

goal was to establish the mean audiogram and variance within a subset of animals, thus defining what wild belugas hear and examining how sound sensitivities may differ between individuals. Hearing was measured rapidly and non-invasively using auditory evoked potentials, in the frequency range 2-150 kHz. Although all audiograms showed a typical-U shape, substantial variation (>40 dB) was found between the most and least sensitive thresholds. All belugas tested could hear well up to at least 128 kHz, and two heard up to 150 kHz, exceptionally high for belugas. Regions of 'best' hearing (< 60 dB) were found between 22-100 kHz, showing generally broad sensitivity. No male-female differences were seen. Composite audiograms of highest and lowest thresholds present a novel means to address the sensitivity differences. These data double the hearing measures of belugas and provides novel data for wild odontocetes. Belugas audiograms show significant variation but less than that of bottlenose dolphins suggesting differences between populations or species and the need to collect comparative data on new species. While generally sensitive, the hearing variability among belugas suggests that multiple measures are needed to properly describe the maximum sensitivity and population variance for these and other odontocetes.

Say what? The auditory abilities and variations of wild beluga whales (*Delphinapterus leucas*)

Mooney, T Aran¹; Castellote, Manuel^{2,3}; Quakenbush, Lori⁴; Hobbs, Roderick²; Goertz, Caroline⁵; Gaglione, Eric⁶

(1) Biology Department, Woods Hole Oceanographic Institution, WHOI, Woods Hole, Massachusetts, 02543, USA

(2) National Marine Mammal Laboratory, Alaska Fisheries Science Center, National Marine Fisheries Service, Seattle, WA, 98115, USA

(3) North Gulf Oceanic Society, 3430 Main Street, Homer, AK, 99603, USA

(4) Alaska Department of Fish and Game, 1300 College Road, Fairbanks, AK, 99701, USA

(5) Alaska SeaLife Center, 301 Railway Ave, Seward, AK, 99664, USA

(6) Georgia Aquarium, 225 Baker St NW, Atlanta, GA, 30313, USA

Corresponding author: amoooney@whoi.edu

Odontocetes use sound for vital biological functions such as foraging, navigation and communication and hearing is considered their primary sensory modality. Establishing hearing abilities is vital to understanding a species' acoustic ecology and to predict the impacts of increasing anthropogenic noise. Yet, we know little regarding the hearing of most species; for those measured, data are typically from single individuals in a zoological setting. Hearing variations within wild species or populations are essentially unknown. Here we present the hearing abilities of 7 wild beluga whales. Data were collected in a capture-release event in Bristol Bay, AK. The

ABSTRACTS

20th BIENNIAL
CONFERENCE

— ON THE —

BIOLOGY OF
MARINE MAMMALS

2013

*Dunedin, New Zealand
December 9-13*

