JIMAR ANNUAL REPORT FOR FY 2012

P.I. NAME: Richard Keller Kopf

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

NOAA SPONSOR (NOAA TECHNICAL LEAD) NAME :

PROJECT PROPOSAL TITLE: Age and growth of striped marlin caught in the Hawaii based longline fishery

FUNDING AGENCY:

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)*: *Include at least one objective.*
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 2012 *(One-two paragraphs)*:
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.

December 2011- Finished observer sampling regime (3 continuous years; 2009 -2011).

OBJECTIVES:

1) **Determine the periodicity of annulus formation in fin spine sections using a Marginal Increment Analysis.**
   March 2012 - Finished first age readings and measurements of marginal increments of fin spine samples collected through December 2011.

2) **Evaluate presumed daily periodicity of micro-increments formed in sagittal otoliths by comparing back-calculated hatch dates with the spawning season.**
   March 2012 - Finished first age readings and measurements of otolith samples collected through December 2011.

3) **Corroborate the location of the first yearly annulus formed in fin spine sections using otolith micro-increment counts.**
   October 2012 - Completed second and third reading of all samples and assign final age estimates and measurements.

4) **Model daily and annual growth and length-at-age of male and female striped marlin**
   November 2012 - Draft final report and presentation to PFRP.

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

Write one publication for submission to peer-reviewed journal.

LIST OF PAPERS PUBLISHED IN REFERRED JOURNALS DURING FY 2012
OTHER PAPERS, TECHNICAL REPORTS, ETC. PUBLICATION COUNT
*complete excel attachment (*JIMAR publications request*)

No publications for 2012

GRADUATES:
Names of students graduating with MS or PhD degrees during FY 2012; Titles of their Thesis or Dissertation
0

AWARDS:
Name of JIMAR employees or project receiving award during the period, and Name of award
0

PERSONNEL *(on Subcontracts)*:
For projects that awarded subcontracts in the fiscal year, please provide the number of supported postdocs and students from each subgrantee.

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