JIMAR, PFRP ANNUAL PROGRESS REPORT
FY 2001

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Project Proposal Title: Vessel economics/Economic fieldwork
JIMAR # 654558/653530

Funding Agency: NOAA/Pelagic Fisheries Research Program

1. Purpose of the project and indicative results.

This project is designed to provide detailed economic information (especially cost of operations) on Hawaii-based domestic pelagic fishing vessels: longliners, trollers and handliners, and charter boats. Detailed cost-earnings reports (published as JIMAR/SOEST reports) on each of these fisheries have been prepared since the project began in 1994, and an update to the longline cost-earnings information is underway. The project is also obtaining information on the expenditures and motivations of charter boat patrons. The data from these studies have been used in a variety of economic and social analyses of these fisheries, both within the HIFIVE project, by other PFRP projects, and by the National Marine Fisheries Service.

2. Progress during FY 2001. Provide a thorough discussion of accomplishments and problems.

This project continues and extends the work of the Hawaii Fleet Industry & Vessel Economics project (HIFIVE) project begun in 1994 which has provided a comprehensive look at Hawaii's pelagic fisheries, including cost-earnings analysis of the longline industry, small boat commercial, part-time commercial, and recreational pelagic fleets, and charter boats, as well as an examination of charter boat patron motivations and economic expenditures. The work also extends a spatial-temporal programming model of the Hawaii pelagic fishery developed under another project (Project 2066 (2113) , A Multilevel and Multi-objective Programming Model of Hawaii Commercial Fisheries, PIs: PingSun Leung and Stuart Nakamoto). This follow-up work will be funded under PFRP project Regulatory Impact Analysis Framework for Hawaii Pelagic Fishery Management, PIs: Xiulin Gu and Sam Pooley.

On-going vessel economics work includes the completion by JIMAR researcher Joseph O'Malley of the charter boat patrons survey initiated by JIMAR researcher Edward Glazier. Although low return rates plagued the beginning of the project (as reported last year by Glazier), more intensive in-person fielding by O'Malley increased the sample size and provided a good basis for estimating biases in the original survey results. The results include estimates of expenditures by charter patrons, their primary motivations, and information on their consumer surplus and willingness to pay for catching highly desirable target species. A PFRP report on this work has been drafted and is expected to be completed by Fall 2001.

Also involved in this component of the project is initiation of a follow-up cost-earnings survey of longline fishing vessels in Hawaii. This will update a cost-earnings survey conducted in 1994-95 by PFRP. The survey is timely because of the substantial changes in fleet composition since 1995 and the impact on vessel operations of Court-ordered and NMFS ESA Section 7 Biological Opinion regulations. Fielding for this survey has just begun but is expected to be completed by year's end. A full report is expected at next year's Lake Arrowhead tuna conference.

Research on longline fishery dynamics was delayed because of a change in PI but work has progressed well over the past 3-6 months. Initially Xiulin Gu investigated the economic capacity of the Hawaii longline fishery using the Data Envelope Analysis technique proposed by NMFS headquarters as part of the FAO over-capacity initiative. However Gu found a number of shortcomings of this technique at an aggregate level which would have required more extensive data preparation. Instead, Gu proceeded to familiarize herself with Pan's temporal-spatial programming model by conducting a broad range of sensitivity tests. A thorough evaluation of model structure is currently underway prior to revision of model parameters and updating the underlying data for compiling the model. A full report on this development is expected by year's end.

3. Plans for the next fiscal year.
Publication of final charter fishing patron report (JIMAR series)

4. List of papers published in refereed journals during FY 2001.
Curtis, Rita and Robert L.Hicks, 2000. The cost of sea turtle preservation: The Case of Hawaii's Pelagic Longliners. *American Journal of Agricultural Economics* 82(5):1191 – 1197. (Paper co-authored by former JIMAR associate researcher)

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

Lake Arrowhead (O'Malley)

6. Names of students graduating with MS or Ph.D. degrees during FY 2001. Include title of thesis or dissertation.

N/A

7. For multi-year projects, provide budget for the next year on a separate page.

Follow-up budgets:

This project initially proposed not only to update cost-earnings information on the Hawaii-based domestic longline fishery (as funded) but also to attempt to quantify aspects of fishing behavior and to identify critical differences in operating patterns and economic factors between 1993 and the present. In addition, this project also proposed to do further evaluation of the non-market economic value of blue marlin (follow-up to McConnell study). These latter elements were not funded in the approved project budget of $45,470 ($54,236 including indirect).[1]

We would propose the following two add-on elements to continue this project:

[1] **The proposed budget, which assumed economies of scale in the research effort, was $177,200 (excluding indirect).**

Longline. Review and compile results of all existing economic studies of Pacific longline fishing vessels and their economic behavior. This effectively wraps up the new data on longline cost-earnings into an empirical framework.

Budget:

Personnel	$47.9k
Travel	3.0k
Equipment	2.5k
Other	7.4k
Sub-total	$60.8k
Indirect	$11.9k
Total	**$72.7k**

Blue marlin valuation. Survey small-boat, charter-boat and tournament anglers to elicit explicitly non-market economic values for blue marlin using standard contingent valuation techniques. This project would complement the McConnell project (PFRP Project 2075, The Economics of Recreational Fishing for Pelagics in Hawaii, PI: K. Ted McConnell). This project would involve survey design and implementation, focus group approaches, a workshop on contingent valuation, and publication of survey results.[2]

Budget:

Personnel	$73.3k
Travel	10.0k
Equipment	7.5k
Other	31.2k
Sub-total	$124.5k
Indirect	$23.4k
Total	**$147.9k**

[2] **A full write-up of the blue marlin valuation component is included in the JIMAR/ORS Proposal approved 4/15/99.**