

Title: **Protecting Marine Mammals in the U.S: Tradeoffs Between Public and Private Costs**

Authors: Gisele Magnusson, Fisheries and Oceans Canada (Canada)
Kathryn Bisack, DOC/NMFS/NEFSC (USA)

Abstract: Implementation of the U.S. Marine Mammal Protection Act (MMPA) generates costs to both the public and private sectors. While many of the costs are complementary, some result in potential tradeoffs between various groups incurring these costs. Under the MMPA, if estimated bycatch of a species exceeds its Potential Biological Removal (PBR) level, a plan must be developed to reduce bycatch below PBR. Most of the costs associated with such a reduction are borne by private entities (e.g. fishermen). The determination of PBR includes a minimum population level (NMIN), which is a function of the best estimate of the population level (NBEST), and the coefficient of variation (CV) associated with NBEST. Publicly funded abundance surveys are used to derive the values for NBEST and its CV. Survey costs reflect the spatial and temporal scale of the survey and its frequency. Compared with a high cost survey, a lower cost survey can result in a lower value for NBEST with a larger CV, yielding a lower PBR value. Alternating high and low cost surveys may result in substantial changes in PBR estimates. This study compares the cost of a marginal gain in precision of NMIN from an abundance survey with the costs imposed on the fishery and government to reduce bycatch, using harbor porpoise (*Phocoena phocoena*) and the U.S. Atlantic coast sink gillnet fishery as an example.