

JIMAR, PFRP ANNUAL PROGRESS REPORT FY 2002

P.I. Name: Sam Pooley

Project Proposal Title: Economic fieldwork

Funding Agency: Pelagic Fisheries Research Program/NOAA

Project Purpose and Indicative Results: The primary objective of this multi-year project has been to provide detailed economic information (especially cost of operations) on Hawaii-based domestic pelagic fishing vessels: longliners, trollers and handliners, and charter boats. Cost-earnings reports (published as JIMAR/SOEST reports) on each of these fisheries have been prepared since the project began in 1994. In FY02 an update to the longline cost-earnings information was conducted, and a report on the expenditures and motivations of charter boat patrons was completed. 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.

Project Activities and Progress During FY 2002: 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 the operations and economics of 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 expenditures. In addition, with travel funds provided by the PFRP program manager, a study of the costs and earnings of the American Samoa domestic longline fishery was completed in FY02.

The charter patrons report was published in late 2001 as a PFRP report (O'Malley and Glazier, JIMAR 01-339).

The American Samoa longline report has been completed for submittal to JIMAR for publication. The data have been compiled and archived. Data from this project were used by the Western Pacific Regional Fishery Management Council (Council) in analyzing alternative limited entry options for that fishery.

The Hawaii longline report is in its final drafting and should be submitted for publication by the end of this summer. The data have been compiled and archived. Reports on both projects will be provided to the Standing Committee on Tuna and Billfish later in July.

In early 2002 additional funds (\$72.7k) were approved by the PFRP steering committee to “wrap-up” the economic fieldwork by preparing a review article and compiled data set on Hawaii’s pelagic fishery. We expect to initiate this work in the fall.

Planned Project Activities for FY 2003: Publication of the American Samoa and Hawaii longline cost-earnings reports. Complete pelagic economics project with FY02 funds through “wrap-up” report and analysis.

Papers Published in Journals During FY 2002:

Leung, PingSun and Sam Pooley, 2002. Regional economic impacts of reductions in fisheries production: a supply-driven approach. *Marine Resource Economics* 16(251-262).¹

Other Papers, Reports, and Presentations During FY 2002:

Lake Arrowhead Tuna Conference (O’Malley)

Graduating Students with M.S. or Ph.D. Degrees During FY 2002: N/A

Budget:

Follow-up research

Two projects are foreseen, one wrapping up the longline research (funded by PFRP in January 2002) and one proposed earlier (but not funded) on the economic valuation of blue marlin. As in the past, Sam Pooley, Industry Economist will be the PI but much of the project oversight will be conducted by the forthcoming NMFS economics research assistant

Longline wrap-up

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. The subsequent FY02 funding will allow the wrap-up analysis of the Hawaii longline fishery. The budget for this component is attached on a separate page.

¹ This publication was actually the outgrowth of a different PFRP project (Project 2114: Economic Contributions of Hawaii’s Fisheries, PingSun Leung, Stuart Nakamoto and Sam Pooley, 1999) but benefitted from the data provided through the HIFIVE project.

Blue marlin valuation

We would propose the following add-on element to extend this project and complement other work undertaken in the PFRP economics research, i.e., a specific valuation experiment aimed at estimating the non-market economic value for blue marlin using standard contingent valuation techniques. This project would build on the information gained in the McConnell project (PFRP Project 2075: The economics of Recreational Fishing for Pelagics in Hawaii). The project would involve the same kind of survey design, focus group, and implementation approach undertaken in the McConnell project along with a workshop on contingent valuation techniques and publication of the survey results. The project would focus specifically on blue marlin in select components of the small-boat, charter-boat and tournament fishing population.

Additional information on the proposed work to be conducted under the blue marlin valuation component, and a proposed budget for this component are attached.

Blue marlin valuation

The blue marlin valuation project is a logical follow-up to our charter-boat study² to consider a number of non-market valuation issues pertaining to the economic value of blue marlin to the recreational, charter and sports fishery in Hawaii. A critical issue in local fisheries management has been the value of blue marlin allocation amongst the various components of the Hawaii fishery. Minling Pan's dissertation clearly identified a trade-off between commercial and recreational fishing³. However her model examines commercial profit to recreational trip trade-off through a model which does not value the recreational trip explicitly nor the value of individual species, e.g., blue marlin. Although additional information on some aspects of blue marlin valuation was collected by the McConnell **PFRP project (PFRP Project 2075: The economics of Recreational Fishing for Pelagics in Hawaii)**, it would be timely to a) target a brief survey specific on blue marlin valuation to charter-boat patrons and tournament participants; and b) compile this and the previous research (including the work conducted by Boggs, et. al. on fishery competition) into a comprehensive analysis.

Objectives:

1. Estimate the non-market value of blue marlin to Hawaii recreational (including charter boat) anglers
2. Compare market and non-market values of blue marlin in Hawaii
3. Compile existing literature and information on the potential interaction of commercial and recreational fisheries for blue marlin in Hawaii

² Hamilton, Marcia. 1998. Cost-earnings study of Hawaii's charter fishing industry, 1996-97. SOEST 98-08. University of Hawaii.

O'Malley, J.M. and E.W. Glazier. 2001. Motivations, satisfaction and expenditures of recreational pelagic charter fishing patrons in Hawaii. 46p. SOEST 01-03, JIMAR Contribution 01-339.

³ Pan, Minling, 1998. A multilevel, multi-objective programming model of the Hawaii fishery. Dissertation for the Department of Agricultural and Resource Economics, University of Hawaii.

We propose to survey charter-boat and tournament patrons to explicitly elicit non-market economic values for blue marlin using standard contingent valuation techniques. A workshop would be held independently early in the project to review existing research on the blue marlin management issue and to identify additional information which should be developed. A final project report would compile the existing studies with the new valuation work, including estimation of values in the commercial fisheries and available information on the spatial component of the issue, to provide a firmer framework for fisheries management and allocation.

The blue marlin valuation survey would utilize the same basic methodology of the McConnell project except that it would include a combination of in-person and telephone surveys. **The project would involve the same kind of survey design, focus group, and implementation approach undertaken in the McConnell project along with a workshop on contingent valuation techniques and publication of the survey results.**

McConnell's project focused on recreational pelagic fishing values in general, sorting out the specific elements of the blue marlin issue requires a more tailored approach. We would propose a shorter survey which would provide sufficient cross-validating questions to link to the socio-economic framework of the McConnell survey with a valuation question of the following form:

*If the likelihood of catching a Pacific blue marlin (of **any** size) on a subsequent charter fishing trip increased to almost 100%, would you be willing to pay \$____ for that opportunity?*

If the likelihood of catch a 250 pound blue marlin on a subsequent charter fishing trip increased to almost 100%, would you be willing to pay \$_____ for that opportunity?

The questions would need to be "motivated" by a clear description of the opportunity, and the "bid" amount would range across a spectrum of choices determined to identify the implicit demand curve for this opportunity. Two similar questions would be asked of tournament fishermen, but the payment method would require refinement (as perhaps might the circumstance).

The analytical method would be essentially the same as in the McConnell project.

Timing:

The blue marlin study would begin in mid-2003 and preliminary results would be provided to a PFRP or similar symposium by late 2004. [Because of fishing tournament timing, it would be difficult to “capture” tournament values prior to the 2004 Lake Arrowhead tuna conference. Even charter fishing trips, given the seasonality of catch, would be incomplete at that time, but some preliminary results should be obtainable by mid-2004.

Staffing:

The blue marlin study will involve the principal researcher (100% time for 16 months) as well as part-time student and graduate assistants through the University of Hawaii Manoa and Hilo.

Budget notes:

Proposed budget to cover salary for one full-time economist position and a student assistant position. Travel funds for fieldwork research to the Neighbor Islands, attendance at the annual Lake Arrowhead Tuna Conference (CA), and two trips for visiting scientists to provide subject matter expertise. Other costs include consultant services for focus groups and survey development and implementation.

Linkages:

The blue marlin study would rely on the McConnell recreational valuation project results and data and the HIFIVE small-boat and charter boat studies. It should also complement the PFRP Meta data project (Project # 658843, Recreational Fisheries Meta Data) through contacts with fishing tournaments and evaluation of historical data.