Many marine and riverine mammals have been seriously impacted by overexploitation, pollution and coastal development. Furthermore, recent studies suggest alarming indirect effects of climate change on marine mammal populations. In light of such threats, and faced with limited resources, establishing conservation priorities is an urgent task. How to best do that, however, is a difficult question. For example, allocating conservation effort simply as a function of extinction risk of species ignores relevant information, such as the status of closely related species. We use newly developed methods (TUATARA in Mesquite) to perform the first phylogenetic analyses of conservation priorities for Cetacea and Pinnipedia. By considering both the unique evolutionary history that each taxon represents (evolutionary distinctiveness), and extinction risk, the aim is to maximally conserve evolutionary diversity. For cetaceans (excluding the now-extinct Lipotes vexillifer) high priority taxa include a disproportional number of freshwater species (Pontoporia blainvillei, Platanista minor, Platanista gangetica, and Inia geoffrensis), while marine species include *Phocoena sinus*, *Physeter macrocephalus*, and *Balaenoptera musculus*. For pinnipeds high priority taxa include three species of phocids *Monachus schauinslandi*, *M. monachus*, and *Cystophora* cristata, two species of otarids *Callorhinus ursinus* and *Neophoca cinerea*, and the odobenid *Odobenus rosmarus*. Our results suggest that high priority species have certain traits in common: (1) they represent distinct, sometimes relict evolutionary lineages, (2) with the exception of sperm and blue whales all are highly restricted in their distribution, and (3) most of them have been negatively affected by anthropogenic activities. The current extinction crisis requires prioritizing conservation effort; our study points to taxa whose conservation is particularly important in order to preserve evolutionary history.

Lobomycosis in bottlenose dolphins (*Tursiops truncatus*) along the coastal Atlantic Ocean, Florida, U.S.: Prevalence and site fidelity

Mazzoil, Marilyn [1]; Murdoch, M. Elizabeth [1]; Bechdel, Sarah E. [1]; Howells, Elisabeth M. [1]; McCulloch, Stephen D. [1]; de Sieyes, Malcolm [1]; Bossart, Gregory D. [2, 1]; Reif, John S. [3, 1]
(1) Harbor Branch Oceanographic Institute at FAU, 5600 US HWY 1, North, Fort Pierce, FL, 34946, USA
(2) Georgia Aquarium, 225 Baker Street, Atlanta, GA, 30313, USA
(3) Colorado State University, Department of Environmental and Radiological Health Sciences, Fort Collins, CO, 80523, USA
Corresponding author: Mmazzoil@hboi.fau.edu

This study examined the prevalence of lobomycosis (*lacaziasis*) in bottlenose dolphins (*Tursiops truncatus*) in the Atlantic Ocean along Florida's east-central coast, using photo-identification data collected between 2002 and 2008. Lobomycosis is a chronic infection of the skin caused by the fungus *L. loboi*, which affects only dolphins and humans. Previous studies have shown a high prevalence (8.3 - 12.0%) of lobomycosis in resident dolphins from the adjacent Indian River Lagoon Estuary, where the disease is endemic. Our objectives were to (1) document the prevalence of lobomycosis in coastal dolphins using photographic methodology shown to have high sensitivity and specificity in prior research; and (2) determine if dolphins seen in the ocean ranged into the estuary and vice versa. The prevalence of skin lesions compatible with lobomycosis estimated from photographic data was 2% (6/244). Eighty-two percent (200/244) of distinctly marked dolphins were seen <2 times, indicating an extended geographic range beyond the 80 km latitudinal study area, or transience. Only two dolphins observed in the ocean were seen in the estuary, and six long-term resident estuarine dolphins were seen in the ocean within 1 km of an inlet. The lower prevalence of lobomycosis in dolphins found in the Atlantic Ocean and the overall lack of movement of dolphins between these habitats suggests that environmental conditions within the estuary may favor viability of *L. loboi*, and/or that immune compromise in resident estuarine dolphins is a precursor to the disease. Since lobomycosis is not known to spread horizontally by dolphin-to-dolphin contact, lobomycosis in Atlantic Ocean dolphins may occur from exposure to contaminated water filtered through inlets connecting the two marine ecosystems, but appears to be limited. Low re-sighting frequencies of coastal ocean dolphins may also suggest that environmental exposure to *L. loboi* is occurring elsewhere along the Atlantic seaboard.

A summary of visual marine mammal monitoring and baseline surveys in the U.S. Navy's Pacific operating areas of Hawaii, Southern California, Gulf of Alaska and the Marianas Islands 2006-2009.

Mazzuca, Lori [1]; Smultea, Mari A. [2]; Mobley, Jr., Joseph R. [3]; Zoidis, Ann Margaret [4]; Fulling, Gregory L. [5]; Rone, Brenda K. [6]
(1) U.S. Navy - Naval Facilities Engineering Command Pacific, 258 Makalapa Dr. Ste. 100, Pearl Harbor, HI, 96860-3134, USA
(2) Smultea Environmental Sciences, LLC., 29333 SE 64th St., Issaquah, WA, 98027, USA
(3) Marine Mammal Research Consultants, Ltd., 1669 St. Louis Hts. Dr, Honolulu, HI, 96816, USA
(4) Cetos Research Organization, 11 Des Isle Ave, Bar Harbor, ME, 04609, USA
(5) engineering-environmental Management (e2M), Inc., 4100 194th St. SW, Suite 130, Lynnwood, WA, 98270, USA
(6) NOAA Fisheries, Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, WA, 98115-6349, USA
Corresponding author: lori.mazzuca@navy.mil

During 2006-2009, the U.S. Navy's Pacific Fleet funded 16 marine mammal baseline and monitoring surveys from small civilian aircraft (n=10) and research vessels (n=6) in four Pacific regions: Hawaii, southern California, Gulf of Alaska and the Marianas Islands. Visual surveys were conducted in Navy operating areas often before, during and/or after Navy training events (n=14 of 16) involving mid-frequency active sonar (MFAS). These surveys provide information to assist the Navy in answering critical questions regarding potential impacts of Naval training activities on marine animals. Goals include (1) assessing the feasibility of best monitoring approaches, (2) developing appropriate methodologies, (3) identifying regions that maximize sample sizes, (4) real time monitoring during training for injured/dead animals and (5) collecting baseline data in additional Navy training areas. Variables examined include, but were not limited to, relative abundance, occurrence, distribution, and behavior using line-transect and focal-behavior sampling methods. Shoreline aerial surveys were also conducted on one day of all 10 aircraft survey projects to search for potentially stranded/near-stranded animals after Navy training events. Successful monitoring approaches not previously conducted in conjunction with Navy training include (1) a research vessel that remained within sight of Navy vessels while conducting line transect/focal-animal sampling for ~5-81 min, (2) a twin-engine aircraft that monitored occurrence/behavior of cetaceans in tandem with Navy vessels and their lookouts, and (3) the ability to detect/track animals/objects ~5-20 m below the water's surface from an aircraft at ~360-450 m altitude. Preliminary results across years/regions/platforms: 33 species (26 cetacean, 4 pinniped, 3 sea turtles); visual effort: ~16,930 km (vessel) and 276 hrs (aerial); 1,006 sightings: 503 aerial (302=cetacean; 154=pinniped; 47=turtle) and 503 vessel (501=cetacean; 0=pinniped; 2=turtle). These surveys contribute important baseline data, particularly in the Marianas and Gulf of Alaska where few data are available. Region-specific data are enumerated in other abstracts by co-authors.

Bottlenose dolphins (*Tursiops truncatus)* in Boca Ciega Bay: No evidence for a winter population

McCallister, Kimberly A. [1]; Hibbard, Ashley L. [1]; Gowans, Shannon [1]
(1) Eckerd College, 4200 54th Ave South, St. Petersburg, Florida, 33711, USA
Corresponding author: mccallka@eckerd.edu

Bottlenose dolphins (*Tursiops truncatus*) in Boca Ciega Bay, Florida, were photo-identified from 1993-2006. Seven hundred and twenty seven distinctively marked animals exist in the resulting catalog; however, sighting rates vary greatly (43% were observed in only 1 year, 20% in 5+ years). Previous mark-recapture estimates indicate 80 dolphins are resident dolphins. The majority of the field work was conducted in June, July, and August (487 survey days), although there was limited effort during the rest of the year (70 survey days). This study investigates if there is a separate group of dolphins that is present in Boca Ciega Bay only during the non-summer months (September-May). During September-May, 175 dolphins were identified and for 18 (10.3%) of these dolphins this represents their only sighting. The remaining 156 dolphins were photographed again during the study. Out of the 156 dolphins photographed on at least two occasions, including the non-summer months, only 3 (1.9%) were not photographed during the summer. All dolphins photographed more than three times had at least one sighting during the summer months. The sighting history (number of sightings) for dolphins observed in the winter was significantly different from the full dataset (chi square = 148.8; p>0.0001) however individuals sighted during