

Leatherback Sea Turtles in the California Current System

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(Abstract compiled by the conveners)

Sea turtles are far ranging pelagic species vulnerable to anthropogenic impacts at three distinct localities along their vast oceanic ranges: (1) nesting beaches, (2) migration routes / corridors, and (3) foraging grounds. Leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*), green (*Chelonia mydas*), and olive ridley (*Lepidochelys olivacea*) turtles are taken by pelagic gillnet and longline fisheries operating throughout the Pacific Ocean. In particular, drastic declines in eastern Pacific leatherback turtle populations suggest that this species is in dire need of protection. Leatherbacks breed at low latitude nesting areas and migrate into high latitude foraging grounds, where they consume large quantities of gelatinous zooplankton. Because turtles require large quantities of prey, they likely forage in search of dense and predictable prey aggregations. Aerial surveys off central California have revealed that leatherbacks occur off the west coast in summer and fall (July – October), particularly during periods of upwelling relaxation. In spite of high interannual variability in distribution and abundance, leatherbacks are most numerous in the vicinity of upwelling centers, and appear to be associated with the 14 – 16 °C isotherm. Satellite telemetry has revealed that turtles tagged in Monterey Bay range through the fishing grounds of the Hawaiian pelagic longline fishery and the west coast pelagic gillnet fishery, as they migrate towards the western Pacific. Time-area closures were recently implemented to reduce marine turtle bycatch in the pelagic long-line and gillnet fisheries in the central and eastern North Pacific Ocean. Unfortunately, very little is known about sea turtle migration patterns across these vast pelagic ecosystems to delineate predictable movement corridors that could be protected using time-area closures or MPAs.

PELAGIC PREDATORS, PREY, AND PROCESSES:

EXPLORING THE SCIENTIFIC BASIS FOR OFFSHORE MARINE RESERVES

*January 17, 2002
Santa Cruz, California*



WORKSHOP REPORT



SUGGESTED CITATION

Pelagic Working Group (2002). Pelagic Predators, Prey and Processes: Exploring the Scientific Basis for Offshore Marine Reserves. Proceedings of the First Pelagic Working Group Workshop. January 17, 2002. Santa Cruz, CA.