

2002- Award Summaries

A total of \$327,564 will be distributed for the 2002 Protect Wild Dolphin competition. Six (6) awards were made; 14 proposals were received. Research and educational projects will involve a total of 24 investigators from 10 facilities for periods of 1-2 years.

Principal Investigators and Co-PI's:

Jenny Litz (jlitz@rsmas.miami.edu) University of Miami (UM)

Steven Swartz (steven.swartz@noaa.gov) Southeast Fisheries Science Center, NOAA (SEFSC)

Colin Hughes (chughes@miami.edu) UM

Anthony Martinez (anthony.martinez@noaa.gov) SEFSC

Consultants, Subcontracts and Others: N/A

Award No. 2002-14 (\$12,060, October 1, 2002-September 30, 2004) to NOAA Fisheries, Southeast Fisheries Science Center

Title: Genetic Structure of Bottlenose Dolphin (*Tursiops truncatus*) in Biscayne Bay, Florida.

Summary: This project will test the hypothesis that three distinct breeding stocks of bottlenose dolphin exist in Biscayne Bay, Florida. Molecular techniques will be used to determine gender, mitochondrial DNA haplotypes, and multilocus microsatellite genotypes of individuals that are year round residents. These genetic data, when integrated with future studies of chemical contaminants found in dolphin tissues, may serve to indicate the extent to which the health and reproductive potential of each stock can be influenced by anthropogenic changes in the Bay.

Principal Investigators and Co-PI's:

Daniel Odell (dodell@hswri.org) Hubbs-Sea World Research Institute (HSWRI)

Megan Stolen (mstolen@hswri.org) HSWRI

Wendy Noke (wnoke@hswri.org) HSWRI

Dwayne De Freese (ddefreese@hswri.org) HSWRI

Consultants, Subcontracts and Others: Dynamac Incorporated

Award No. 2002-03 (\$73,495, October 1, 2002-September 30, 2004) to Hubbs-Sea World Research Institute

Title: Florida Dolphin Stranding Database: modernization, verification, preliminary analysis and distribution

Summary: All stranding records of Florida dolphin for the period 1978 through 2001, and for 2002-2003 data as they become available, will be converted to a consistent format, i.e., the current Level A standard. This information will be archived as files that can be manipulated with Microsoft Access 2000 software. Database analyses will, to the extent allowable by the quality of the individual records, include annual and seasonal stranding patterns and the distribution of strandings by coast (Atlantic Ocean versus Gulf of Mexico) and by county. The database will be structured so that tables containing Levels B and C data, photographs,

publications and related data can be linked. For example, data generated by the dolphin life history service laboratory at the Hubbs-Sea World Research Institute can be directly linked to the relevant stranding records and avoid the necessity of re-entering data or creating new databases. The entire data set will be available to stranding network participants throughout Florida.

Principal Investigators and Co-PI's:

D. Ann Pabst (pabsta@uncwil.edu) University of North Carolina, Wilmington (UNCW)
William A. McLellan (mclellenw@uncwil.edu) UNCW, Randall S. Wells (rwells@mote.org)
Mote Marine Laboratory (MML), Andrew J. Westgate (westgate@duke.edu) Duke University
(DU), Erin M. Meagher (meagher@uncwil.edu) UNCW
Consultants, Subcontracts and Others: N/A

Award No. 2002-12 (\$66,522, October 1, 2002-September 30, 2003) to Mote Marine Laboratory

Title: Investigating seasonal patterns in thermoregulatory function in bottlenose dolphins (*Tursiops truncatus*) from Sarasota Bay, Florida

Summary: Seasonal variation in the thermal responses of bottlenose dolphins in Sarasota Bay community will be investigated in conjunction with a long-term, health-monitoring program conducted by the Chicago Zoological Society. This study will provide the first opportunity to investigate the mechanisms used by wild dolphins to maintain a constant body temperature (endothermy) over the course of a year. Thermal measurements to be conducted in October/November, February, and June will include skin surface temperatures and heat flux at several locations on the dolphin's body (dorsal fin, fluke, flipper, and tailstock). Deep core temperatures, measured with a specialized colonic probe, and blubber thicknesses, measured using ultrasound, will also be recorded. A dorsal fin Trac Pac will be deployed on a subset of dolphins, which will record skin surface temperatures and heat flux values, as well as velocity and time-depth records. These Trac Pacs are attached to the fin's surface, using suction cups, and deployed for periods lasting up to 8 hours. Infrared thermal imaging will measure skin surface temperatures of wild dolphins, both during temporary restraint, and while they are free-swimming. All of these data will contribute significantly to understanding the physiology and health of Florida bottlenose dolphins.

Principal Investigators and Co-PI's:

Andrew Read (aread@duke.edu) Duke University (DU)
Laura Engleby (lengleby@aol.com) Dolphin Ecology Project
Consultants, Subcontracts and Others: Danielle Waples (DU), Leigh Torres (DU), Kim Urian (DU), Ben Wilson (DU)

Award No. 2002-09 (\$28,833, October 1, 2002-September 30, 2003) to Dolphin Ecology Project

Title: Mark-Recapture Photo-Identification Survey of Bottlenose Dolphins in Florida Bay

Summary: Florida Bay is one of the largest estuarine ecosystems in Florida and encompasses portions of the Everglades National Park and the Florida Keys National Marine Sanctuary. However, there are no estimates of the abundance of bottlenose dolphins in these waters. This

award will support two mark-recapture surveys of bottlenose dolphins using photo-identification techniques. The stock assessments will be conducted during the summer of 2003. These data will form a baseline with which future monitoring efforts in Florida Bay can be compared. In addition, this information will be useful for other research projects in this region, such as genetic and contaminant analyses from biopsy samples.

Principal Investigators and Co-PI's:

Megan Stolen (mstolen@hswri.org) Hubbs-Sea World Research Institute

Consultants, Subcontracts and Others: Wendy Noke (HSWRI), John Reynolds (MML), Sentiel Rommel (Florida Marine Research Institute), Kissimmee Diagnostic Laboratory

Award No. 2002-04 (\$71,828, October 1, 2002-September 30, 2004) to Hubbs-Sea World Research Institute

Title: Enhancement of the Life History Laboratory at Hubbs-Sea World Research Institute

Summary: The award will support the development of a service laboratory for marine mammal life history analyses. Special, state-of-the-art sectioning equipment will be purchased to enable the age structure of dolphin populations from analyses of their teeth. Personnel will be trained to provide and archive data on the longevity, calving, and mortality patterns for wild dolphin populations, especially following mass strandings and unusual mortality events of dolphins throughout Florida. This facility will allow researchers and resource managers to access information that would be too costly to fund or too difficult to gather at their institutions.

Principal Investigators and Co-PI's:

Graham Worthy (gworthy@hswri.org) Hubbs-Sea World Research Institute

Consultants, Subcontracts and Others: Asha Samuel (HSWRI), Tamara Worthy (HSWRI)

Award No. 2002-01 (\$74,826, October 1, 2002-September 30, 2003) to Hubbs-Sea World Research Institute

Title: Feeding ecology of bottlenose dolphins (*Tursiops truncatus*) in the Indian River lagoon, FL

Summary: Feeding preferences of wild dolphins in the Indian River lagoon of Florida will be investigated with stable isotope and fatty acid signature analyses. Assessments of the dietary history and the geographic source of prey species will focus on studies of skin and blubber tissues of dolphins as well as homogenates of various prey fish species. Although this project is focusing on the bottlenose dolphin, the techniques are potentially applicable to any marine carnivore.