2017 **ISSUE #1**

Using passive acoustic monitoring to actively manage spinner dolphins

Hawaiian spinner dolphins and humans have been interacting for decades due to the dolphin's predictable daytime resting behavior and presence in coastal areas. Heenehan et al. used passive acoustic monitoring results to assess the importance of four different resting bays to the Hawaiian spinner dolphin, the contribution of anthropogenic noise to each bay's soundscape, and the dolphins' response to human activities. The researchers summarize their results and provide recommendations to regulate dolphin-watching tourism to protect Hawaiian spinner dolphins and their resting bays.

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Patel et al.
Videography reveals in-water behavior of loggerhead turtles (*Caretta caretta)* at a foraging ground.
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Environment, Climate, & Ecosystem Effects

Fauquier et al.
Evaluation of morbillivirus exposure in cetaceans from the northern Gulf of Mexico 2010-2014.
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Green turtles shift diet and habitat as they mature

To effectively manage a species, it is important to understand its ecology throughout its lifespan. Howell et al. identified ontogenetic shifts in foraging behavior of green sea turtles (*Chelonia mydas)* using a dual approach of stable isotope analysis with stomach content analysis. The researchers found that green turtles measuring <25 cm straight carapace length (SCL) established themselves in neritic environments based on the presence of benthic macroalgae. Furthermore, turtles along the lower Texas coasts shifted to seagrass beds before growing to 35 cm SCL, whereas turtles in the middle Texas coasts varied in size at transition. This study identifies dietary and habitat shifts of juvenile green turtles along the Texas coast and may be used to enhance regulations and protection measures for this threatened species.
Photo courtesy of NOAA, Lyndsey Howell

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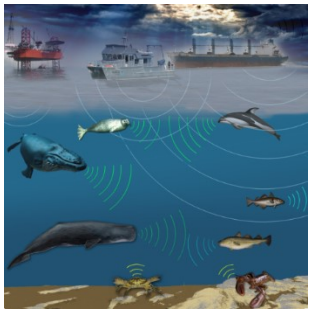
A strategy for ocean noise



Noise from human activities has significantly affected the quality of underwater acoustic habitats over the last century. Increased noise can reduce the ability of marine mammals to detect, interpret, and respond to environmental cues appropriately. Hatch et al. write about the NOAA strategy to protect marine mammals and their habitats from increased ocean noise. The researchers' paper outlines the science needed to support NOAA's strategy and prioritization of future place-based research and management, including addressing broad spatial and long temporal scales, pursuing international work on quieting technologies, developing registries of noisy events, and enhancing the role of NOAA's National Marine Sanctuaries.
Figure courtesy of NOAA/SBNMS, Mike Thompson

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Barbieri et al.
Protozoal-related mortalities in endangered Hawaiian monk seals (*Neomonachus schauinslandi).*
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Population Studies

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Estimating common growth patterns in juvenile Chinook salmon from diverse genetic stocks and a large spatial extent.
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Technology

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Development of underwater recorders to quantify predation of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) in a river environment.
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Hazen et al.
WhaleWatch: a dynamic management tool for predicting blue whale density in the California Current.
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Cetaceans more sensitive to oil spills than previously recorded

In 2010, the Deepwater Horizon oil spill continuously leaked oil into the Gulf of Mexico for 87 days, impacting the habitat of numerous cetacean species. Previous studies indicated that cetaceans would be able to detect and avoid oiled waters. In addition, if the animals did have contact with the oil, it would not adhere to their skin, therefore potentially reducing the effects of the contact. Aichinger et al. recorded at least 11 cetacean species with evidence of direct oil exposure while whales and dolphins were observed and photographed swimming in oiled waters and with oil adhered to their skin. The researchers documented direct impacts of petroleum products on cetaceans as well as the persistence of oil on their skin. In light of this evidence, during oil spills in cetacean habitat, exposure of whales and dolphins to petroleum products should be taken into account in any future response activities and damage assessments.

Photo courtesy of NOAA

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Conservation

Carlson et al.
Characterizing loggerhead sea turtle, Caretta caretta, bycatch in the US shark bottom longline fishery.
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Griffiths and Barlow.
Cetacean acoustic detections from free-floating vertical hydrophone arrays in the southern California Current.
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The **Protected Species Science Branch (PSSB)** within the NOAA Fisheries Office of Science and Technology supports and provides the science necessary to inform management decisions. We do this by coordinating closely with the six Fisheries Science Centers, the Office of Protected Resources, and other NOAA Headquarters Offices.

This newsletter is intended to summarize the latest research on protected species from scientific publications that include one or more NOAA Fisheries authors. It will be distributed quarterly with alternate issues highlighting research from the East and West Coasts centers and offices.

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