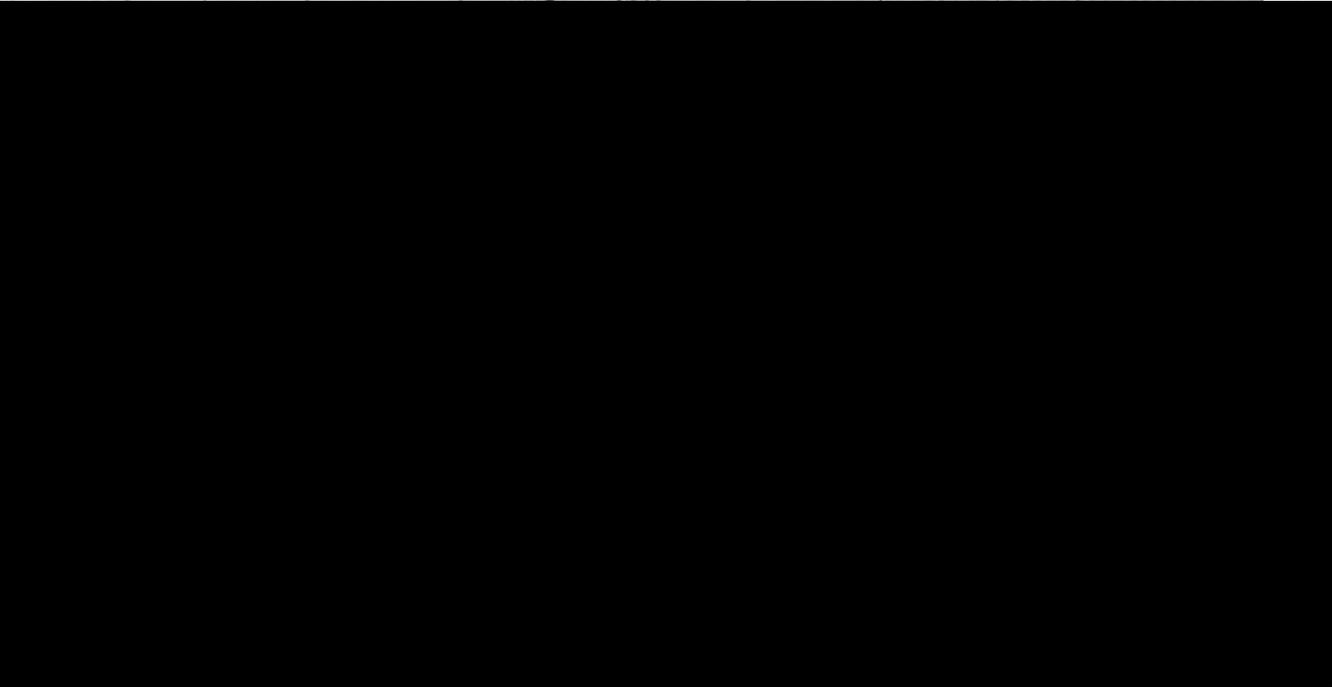
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APPENDIX 3. COPIES OF DAILY ATTENDANCE RECORDS.

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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE CAPACITACIÓN DE TÉCNICAS DE MONITOREO DE PLAYAS DE ANIDACIÓN
País/Lugar: DORADO, COSTA RICA
Fecha: 5 SEPTIEMBRE 2011

| Nº | Nombre | Genero | País | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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APPENDIX 3. CONTINUED.



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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE CAPACITACION DE TECNICOS DE MONITOREO DE TORTUGAS MARINAS
 Pais/Lugar: TORREJUGUERO, COSTA RICA
 Fecha: 5 SEPT, 2011

| Nº | Nombre | Genero | Pais | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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**USAID REGIONAL PROGRAM FOR THE MANAGEMENT
OF AQUATIC RESOURCES AND ECONOMIC ALTERNATIVES**

APPENDIX 3. CONTINUED.

 **USAID** | **USAID REGIONAL PROGRAM FOR THE MANAGEMENT
OF AQUATIC RESOURCES AND ECONOMIC ALTERNATIVES**

LISTA DE ASISTENCIA

Nombre del evento: TALLER DE CAPACITACION DE TECNICAS DE MONITOREO DE PLAYAS DE ANIDACION
 Pais/Lugar: TORTELINO COSTA RICA
 Fecha: 6 SEPT, 2011

| N° | Nombre | Genero | | Pais | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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APPENDIX 3. CONTINUED.



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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE CAPACITACION DE TECNICAS DE MONITOREO DE PLAYAS DE
 País/Lugar: DOMINICANA COSTA RICA ANILACION
 Fecha: 6 SEPT 2011

| Nº | Nombre | Genero | | País | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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APPENDIX 3. CONTINUED.



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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE MONEDER CAPACITACION DE TECNICAS DE MONITOREO DE NESTOS DE
 Pais/Lugar: TORTUGUERO COSTA RICA ASOCIACION
 Fecha: 6 SEPT, 2011

| Nº | Nombre | Genero | | Pais | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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APPENDIX 3. CONTINUED.



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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE CAPACITACION DE TECNICAS DE MONITOREO DE PLAYAS DE
 Pais/Lugar: TURUNGUERO COSTA RICA ASOCIACION
 Fecha: 6 SEPT, 2011

| N° | Nombre | Genero | | Pais | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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APPENDIX 3. CONTINUED.

LISTA DE ASISTENCIA

Nombre del evento: TALLER DE TÉCNICAS DE MONITOREO DE LAS TORTUGAS MARINAS EN PLAYAS DE ANIDACION
 País/Lugar: TURKEY, COSTA RICA
 Fecha: 7 SEPT, 2011

| N° | Nombre | Genero | | País | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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APPENDIX 3. CONTINUED.



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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE TÉCNICA DE MONITOREO DE TORTUGAS MARINAS EN PLAYAS DE ANILACION
 País/Lugar: TORREMUCA, COSTA RICA
 Fecha: 7 DESET 2011

| Nº | Nombre | Genero | | País | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE TECNICAS DE MONITOREO DE TENDENCIAS MARINAT EN PLAYAS DE
 Pais/Lugar: INSTITUCION COSTA RICA ANILACION
 Fecha: 8 SEPT 2011

| N° | Nombre | Genero | | Pais | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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LISTA DE ASISTENCIA

Nombre del evento: TALLER DE TECNICAS DE MONITOREO DE TORTUGAS MARINAS EN PLAYAS DE
 Pais/Lugar: TORTUCENSEO, COSTA RICA ANIMACION
 Fecha: 8 SEPT, 2011

| N° | Nombre | Genero | | Pais | Institución / Cargo | Profesión | Teléfono | Correo electrónico | Firma |
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APPENDIX 4. EXAMPLE OF PARTICIPANT QUIZ

General concepts

1. What species of sea turtles are found in Central America? Give their common names and scientific names.
2. List the morphological differences between sea turtles and land turtles.
3. Mention the different phases of the sea turtle nesting process.

Each team was provided with a diagram of a different species of sea turtle and asked to answer the following questions (Note: Each team was given a diagram of a different species of turtle).

4. Mention all of the criteria you would use to identify this species.
5. What species is it?
6. How many times does this species nest during a nesting season, and how many years between nesting seasons?
7. Draw the track of this species when it makes;
 - a) A false crawl
 - b) A nest
8. In what zone of the beach does this species prefer to nest?
9. On the diagram of the turtle, indicate the location of where the curved carapace length and curved carapace width would be measured.
10. Review the diagram and list the data that you would collect if the turtle was encountered on the beach covering her nest.

Each team was provided with data from a nest excavation and asked to answer the following questions (Note: The data were specific to the species of turtle in the diagram each team was presented with):

11. Calculate the % hatching success including pipped eggs (those in which hatchlings have broken the shell but not emerged).
12. Calculate the % emergence success.
13. Define what is meant by the phrase "Number of turtles liberated".
14. What is the average nest depth of this species?



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APPENDIX 5. EXAMPLE OF PARTICIPANT CERTIFICATE.





APPENDIX 6. LIST OF MATERIALS GIVEN TO WORKSHOP PARTICIPANTS.

Each of the workshop participants received a folder containing a brochure about the MAREA Program, a copy of the workshop agenda and a cd with the following materials:

- Draft copy of '*Manual sobre técnicas de manejo y conservación de las tortugas marinas en playas de anidación de Centroamérica*' (Manual for management techniques for sea turtle conservation at nesting beaches in Central America) from the Inter-American Convention for the Protection and Conservation of Sea Turtles (In Spanish)
- '*La anatomía de las tortugas marinas*' (Sea Turtle Anatomy) by Jeanette Wyneken (In Spanish)
- '*Entendiendo, evaluando y solucionando los problemas de contaminación de luz en playas de anidamiento de tortugas marinas*' (Understanding, assessing and resolving light pollution problems on sea turtle nesting beaches) by Blair Witherington and Erik Martin (In Spanish)
- '*Técnicas de investigación y manejo para la conservación de las tortugas marinas*' (Research and management techniques for the conservation of sea turtles) prepared by the IUCN/SSC Marine Turtle Specialist Group (In Spanish)
- Species identification guide (In Spanish)
- Workshop participant list
- Powerpoint presentations from the workshop (all in Spanish)
 1. Biología de las Tortugas Marinas (Biology of Sea Turtles)
 2. Identificación de las Especies de Tortugas Marinas (Identification of Sea Turtle Species)
 3. Especies y Estatus de Tortugas Marinas en Centroamérica (Species and Current Status of Sea Turtles in Central America)
 4. Estudio de Caso – Tortuguero (Case Study – Tortuguero)
 5. Estudio de Caso – Chiriquí Beach (Case Study – Chiriquí Beach)
 6. Estudio de Caso – Pro Peninsula (Case Study – Pro Peninsula)
 7. Técnicas de Monitoreo (Monitoring Techniques)
 8. Marcaje de Tortugas Marinas (Tagging Sea Turtles)
 9. Recolección de Datos Biométricos (Collection of Biometric Data)
 10. Manejo de Nidos (Nest Management)
 11. Viveros (Hatcheries)
 12. Manejo de Información y Base de Datos (Information Management and Data Bases)
 13. Turismo y Tortugas Marinas (Tourism and Sea Turtles)

Note: A copy of the cd was given to Julio Barquero Elizondo – site coordinator for Cahuita-Bocas del Toro



APPENDIX 7. COPY OF PARTICIPANT EVALUATION.

SATISFACCION DEL CLIENTE. CAPACITACIONES

Nombre del evento: _____

Lugar: _____ Fecha: _____

Estimado cliente:

Como Programa de Manejo de Recursos Pesqueros y Alternativas Económicas, nos interesa conocer su grado de satisfacción con respecto a la capacitación recibida, por lo que de forma atenta le solicitamos complete la siguiente información:

INVESTIGACION DE LA SATISFACCION DEL CLIENTE

Medio por el cual se entero del curso

- a) Programa MAREA
- b) USAID
- c) Por invitación
- d) Otro (por favor especifique)

| Como evalúa | E | MB | B | R |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| INFORMACION PREVIA AL CURSO | | | | |
| Entrega de información logística del curso a tiempo | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Entrega oportuna de información básica relacionada al tema a desarrollarse en el curso | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CURSO | | | | |
| Contenido de las exposiciones | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Enfoque de teoría y práctica | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Al inicio del curso se dio a conocer el programa del mismo | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Contenido del material de enseñanza entregado | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| La duración del curso fue adecuada en relación a la cantidad de temas expuestos. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cumplimiento de los horarios establecidos | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Organización del curso | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| INSTALACIONES Y EL SERVICIO | | | | |
| Nivel de los materiales audiovisuales utilizados | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Comodidad para realizar trabajos individuales o de grupo (si aplica) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Servicio de alimentación | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Instalaciones adecuadas | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Servicio en general (iluminación, amplitud del salón, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Logística | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| FACILITADOR / INSTRUCTOR | | | | |
| Dominio del tema | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Método de impartir el curso | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Desempeño en general | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



APPENDIX 7. CONTINUED.

APLICABILIDAD DEL CURSO

| | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| El curso cumplió con sus expectativas previas | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| La información que obtuve será de utilidad para mi empresa / profesión | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Comprendo la mayor parte de los conceptos relacionados con el tema expuesto | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Nomenclatura

Excelente (E), Muy Bueno (MB), Bueno (B), Regular (R)

SUGERENCIAS O COMENTARIOS PARA MEJORAR EL SERVICIO
