

**EASTERN CARIBBEAN  
MARINE MAMMAL STRANDING RESPONSE  
TRAINING WORKSHOP**

**FINAL REPORT**

School Of Veterinary Medicine  
University of West Indies  
Champ Fleurs, Trinidad  
15-18 November 2005

Submitted by:  
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15 January 2006

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## INTRODUCTION

The *first Eastern Caribbean Marine Mammal Stranding Response Training Workshop* (MMSW) was held at the **University of West Indies Veterinary School of Medicine** at the **Eric Williams Medical Sciences Complex, Champs Fleurs, Trinidad** from **November 15 to 18, 2005**. The purpose of the workshop was to provide stranding response and necropsy training—a core of marine mammal stranding expertise and tools—in the Eastern Caribbean region.

The MMSW project was a two-year process, developed under the multi-agency White Water-to-Blue Water Initiative (WW2BW). Dr. Nathalie Ward served as coordinator for workshop preparations. Funding from U.S. State Department and White Water to Blue Water Initiative (WW2BW), NMFS Office of Protected Resources, NOAA Office of International Affairs and NOAA Satellites and Information Service provided funding for travel for participants and trainers, logistics for the necropsy wet lab and stranding kits for each of the participating nations. The work was conducted under the auspices of the United Nation Environment Programme's (UNEP) newly instituted Marine Mammal Action Programme of the Specially Protected Areas and Wildlife (SPA) Protocol.

Seeking to take advantage of the accumulated expertise of colleagues, the *University of the West Indies (UWI) School of Veterinary Medicine* collaborated with the U.S. National Marine Fisheries Service (NMFS), UNEP/Caribbean Environment Programme (CEP), the Eastern Caribbean Cetacean Network (ECCN), MARVET (Grenada), and the Smithsonian Marine Mammal Laboratory (Washington, D.C) to convene the workshop.

Twelve participants representing government fisheries organizations and non-government organizations from five Eastern Caribbean nations attended—Barbados, Grenada, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago. Trainers from the U.S. included Dr. Janet Whaley and Ms. Sarah Wilkin of the Marine Mammal Health and Stranding Response Program; Mr. Charley Potter of the Smithsonian Institution; Dr. Nélio Barros and Dr. John Reynolds of Mote Marine Laboratory; Dr. Raymond J. Tarpley and Ms. Christine Curry (MARVET) and of St. George's University, School of Veterinary Medicine, Grenada; Dr. Nathalie Ward of the Eastern Caribbean Cetacean Network/ U.S. National Marine Sanctuary Program; and Ms. Andrea Bogomolni of Woods Hole Oceanographic Institution/Eastern Caribbean Cetacean Network. Staff members from the UWI CVM included Dr. John Cooper, Ms. Margaret Cooper, Dr. Ravi Seebaransigh, and Dr. Verrol Simmons (See Participant List: Appendix I).

## TOPICS for TRAINING

The goal of the Workshop was to review the techniques and protocols for responding to stranding incidents for marine mammals and to facilitate possibilities for collaboration of countries in the region. Development of an international network of stranding responders, an archive of samples, and a database of findings was explored (See MMSW Agenda: Appendix II).

The four-day workshop included the following topics:

- Identification of marine mammal species;

- Sample collection, preparation, handling, transport and storage of marine mammal specimens;
- Data collection and database coordination; and,
- Identification of national and regional coordination needs.

The participants received classroom and hands-on instruction in stranding response, necropsy, and supportive animal care. Participants were introduced to the ‘Incident Command System (ICS)— a method of organizing stranding events that involve multiple agencies with a set pyramid of authorization (See Incident Command System: Appendix III). They also participated in a mock stranding response demonstration on the beach and in a facilitated debrief discussion. As part of the discussion, participants identified their needs for stranding response, analytical capabilities, and technology and information exchange.

## **WORKSHOP RECOMMENDATIONS**

Participants commended the workshop’s organization and learning opportunities provided. They applauded the new *exposure to and relevance of marine mammal strandings to ocean health*. Participants compiled a list of recommendations for future work (See Workshop Recommendations: Appendix IV). Recommendations from participants included: the formation of national stranding networks as well as the development of a regional stranding and response network; identifying future training needs and materials; standardizing data collection/data base and establishing on-the-beach and in-the-water protocols; expanding existing and developing region-specific education programmes; continued and improved communication with group through *ftp* site; development and circulation of model for national legislation for conservation of marine mammals; and, *subsequent training opportunities for other range states in the region*.

All participants made commitments to pass on this information to their superiors and stated their motivation to practice what they learned. *Dr. Verrol Simmons (UWI) offered analytical assistance for the Eastern Caribbean and to host another workshop in the near future*. Additional commitments were made regarding developing and/or updating marine mammal protection policy. *Mr. Steven Willoughby, Director of Fisheries for Barbados, invited us to assist with developing marine mammal protection policy for Barbados as did Mr. David Boodoo, the Wildlife Officer for the Forestry Division of Trinidad and Tobago*.

Day Four of the workshop (not originally planned for) was organized to formulate country-specific tools/efforts for the development of a Trinidad and Tobago Stranding Network (See T&T Panel Discussion: Appendix V). Panel discussions emphasized the need to: identify T&T agencies that are responsible for coordination of a marine mammal stranding; establish a written “stranding response protocol” that is approved by government and set under the law; develop a national. T&T stranding network that is part of a regional effort; and, strengthen efforts of UNEP’s Marine Mammal Action Plan.

## **REGIONAL CONTEXT**

In the Wider Caribbean Region, there is an urgent need for capacity building in the area of unusual mortality events of marine mammals, specifically on-the-ground response to animal strandings and collection of relevant data; training in methods of sample collection, archiving of

samples and establishment of an on-line database for findings; and, as it applies to insight into ocean health.

Because marine mammals are trans-boundary animals, successful conservation of marine mammals in the Wider Caribbean Region will ultimately depend upon the commitment of countries there to build and maintain, with international assistance, internal capacities for setting conservation priorities and achieving high standards of population and habitat protection. One of the goals of the Protocol concerning Specially Protected Areas (SPA) to the UNEP Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region is to develop specific regional and national management plans for endangered, threatened or vulnerable species and, to develop a strong regional capability for the co-ordination of information exchange, training and technical assistance in support of national biodiversity conservation efforts. In order to achieve this, Parties are developing the Action Plan for the Conservation of Marine Mammals in the Wider Caribbean (MMA) subject to the provisions of the Protocol (See Background Documents (UNEP (DEC)/CAR WG.27/2 Rev3): Appendix VI).

#### SPA Protocol

During the past two decades, awareness of marine mammals and their habitats in the Caribbean Sea and the Gulf of Mexico has increased. The Specially Protected Areas and Wildlife (SPA) Protocol, born out of the Convention for the Protection and Development of the Marine Environment for the Wider Caribbean Region (Cartagena Convention), came into force in 2000 and is now the only regional biodiversity agreement for the advancement of the conservation and protection of the marine environment in the Wider Caribbean. The SPA Protocol works as a facilitator, educator, and catalyst to coordinate activities and build capacity of all member governments in the region to manage their coastal environments and build sustainable coastal economies.

Articles 11 and 21 of the SPA Protocol call for the development and implementation of programmes for protected species, as well as guidelines and criteria for the management of protected species, including migratory species. Annex II of the SPA Protocol lists all species of marine mammals of the Wider Caribbean as threatened and endangered. In this context, governments have agreed on the need to develop a regional management plan for the conservation of marine mammals, through Decisions IV (2) and 2 of the First and Second Meetings of the Contracting Parties of the SPA Protocol (Havana, Cuba, 27-29 September 2001 and Montego Bay, Jamaica, 6 May 2002, respectively); Decision 1 of the Tenth Intergovernmental Meeting of the Caribbean Environment Programme and the Seventh Meeting of the Contracting Parties of the Cartagena Convention, 7-11 May 2002; and the results of the informal consultation summarized by the Regional Activity Centre for SPA (SPA/RAC) in UNEP(DEC)/CAR WG.25/CRP.2 and presented to the Second Meeting of the Scientific and Technical Advisory Committee (STAC 2) in Curaçao in 2003.

In this process, governments of the region have reviewed and considered the information documents which outline the status of marine mammal conservation in the region, propose priorities for action, and form the basis of the proposed activities in the MMA (See Appendix IV: Background Documents. They are available from the UNEP website at: <http://www.cep.unep.org/pubs/meetingreports/MMA/mmap.php>).

Having convened the Regional Workshop of Experts on the Development of the Marine Mammal Action Plan (MMAAP) for the Wider Caribbean Region (Bridgetown, Barbados 18-21 July 2005); having reviewed the Draft Marine Mammal Action Plan for the Conservation of Marine Mammals in the Wider Caribbean Region (UNEP (DEC)/CAR WG.27/2); and, taking into consideration the information and reference documents available for the Meeting as listed in UNEP (DEC) WG.27/INF.1; it is important to consider the recent recommendations of the Meeting of Experts in the development of a *national and regional stranding networks in the Eastern Caribbean*, which states:

*Develop a training programme focused on strengthening the national capacities to address marine mammal issues, in particular strandings, and research, following the model of the MPA Training of Trainers Programme under SPAW.*

## **FUNDING**

Funding from U.S. State Department and White Water to Blue Water Initiative (WW2BW), NMFS, Office of Protected Resources, NOAA Office of International Affairs and NOAA Satellites and Information Service provided funding for travel for participants and trainers, logistics for the necropsy wet lab and stranding kits for each of the five Eastern Caribbean nations. Additional funds and in-kind support were received from the Cape Cod Stranding Network (CCSN), Cetacean Society International (CSI), Eastern Caribbean Cetacean Network (ECCN), International Fund for Animal Welfare (IFAW), Marine Mammal Commission (MMC), MARVET, Smithsonian Marine Mammal Laboratory, Mote Marine Laboratory, Whale and Dolphin Conservation Society (WDCS) and World Society for Protection of Animals (WSPA).

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## APPENDIX II: MMSW AGENDA

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**Marine Mammal Stranding Response Training Workshop (MMSW)**  
**AGENDA: 15 to 18 November 2005**

### DAY 1—Tuesday November 15

- 8:00 AM      *Welcome (UWI Director/Dean)*  
                 *Workshop Overview (Nathalie Ward)*  
                 Workshop Logistics (Verrol Simmons)  
                 Health and Safety at SVM (Ravi Seebaransingh)  
                 Introductions: Trainers, Participants, Support Staff, Rapporteurs and Stewards (John Cooper)
- 8:45              The Conservation Value of Marine Mammal Strandings (John Reynolds)
- 9:15              Background Law (Margaret Cooper and David Boodoo)
- 10:00             *Break*
- 10:15             Introduction to Stranding Terminology  
                 External Necropsy Preparation: Part I (Raymond Tarpley)
- 12:00 PM        *Lunch*
- 1:00 – 5:00 PM   External Necropsy (Part I: Laboratory)
- 7:00 PM        *Dinner PAX Guest House*

### DAY 2—Wednesday November 16

- 8 :00 AM        Announcements (Verrol Simmons / SVM staff)
- 9:15              Internal Necropsy Preparation: Part II (Raymond Tarpley)
- 9:45              Internal Necropsy: Laboratory Part II (Trainers)
- 12:00 PM        *Lunch*
- 1:00-5:00 PM    Internal Necropsy (*continued*)
- Group(s) prepare necropsy findings for other group
  - Groups present necropsy findings to other group from their dolphin to the other group
  - Skeleton examination (Taxonomic Stranding Field Guide)
  - Prosected Specimens

## **MMSW Agenda Continued:**

7:00 PM *Dinner at PAX Guest House*

8:15 PM *On-the-Beach Protocol Discussion*  
(Andrea Bogomolni and Nelio Barros)

### **DAY 3—Thursday November 17**

7:30 AM Field Trip: Mock Stranding Response on the beach

12:00 PM *Picnic Lunch*

1:30 PM Introduction (UWI)

- UNEP/SPAW interest in strandings
- Countries interested in strandings
- CITES

2:15 Working Group Discussions (4 groups)

- How realistic are the data collection exercises in your country?
- Live Strandings
- Single versus Mass Strandings
- Fisheries Interactions
- Data Sharing and Analysis
- Communication between Islands and Networks

3:15- 5:00 Plenary (John Cooper and Nelio Barros)

6:30 PM *RECEPTION*

### **DAY 4—Friday November 18**

9:00 AM Welcome (UWI Dean, Director)  
Workshop Overview (Nathalie Ward/Christine Curry)

9:15 Marine Mammal Strandings in Trinidad: Panel Discussion  
(Trinidad Officials, Invited Guests and Workshop Participants)

- SPAW's MMAP
- Trinidad Case Study: "Dos and Don'ts of Stranding"
- Trinidad Template: Stranding Network
- Regional Eastern Caribbean Network

11:45 Press Release —Media

12:30 PM *Lunch*

**2:00 – 5:00 PM Necropsy Demonstration**

### APPENDIX III: INCIDENT COMMAND SYSTEM

The Stranding Response command system in the U.S. begins with the legal authorization by the federal government to approach or interfere with marine mammals. A 'Letter of Authorization (LOA)' is given to each stranding organization to comply with the Marine Mammal Protection Act. Volunteers of the stranding network must have permission from their network before approaching marine mammals.

Marine Mammals can single or mass strand. Organizing a mass stranding requires proper organization and emergency response teams ready to act before the event ever occurs. Mass Stranding response is organized under the same system that human emergency response teams utilize known as the 'Incident Command System (ICS). It is a method of organizing events that involve multiple agencies with a set pyramid of authorization.

Once a stranding report is received, the *Incident Command System* is established. The Incident Commander is the person who received the report, or a person who is already designated to take control before an event ever occurs. An Incident Commander must oversee and appoint a Site Coordinator, Media Coordinator, Personnel Coordinator, and any other roles that may be necessary (e.g. Safety, Equipment, etc.) and be accessible at a Central Operation Base or via telephone/radio communication, if in the field. All information and decisions must be relayed from the Site Coordinator(s) to the Incident Commander. Each Site Coordinator appoints an on-site team with rescuers, technical specialists (e.g., veterinarians, veterinarian technicians, trained volunteers) and other volunteers, as necessary. Every person should know *what* their role is and *whom* they will take orders from. The Site Coordinator and team perform triage for each animal, while rescuers and volunteers give supportive care. Options are evaluated within a single stranding site or within various sites. Animals can then be released whether in small groups, one large group, relocated, euthanized, or held until all animals are evaluated. Final decision for releasing the group of animals is determined by the Incident Commander once information is received from all stranding sites from each Site Coordinator. After the event, a debrief at the Incident Command Center/Central Operation Base *needs to occur with all involved*. Check-in of ALL personnel at the beginning of an event and checkout after is necessary. Dead animal recovery and site clean up can then take place.

## APPENDIX IV: WORKSHOP RECOMMENDATIONS

### I. Immediate Country Commitment

- Commit to prioritize establishment of a stranding network in their country
- Frame marine mammal strandings as indicators of marine ecosystem health—identifying emerging diseases, anthropogenic influences, etc.
- Establish improved relationship with respective Department of Fisheries
- Hold stakeholder meetings to get NGO's, Fisheries, Agriculture, fishermen, etc. on same page with regards to stranding response

### II. Further Training Needs

- Training of frontline responders (e.g., fishermen, park rangers, life guards)
  - *Do's and Don'ts of Strandings*
  - Species ID basics
  - "Who" to call and "What: information technical response team will need
  - What help the responders can provide (e.g. stabilizing the animal)
  - Participants should work with national Departments of Fisheries to incorporate marine mammal stranding training into pre-existing training for fishermen
- Technical Response Team (i.e., group that goes to the beach to respond to the animal: unique specific training sessions for each island)
  - Beach protocol: incident command, stabilizing live animals, recovering dead animals, etc.
  - Necropsy training
  - Sample collection needs and protocols
  - Combination of lecture and hands-on sessions: theoretical lectures followed by practical hands-on sessions worked well at this meeting and should continue
- Repeat of this workshop on other Eastern Caribbean islands
- Training sessions at other workshops as applicable (e.g. Commonwealth Veterinary Congress meeting in Barbados 2007)
- A second workshop of these participants (in a different location or a virtual meeting) to review progress to date

### III. Education programs

- School programs: grade school and advanced
- University/Veterinary students
- Public outreach: posters, television programs/PSA's

### IV. Data collection/standardization

- Creation of a common data form and entry protocol (software program)
- Clearinghouse/central database for stranding data and voucher (reference) materials
- Identification of advanced analysis capabilities for collected samples (incorporating feedback for the collectors)

### V. Further communication: Mailing Listserve/website/FTP site creation

- Sharing of files, photos news, etc.
- Know "who" to contact for further information, to answer questions, etc.

### VI. Further funding needs

- Sample analysis
- Creation of pooled funds to allow for opportunistic hands-on inter-island exchange of stranding response team members (in case of a major stranding event on one island, personnel from a different island can respond to assist)

## **WORKSHOP RECOMMENDATIONS Continued:**

### **VII. Legislative needs**

- Development and circulation of a template for legislation to protect marine mammals for those countries that do not currently have a specific law

### **VIII. Stranding equipment kits**

- Personnel from each island will be identifying stranding response equipment needs, which NOAA Fisheries will provide within the next few months

### **IX. Overall Benefits of MMS Workshop**

- New exposure to the world of marine mammal strandings—seeing relevance to other disciplines, importance of data from stranded animals, identifying data that can be collected, hands-on pathology experience
- Interdisciplinary, ecosystem-wide research questions and identification of potential collaborators
- Fostering international cooperation: networking and commonality of research goals
- Identification of what can be prepared prior to a stranding event

### **X. Products Resulting from the Workshop**

- CD-ROM with Power Point presentations by all lecturers
- Books, reprints, brochures, and other reference materials as requested by participants
- Updated participant list and contact information
- Dichotomous key for Caribbean marine mammal species identification
- Suggested priority sample collection list
- Final Conference Report, including data collected during internal and external examination of necropsied animals
- Summary of available resources of workshop participants (e.g., professional expertise, institutional logistics)

## APPENDIX V: T&T PANEL DISCUSSION (DAY 4)

### FRIDAY 18<sup>th</sup> NOVEMBER 2005 DAY 4: Panel Discussion (Rappateur: UWI Vet Student)

- **Mr. David Boodoo**, Wildlife officer from the forestry division in Trinidad and Tobago explains that there is *currently no written protocol determining which agencies are responsible for coordination of a marine mammal stranding*. At present it is a coordinated response from the various governmental and non governmental institutions
- The representative from the Institute of Marine Affairs supports the statements made by Mr. Boodoo. She feels that the *first response should be is a coordinated agency effort* and the *second response could be coordinated primarily by the Veterinary School at U.W.I.*
- **Dr. Seukeran** makes the point that a protocol is already in place in the United States and Dr. Janet Whaley is asked to *review the current system used in the United States*. The need for Countries from the *Eastern Caribbean islands to establish a written protocol that is approved by government and set under the law* is also highlighted.
- **Mr. Giancarlo Lalsingh** from a non-governmental agency in Tobago speaks of the 2004 stranding of 3 dolphins in Tobago. He mentions that the first response was conducted by an NGO. He also concludes that *governmental agencies may need to be more assertive and to take steps to ensure that the general public can easily access governmental agencies when the need arises*.
- **Ms. Angela Ramsey** represents the *Government Wildlife section in Tobago*. This section currently has two members only and is understaffed. She mentions that in August 2005 a stranded dolphin died before help was administered.
- **Mr. David Boodoo** discloses that 189 honorary game wardens are currently being trained. He suggests that there should be a *meeting in 2006 with other interested local agencies so that a template can be established in order to determine protocol for strandings*.
- **Dr Gus Reader**, a veterinarian from Barbados, *suggests that a similar meeting be organized in Barbados*. He also mentions the fact that updating current laws is needed but is usually a very slow, tedious process.
- **Dr. Seukeran** announces that he will be *hosting a meeting with non-governmental agencies as a continuum to the workshop*. This meeting is carded for the 24<sup>th</sup> November 2005.
- **Dr. Bhaiyat**, Grenada's representative, speaks of the *intention to return home to set up a local network team to respond to strandings*.
- **Andrea Bogomolni**, ECCN database coordinator, volunteers to *compile a list of contact information for participants of the workshop from the different Caribbean islands*. This effort will facilitate future follow-up.
- **Professor Cooper** makes a well-received suggestion that a *liaison be formed between the pathology unit of the University of the West Indies and St. George's University*. This can be useful in future compilation of a voucher (collection of biological material). This will include anatomical models from the workshop and tissue specimens.

#### **T & T PANEL DISCUSSIONS Continued:**

- **Dr. Nathalie Ward** emphasized the *necessity of establishing a regional network*, which would complement UNEP's/SPAW MMAP's recommendations. The *T&T Marine Mammal Stranding Response Workshop* is envisioned to be a template for future workshops in the Wider Caribbean Region.
- **Dr. Seebaransingh** reviews the list of participant recommendations, and determines that *major workshop objectives have been achieved*. He also notes that legislative amendment will be required in the different Caribbean islands but this will be difficult to achieve.
- **Ms. Sarah Wilkin**, of the Marine Mammal Health and Stranding Response Program, agrees to be the *contact point for books and software material for the workshop*.
- **Professor John Cooper** mentions that the *media was invited* but despite their absence, he still plans to disseminate information via future reports that will be available to the public. He formally closes the meeting and invites participants to return for the internal and external necropsy laboratories.

## APPENDIX VI: BACKGROUND DOCUMENTS

*Elements for the Development of a Marine Mammal Action Plan for the Wider Caribbean: A Review of Marine Mammal Distribution* {UNEP (DEC)/CAR IG.20/INF.3}.

*Marine Mammals of the Wider Caribbean Region: A Review of Their Conservation Status* {UNEP (WATER)/CAR WG.22/INF.7}.

Regional Management Plan for the West Indian Manatee, *Trichechus manatus*.  
CEP technical Report No. 35. 1995.

Draft Marine Mammal Action Plan (MMAP) {UNEP (DEC)/CAR WG.27/2 Rev3}.

Draft Recommendations of the STAC Meeting: Venezuela 2005. {UNEP (DEC)/CAR WG.27/3}.