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Funding Agency: PFRP/NMFS

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Progress During FY 2002: As PSATs have never before been deployed on sea turtles, our first goal was to create an attachment system that meet the following satisfactions: 1) be easily accomplished by an inexperienced fishery observers at sea aboard commercial fishing vessels, 2) be safe for both the observer and the turtle, and 3) be an effective technique. We found that by using a syntactic foam manufactured by Syntech Materials, Inc. we could easily fabricate a suitable “base plate”. Using captive green turtles maintained at the NMFS Honolulu Laboratory's Kewalo Research Facility (KRF) we also found that a readily available marine epoxy (Marine Fix Fast) would adhere the foam baseplate to the carapace for up to 10 months.

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In order to circumvent the problem of getting too few tags out with the Hawaiian Longline Fishery, last November Yonat Swimmer and Richard Brill traveled to Costa Rica where there is a longline fishery (targeting primarily mahi mahi) that also has a high rate of interactions with olive ridely turtles. Working with Randall Arauz (Central American Coordinator for Sea Turtle Restoration Project), seven sea turtles were equipped with PSATs. Four of the animals were caught by longline, and three were captured while free swimming. These later individuals served as a control to which the behaviors of longline captured turtles could be compared. Attachments to five of the turtles ranged from approximately six to eight weeks, which were considerably shorter than expected based on the results from base plate adhesions tests conducted on green turtles at the KRF. Two tags are apparently still attached and are expected to report late May and early December 2002. From the vertical movement data obtained so far, there were no apparent mortalities.

Because of the seeming failure of the Marine Fix Fast adhesive to maintain attachment of the PSATs for as long as expected to the Costa Rican turtles, a new base plate epoxy adhesive (West Marine System) is currently being tested, again using green turtles maintained at the Kewalo Research Facility. To date, the adhesive appears to be fully functional after 5 months.

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**Planned Project Activities for FY 2003:** We will continue working with experienced at-sea observers and train any new ones in methods to attach PSATs to hard-shelled turtles. For the immediate future, observers will continue to be given PSAT tagging kits suitable for use with hard-shelled turtles for each fishing voyage. If the attachment methods for leatherbacks currently being tested prove suitable, and if the requisite permits/permissions can be obtained, we will begin issuing tagging kits also containing PSATs suitable for attachment to leatherbacks.

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We will, therefore, not only gain insight into the survival of released turtles, but also test the long-term adhesive properties of the new epoxy.

Anticipated project period: This work will continue throughout 2003.

**Papers Published in Journals During FY 2002:**


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**Graduate Student Advisory Activities:** N/A

**Budget:**

If possible, we would greatly benefit by acquiring funds to hire a half time assistant to maintain our current operations for another year.
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