

Steller sea lion entanglements and gear ingestion in Alaska and British Columbia

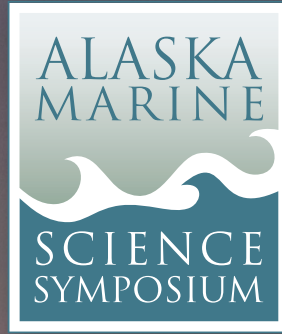
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Entanglement in marine debris and ingestion of fishing gear contribute to Steller sea lion (SSL; *Eumetopias jubatus*) injury and mortality. We surveyed SSL haulouts and rookeries throughout Southeast Alaska (2000-2012) and northern British Columbia (2000-2009) and documented sex/age class of animals entangled or that had ingested gear, and described the type of entanglement/ingested gear. We recorded > 500 individual SSLs that were entangled or had ingested gear including both males and females and all age classes. The most common neck entanglements were packing bands and black rubber bands. The most frequently ingested gear was salmon troll fishing gear, evidenced by flashers hanging from the corners of animals' mouths. During annual surveys of permanently marked (branded) sea lions, we documented 16 individuals that had ingested gear; a disproportionately high number (14) were males. Twelve branded animals (9 males, 3 females) had bands or line encircling their neck, face or head. We are tracking the fate of these known animals in order to estimate survival reduction caused by entanglement/ingested gear. It is likely that SSL entanglements will increase in coming years as debris from the Japanese tsunami enters Alaskan waters, highlighting the importance of this long-term monitoring effort. Reducing the use of packing bands, cutting loops of synthetic material, and re-configuring fishing gear that includes loops (e.g., black rubber bands used on crab pots) can prevent entanglements. We believe a cooperative effort between commercial and sport salmon trollers and biologists is needed to develop methods to reduce interactions between SSLs and salmon troll fisheries.

U.S. Navy funded marine mammal monitoring in the Gulf of Alaska 2011-2014

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The U.S. Navy's framework for marine mammal monitoring in the Gulf of Alaska will be presented. Regulatory permit drivers, ongoing monitoring and future monitoring through 2015 will be described. Ongoing monitoring in agreement with National Marine Fisheries Service (NMFS) includes deployment of two bottom-mounted high-frequency acoustic recording packages (HARP) from Scripps Institute of Oceanography. These devices were deployed on the shelf (200 m) and slope (1100 m) south of Seward, Alaska, in July of 2011. Data was recovered in May 2012, returned to Scripps for analysis, and the HARPs subsequently redeployed at the same locations for continued recording. Refinements in classification and analysis have benefited greatly from improvements identified from similar Navy-funded monitoring at other locations within the Pacific over the past eight years. A technical report on the Gulf of Alaska HARP analysis including species identification, seasonality, and identification of anthropogenic sounds will be presented by the Navy to NMFS in December 2013, and publically available by early 2013. New monitoring has also begun in 2012. A third Gulf of Alaska HARP was deployed offshore at Pratt Seamount (990 m) in September 2012. This HARP along with the previous two HARPs will have data retrieved in May 2013 for subsequent December 2013 reporting. In addition, the Navy is funding a vessel-based visual line transect survey within the Gulf of Alaska in the spring to summer 2013 time frame. This survey, similar to a Navy-funded one in 2009, will be conducted in association with NMFS to include visual transects, towed and sonobuoy passive acoustics, and where possible marine mammal biopsies and satellite tagging. Results from this survey should be available later in 2013.



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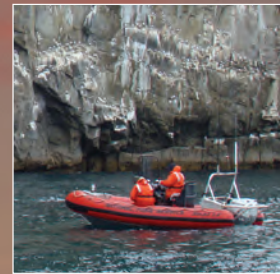
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