

JIMAR ANNUAL REPORT FOR FY 2011

P.I. NAME: Kevin Weng, Richard Keller Kopf, Robert Humphreys

NOAA OFFICE (*Of the primary technical contact*): PIFSC

NOAA SPONSOR NAME: Sam Pooley

PROJECT PROPOSAL TITLE: Age and growth of striped marlin, *Kajikia audax* caught in the Hawaii-based longline fishery

FUNDING AGENCY: NOAA

NOAA GOAL (*Check those that apply*):

- ☒ ☐ To protect, restore, and manage the use of coastal and ocean resources through ecosystem-based 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.
- ☐ Mission Support

PURPOSE OF THE PROJECT (*One paragraph*):

Striped marlin are an important component of commercial longline fisheries in the Indian and Pacific Oceans and are a vital ecological resource as a top predator in the open ocean ecosystem. Approximately 4000 mt are harvest each year from the US Western and Central Pacific Ocean but the sustainability these catches are uncertain due to a lack of biological information pertaining to this species. We propose a study of the key age and growth characteristics of the population of striped marlin caught in the Hawaiian-based longline fishery in order to support stock assessment in this region. This research aims to develop a sex-specific age and growth model for striped marlin in the north-central Pacific Ocean based on previously developed and validated aging methods. The study will take advantage of previous collections of biological hardparts (dorsal fin spines and sagittal otoliths) provided by a collaboration with the Pacific Islands Fishery Science Center as well as current and on-going collections of these hardparts through Pacific Island Regional Observer programs. The expected outcomes this research are intended to provide length-at-age and growth rate information which are required to develop a stock assessment model for striped marlin in the north Pacific Ocean.

PROGRESS DURING FY 2011 *(One-two paragraphs):*

Progress against milestones:

July 2010 - Arrange import permits for shipment of samples to Australia and start monthly observer sampling regime.

An important permit has been granted and dorsal fin spine and otolith samples have been imported. Observer sampling regime initiated in January 2010 to collect dorsal fin spine 4, length, sex, and head sections from striped marlin caught in the Hawaii based longline fishery.

August 2010 - Mail first shipment of fin spines and otoliths to Australia to begin processing and preliminary age estimation.

First shipment of samples received in 2010 and processed in 2011.

November 2010 - Kopf and Humphreys meeting in Hawaii to finalize aging methodology, project scope, and sampling requirements, and attend annual meeting of PFRP.

Meeting attended and presentation given in December 2010. Project scope agreed on with Humphreys and discussion held with NOAA stock assessment scientists.

March 2011 - Finish processing samples collected through December 2010.

Completed (see below).

April 2011 - Undertake first reading and measurement of samples collected through December 2010.

Dorsal fin-spines examined and measured of which 137 were suitable for age and growth analysis. Sub-sample of otoliths collected from head sections and preliminary age estimation conducted. Results presented in a preliminary von Bertalanffy growth curve in the July 2011 progress report submitted to the Pelagic Fisheries Research Programme and NOAA stock assessment scientists.

May 2011 - Progress report due to PFRP and budget request for second year funding.

Progress report submitted to PFRP in January 2011 and July according to JIMAR timeline.

Include a comparison of the actual accomplishments to the objectives established for the period, along with reasons for the slippage if established objectives were not met

PLANS FOR THE NEXT FISCAL YEAR *(One paragraph):*

Funding not available to finish project milestones for next fiscal year.

LIST OF PAPERS PUBLISHED IN REFERRED JOURNALS DURING FY 2011 OTHER PAPERS, TECHNICAL REPORTS, ETC. PUBLICATION COUNT

**complete excel attachment (JIMAR publications request)*

No publications in 2011.

GRADUATES:

Names of students graduating with MS or PhD degrees during FY 2011; Titles of their Thesis or Dissertation

N/A

AWARDS:

Name of JIMAR employees or project receiving award during the period, and Name of award

N/A

PERSONNEL *(on Subcontracts):*

For projects that awarded subcontracts in the fiscal year, please provide the number of supported postdocs and students from each subgrantee.

N/A

IMAGES AND CAPTIONS:

*We will also be including images for the annual report. Please send two of your best high-resolution, color images (photo, graphic, schematic) as a **JPEG or TIFF (300 dpi)** with a caption for each image. If you do not have an electronic version of the image, a hardcopy version may be dropped off at the JIMAR office located in the Marine Sciences Building, Room 312*

- Caption 1:
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ACRONYMS:

Please provide the complete descriptions for any acronyms used in any areas of the report. For example: UH (University of Hawaii)