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New Initiatives to Study Sea Turtles in the Eastern Pacific

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Although numerous studies have been underway for some time at sea turtle nesting sites in the eastern Pacific, research on sea turtles in marine habitats of this region has been relatively scarce and not widely known. For example, an important body of data covering historical and current sightings, strandings, and incidental and intentional captures of turtles in the northeastern Pacific (north of 29º45'N) was compiled by Margie Stinson (1984). Her findings show that the leatherback is the most frequently encountered turtle in the area, followed by green, loggerhead and olive ridley sea turtles. Stinson's work also included tagging and monitoring a small aggregation of green turtles in San Diego Bay, near the warmwater discharge of a power plant. At present, Donna McDonald and Peter Dutton (Sea World Research Institute, San Diego) are in the process of expanding upon the work Stinson initiated in San Diego Bay. They will attempt to identify the origins and migratory habits of the turtles, while also looking into the possible influence of various pollutants known to occur in high levels within the Bay. With the help of McDonald, Dutton and others, turtle strandings in California are now being officially responded to and compiled by Joe Cordaro of the National Marine Fisheries Service (NMFS) at Terminal Island, California (tel: 213-514-6196).

Another little known but important research effort has been underway in the eastern tropical Pacific by Bob Pitman (NMFS, Southwest Fisheries Center [SWFC], La Jolla, California). For several years now, on his own initiative, Pitman has been compiling sightings of turtle he has made in pelagic habitats while working on NOAA/NMFS vessels monitoring porpoise stocks in the region. Preliminary distributional maps of his findings have appeared in SWFC reports (most recently, Lierheimer et al., 1989a, 1989b). The full results of this work are currently being prepared for publication by Pitman, in collaboration with Dr. Aleta Hohn (NMFS SWFC). Pitman's work has

already provided the basis for an expanded effort whereby he and Ms. Sallie Beavers (NMFS SWFC) plan to opportunistically capture, measure, tag, and collect blood samples and stomach contents from turtles encountered on the high seas. Satellite telemetry is planned (in cooperation with the U.S. Fish and Wildlife Service), and Dave Owens' research group at Texas A&M University has also been assisting Beavers and Pitman in these endeavors. Project activities off Baja California (Mexico) and in other waters within 200 miles of Mexico will proceed in cooperation with Mexican sea turtle biologists, including René Marquez.

Considerable interest exists in the reports of large concentrations of immature loggerheads off Baja California, since loggerheads are not known to nest to any extent in the eastern Pacific. Pitman has sighted and photographed these loggerheads, and Grant Bartlett (1989) has published a fascinating report of this phenomenon, based mainly on interviews with Mexican informants. According to Pitman, the turtles occur in an area rich with the pelagic red crab, *Pleuroncodes planipes*, a likely food source. The possibility exists that the loggerheads may be part of a population that nests in southern Japan. Some support for this idea has been provided by Uchida and Teruya (1988), who report the recovery of a tagged loggerhead 75 km off San Diego (32º39'N, 117º58'W) that had been released from a head start project 2.3 years earlier near Okinawa. The turtle was found entangled and dead in a drift gill net by Christopher Golden, a fisherman and graduate student at Humboldt State University, California. A second untagged turtle was also found in the net, and 12-15 others were seen in the vicinity the following day. Of related interest is the recent recovery of a 23 cm loggerhead found dead in a scrap of gill net far north of the Hawaiian Islands (39ºN, 165ºW) (NMFS unpubl. data). This finding is consistent with the transpacific movement for young loggerheads proposed by Uchida and Teruya (1988).

Another new project complementing the work of Beavers and Pitman is a planned NMFS shipboard observer program to record turtles incidentally caught by U.S. tuna purse seiners in the eastern Pacific. Preliminary reports from the mid-1970's suggest that the take of turtles and resulting mortality in this fishery is low. However, more current information is needed to ensure a sound plan for conservation. The tagging, measuring, and release of live turtles captured by purse seiners may also be possible in this observer program.

Lastly, the recent "migration" and residency of Drs. Scott and Karen Eckert (MTN Editors) to southern California will surely result in new and exciting work on turtles in the eastern Pacific.

As a SWFC researcher based in Honolulu, my own interest in sea turtles of the eastern Pacific arises from several factors. For one thing, the leatherbacks, olive ridleys, and possibly some of the green turtles found in Hawaiian waters may very well originate from this region. In addition, this past January I had the opportunity to spend three days visiting coastal sites in southern California where turtles are sometimes seen or have stranded, such as near Encina power plant at Carlsbad and the San Gabriel River in Long Beach. This reconnaissance was made possible with support from the California Academy of Sciences in San Francisco, where I had been invited to speak about sea turtles to the membership. I have also been intrigued for years by the narratives of shipwreck victims who, while adrift in the eastern Pacific, have frequently encountered turtles and used them for food to survive (Robertson, 1973; Bailey and Bailey, 1974). These fascinating accounts are required reading for anyone interested in unraveling the mysteries of turtles in their pelagic habitats.

Significant opportunities clearly exist to learn more about the lives of turtles at sea in the eastern Pacific. During the coming years, conservation efforts are sure to benefit from the research initiatives taking hold at this time.

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