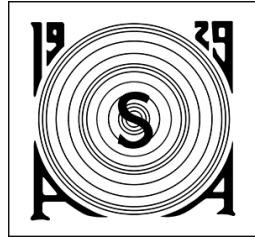


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Acoustic habitat utilized by ice-living seals: Hearing and masking in natural noise environments

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Acoustic habitat is a fundamental but poorly understood resource for marine mammals, including seals. To evaluate the soundscapes experienced by seals in dynamic Arctic environments, two DSG-Ocean Acoustic Dataloggers were deployed in Kotzebue Sound, Alaska from September 2014 through September 2015, providing a full year of acoustic coverage for this region of the Chukchi Sea. The recorders were placed in an area of seasonal fast ice where spotted, ringed, and bearded seals are all found at various times of year. The data describe the acoustic conditions typically experienced by these ecologically and culturally important seal species, including variations in noise up to 48 kHz within and across scales of hours, days, months, and seasons. The noise profiles provide an ecological framework for laboratory studies of hearing with trained seals, allowing for improved understanding of their sensory biology in the context of their acoustic habitat. The integration of these noise measurements with hearing and auditory masking data enables a quantitative assessment of the effects of varying ambient noise conditions on the communication ranges of seals living in Arctic waters. [Work supported by the Northwest Arctic Borough Science Committee].