

JIMAR – PFRP ANNUAL REPORT FOR FY 2008

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NOAA OFFICE (Of the primary technical contact): PIFSC

Project Proposal Title: **Development of Business Card Tags: Inter-Individual Data Transfer**

Funding Agency: NOAA

NOAA Goal (Check those that apply):

- To protect, restore, and manage the use of coastal and ocean resources through ecosystem-base management
- To understand climate variability and change to enhance society's ability to plan and respond
- To serve society's needs for weather and water information
- To support the nation's commerce with information for safe, efficient, and environmentally sound transportation

1. Purpose of the Project (one paragraph)

The Business Card Tag (BCT) is aimed at increasing knowledge regarding schooling cohesion and inter-species association. The overall objective of the project is to assess the feasibility of a two-way receiver tag (called 'business card' tag), through:

- (1) The development of a two-way 'receiver tag' prototype. The receiver tag prototype should be able to identify and store acoustic signals sent by other acoustic tags. The receiver tag should be small enough to be mounted on/in tunas or similar sized animals
- (2) Tests of these prototype tags. The prototype tags will be tested on captive fish (controlled situation) and in situ.

2. Progress during FY 2008

Five prototype BCTs were received from Vemco by the end of summer 2007. First tests were done in Kaneohe Bay in November 2007 in order to test the receiver and transmitter performances of BCTs. BCTS, regular tags and regular VR2s were deployed for 12 to 24 hours periods at fixed locations, and other tests consisted in testing the performance of a BCT while being dragged by a kayak. All tests were positive, showing that the BCTs were able to transmit their ID like other regular tags, and BCTs could detect the other tags like regular VR2s. These tests were also the opportunity to test the prototype software of Vemco to activate the BCTs and download the data. Those tests were also positive and we do not recommend any change.

The next phase of testing consisted in deploying BCTs on wild animals. Three BCTs were deployed on Galapagos sharks on May 19, 2008 and one on May 27th on the North Shore of Oahu. 21 other Galapagos and sandbar sharks were already equipped with regular tags (V16). One of the BCTs was recovered after 20 days at liberty. The results are extremely positive in terms of the number and duration of detections of other tagged sharks. Below is a summary of the data collected from this recovered BCT:

- We detected 21 of 21 (100%) Galapagos sharks tagged with conventional V16 tags off Haleiwa
- We detected 8 of 10 (80%) sandbar sharks tagged with conventional V16 tags off Haleiwa
- We detected all 3 other BC tag-equipped Galapagos sharks on multiple occasions
- We detected a couple of tag IDs that have not been identified yet
- Strong diel patterns are already evident

3. Plans for the next fiscal year (one paragraph):

The plans for the third year of the project (July 1, 2008 – June 30, 2009) are to continue testing these new tags. The first objective is to try to recover the 3 other BCTs deployed on Galapagos , and also compare data collected by the VR2 and BCT fixed on the bottom.

As no change was asked of Vemco's design so the last 10 BCTs should be received by the end of summer 2008. The deployment strategy will then depend on the results from the analysis of the first in situ tests. Two possibilities are envisaged so far: deploying the last 10 tags on Galapagos sharks, increasing our sample size of this first test, or deploying the tags on large tunas caught around Oahu FADs.

4. List of papers published in refereed journals during FY 2006.

No paper during this second year.

5. Other papers, technical reports, meeting presentations, etc.

6. Graduates (Names of students graduating with MS or PhD degrees during FY 2007. Provide titles of their thesis or dissertation):

7. Awards (List awards given to JIMAR employees or to the project itself during the period):

8. Publication Count (Total count of publications for the reporting period and previous periods categorized by NOAA lead author and Institute (or subgrantee) lead author and whether it was peer-reviewed or non peer-reviewed (not including presentations):

	JI Lead Author			NOAA Lead Author			Other Lead Author		
	FY04	FY05	FY06	FY04	FY05	FY06	FY04	FY05	FY06
Peer-reviewed									
Non-peer reviewed									

9. Students and Post-docs (Number of students and post-docs that were associated with NOAA funded research. Please indicate if they received any NOAA funding. For institutes that award subcontracts, please include information from your subgrantees):

10. Personnel:

(i) Number of employees by job title and terminal degree that received more than 50% support from NOAA, including visiting scientists (this information is not required from subgrantees):

0

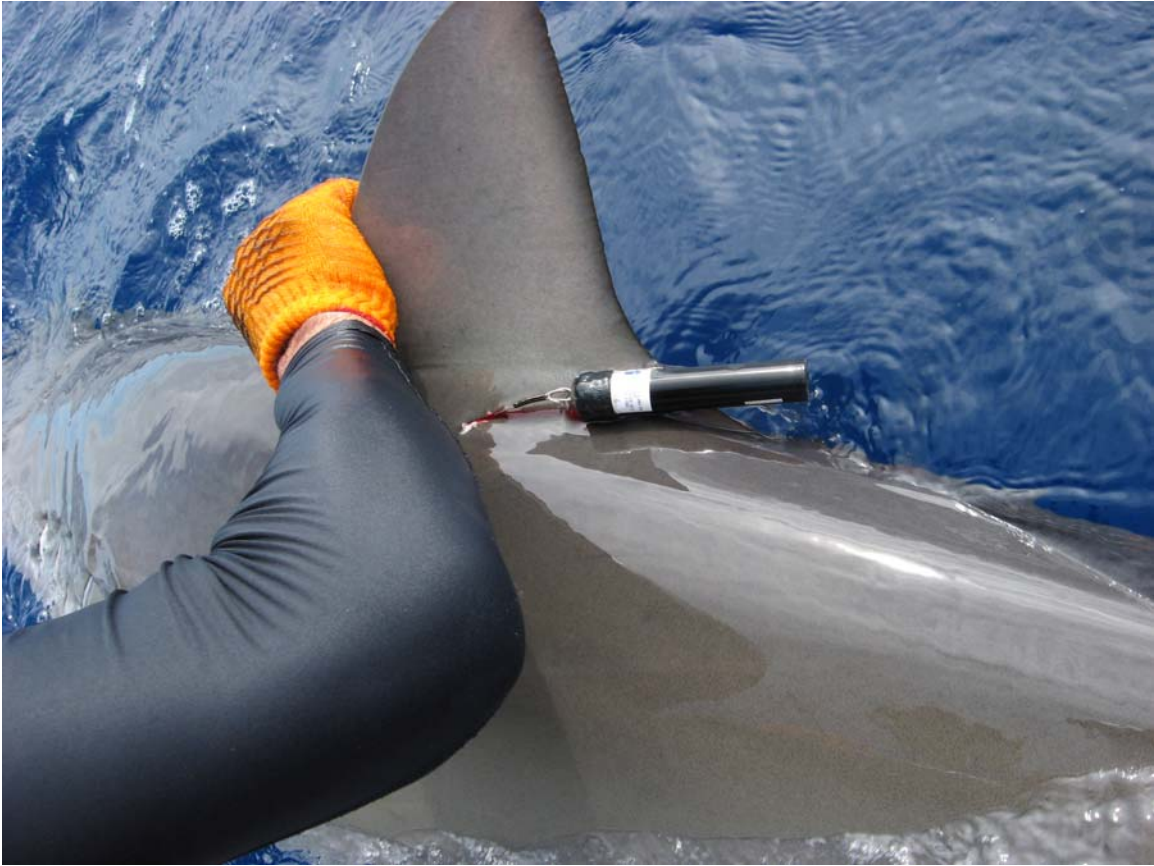
(ii) Number of employees/students that received 100% of their funding from an OAR laboratory and/or are located within that laboratory.

0

(iii) Number of employees/students that were hired by NOAA during the past year:

0

11. Images and Captions. (JIMAR will be including images in the annual report. Please send two of your best high-resolution, color images (photo, graphic, schematic) as a JPEG or TIFF with a caption for each image. Hardcopies of images can be dropped off at the JIMAR office if no electronic versions are available.



- Caption 1: Prototype Business Card tag attached to Galapagos shark