JIMAR – PFRP ANNUAL REPORT FOR FY 2007

P.I./Sponsor Name: Dr. Minling Pan, Industry Economist, Pacific Islands Fisheries Science Center, Dr. John Sibert, UH JIMAR PFRP

Proposal Title: Economic Fieldwork on Pelagic Fisheries in Hawaii

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 primary objective of this multi-year project is to provide detailed economic information especially cost of operation data on Hawaii-based domestic pelagic fishing vessels such as longliners, trollers and handliners, and charter boats. Cost-earnings report(s) (published as JIMAR/SOEST reports) on each of these fisheries has been prepared since the project began in 1994. As a result, the data from these studies have been used in a variety of economic and social analyses for these fisheries by PFRP projects-and by the National Marine Fisheries Service to support the fishery management in the Western Pacific Islands Region.

There are two main tasks under this project within FY2007:

(A). To continue research effort on technological changes and the impact on fishing effort in the Hawaii-based longline fishery (received funds from PFRP FY2006, Co-PI: Mr. David Itano, JIMAR, Pelagic Fisheries Research Program, Univeristy of Hawaii);

(B). To initiate and conduct a valuation of spinner dolphin excursions in Hawaii. PI Dr. Minling Pan

2. Progress during FY 2006 (One-two paragraphs, including a comparison of the actual accomplishments to the objectives established for the period, and the reasons for slippage if established objectives were not met):

Task A. We conducted a study to explain patterns of adoption of new technology and the resulting effects on fishing productivity in the Hawaii-based longline fishery. This

study is among the few that address the effects of introducing new technology into a fishery. This matter is important because technological innovation can significantly affect fishing capacity. A multiple linear regression model was computed to estimate the effects of technological factors on productivity. This model indicated, for example, that a 1% increase in hook numbers should yield a 0.9% increase in catch rates (catch per set). Other factors that exerted positive effects on fishing capacity were vessel speed, vessel length, and use of sea surface temperature maps. It is expected that this work will be useful in determining the appropriate capacity of this fishery within the overall context of the national effort to control total fishing effort.

Task B. We conducted a study to assess willingness to pay for different types of activities or services on these spinner dolphin excursions in Hawaii. This research work was initiated in response to current management concerns within the National Marine Fisheries Services (NMFS) regarding the Hawaiian spinner dolphin. Because spinner dolphin excursions in Hawaii have increased in popularity in recent years, there are concerns that the behavior of Hawaiian spinner dolphins could be altered by human proximity, including possible harassment associated with dolphin excursions. NMFS is considering whether to propose a suite of regulations to protect wild spinner dolphins, in order to prevent possible harm to dolphins. In order to understand the potential economic impact(s) of the proposed regulations on the dolphin viewers and the tour industry, the first step of the study was to survey excursion providers to determine the factors that affect consumers' willingness to pay for the spinner dolphin excursions. These factors included boat type and boat size, as well as the activities offered (e.g., viewing or swimming with the dolphins), any guarantee that may be offered, and price. The second step was to survey visitors (and some residents) concerning their willingness to pay for different types of activities associated with spinner dolphin excursions in Hawaii. These survey results were analyzed to determine the significance of each of the aforementioned five factors on willingness to pay.

3. Plans for the next fiscal year (one paragraph):
The plan for FY2008 is to complete the assessment and documentation on the patterns of adoption of new technology and the resulting effects on fishing productivity in the Hawaii-based longline fishery, and also to complete the analysis on the willingness to pay for different types of activities associated with spinner dolphin excursions in Hawaii. The results from these two studies will be included in manuscripts for publication.

4. List of papers published in refereed journals during FY 2007.
NONE

5. Other papers, technical reports, meeting presentations, etc.
M. Pan and Quang Nguyen. 2006. "Technological Changes and their Impact on fishing capacity and Productivity – a case study in the Hawaii longline fishery". Presentation at the International Institute of Fisheries Economies and Trade (IIFET) conference, July 10-14, 2006, Portsmouth, England.

6. Graduates (Names of students graduating with MS or PhD degrees during FY 2006. Provide titles of their thesis or dissertation):

Kayta Boehle, Master's Degree
Thesis title: Market and non-market valuation of spinner dolphins in Hawai'i

7. Awards (List awards given to JIMAR employees or to the project itself during the period):
NONE

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):

	JL Lead Author			NOAA Lead Author			Other Lead Author		
	FY05	FY06	FY07	FY05	FY06	FY07	FY05	FY06	FY07
Peer-reviewed	0	0	0	0	1	0	1	0	0
Non-peer reviewed	0	0	0	0	1	0	0	0	0

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):

Kayta Boehle, Department of Natural Resource and Environmental Management of the University of Hawaii at Manoa
Quang Nguyen, Department of Economics, University of Hawaii

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):
NONE

(ii) Number of employees/students that received 100% of their funding from an OAR laboratory and/or are located within that laboratory.
NONE

(iii) Number of employees/students that were hired by NOAA during the past year:
2
Kayta Boehle, research assistant
Quang Nguyen, research assistant

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 of TIFF with a caption for each image. Hardcopies of images can be dropped off at the JIMAR office if no electronic versions are avalable.

- Caption 1:
- Caption 2:

NONE

12. For multi-year projects, provide budget for the next year on a separate page. Contact Dodie Lau to confirm whether or not your project is to receive continuation funds (e.g., year 2, year 3), and for budget preparation assistance, lau@hawaii.edu

NONE