

## Appendix C4

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Steve Stohs presented for the SWFSC. The PR focus is on Highly Migratory Species (HMS) and more specifically swordfish fishery issues. The commercial swordfish and HMS shark fishery has used three gear types over recent decades: harpoon, drift gillnet (DGN) and shallow-set longline (SSL); only drift gillnet catches HMS shark at commercial volume. There are fishery interactions with large charismatic megafauna, both sea turtles and marine mammals. Management tools include time-area measures, gear restrictions, and critical habitat designation. Analyses include cost-benefit analysis to support critical habitat designation, regulatory impact reviews under alternative regulations

Critical Habitat Designation for leatherback sea turtles established in response to an NGO petition. Primary Constituent Elements in the initial proposal included obstruction of passage and forage areas; obstruction of passage was subsequently dropped, while areas where forage species (brown sea nettle jellyfish) are found were deemed worthy of protection. The initial economic analysis only considered cost effectiveness of protection, but this was extended to a benefit-cost approach for the final version. Protected habitat includes the area around Monterey Bay and some of northern coast.

The DGN and SSL fisheries profitably land swordfish at commercial volumes. There is a history of rare event ESA and MMPA bycatch and though there are years between interactions, it rises to a priority due to protection laws. In 2001, time-and-area closure regulations for leatherback and loggerhead sea turtles closed the primary swordfish fishing grounds to the north of Pt. Conception during the peak season (August 15-November). Other PR management tools to reduce DGN interactions include mandatory gear restrictions (e.g. 36' net extenders, pingers and minimum 14" mesh size to exclusively target large pelagics).

The shallow-set longline swordfish fishery ramped up in the 1990s and peaked over the 1998-2004 fishing seasons, after which the West Coast based fishery effectively was shut down; the gear type was not included as a legal alternatives when the HMS FMP was adopted in 2004. After 2004, one exempted fishing permit application was submitted to the Pacific Fishery Management Council for a limited return of DGN effort to the area closed to protect leatherback turtles, and a second was proposed to establish a West Coast based limited entry longline fishery outside the 200 nmi EEZ limit which would utilize circle hooks and mackerel type bait to reduce sea turtle interactions. RIR work was initiated for the environmental assessments to support these measures, but they failed in the regulatory approval process before implementation, at which point the analysis to support them became moot.