JIMAR ANNUAL REPORT FOR FY 2008

P.I./SPONSOR NAME: Jeffrey C. Drazen

NOAA OFFICE (Of the primary technical contact): PIFSC

PROJECT PROPOSAL TITLE: Assessment of the impacts of mesoscale oceanographic features on the forage base for oceanic predators

FUNDING AGENCY: NOAA, NMFS

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

PURPOSE OF THE PROJECT (One paragraph): This projects goal is to investigate the nature and degree of the response of the micronektonic community, an important tuna forage base, to mesoscale oceanographic features using trawl surveys in conjunction with acoustic surveys. Two features of interest are Cross seamount which aggregates yellowfin and bigeye tuna in Hawaiian waters and eddy features from American Samoa which affect albacore catch. The main objectives of this project are:

1. To assess the impact of each mesoscale feature on the biomass and abundance of the micronekton.
2. To assess the impact of Cross seamount on micronekton community composition.
3. To characterize the micronekton composition in American Samoa.
4. To assess whether each mesoscale feature affects the vertical migration patterns of the micronekton.
5. To compare both acoustic and trawl estimates of biomass in each region to provide acoustic "groundtruthing."

PROGRESS DURING FY 2008 (One-two paragraphs, including a comparison of the actual accomplishments to the objectives established for the period, and the reasons for the slippage if established objectives were not met):

During the last project year most of our time was spent processing samples from Cross seamount and American Samoa and analyzing the resulting data. Trawls were also sorted from the coast of Hawaii and the results suggest that the lee of the islands

support a greater abundance of micronekton. These results are in addition to the original goals of the project. The Cross seamount sampling provided a great amount of insight into the impact of the seamount on micronekton. Contrary to initial expectations, the waters over the seamount summit had significantly less micronekton (abundance and biomass) than areas away from the summit and in the open ocean. Objectives 1, 2 and 4 were met. These results were presented in detail at three presentations (both local and international) and have been accepted in manuscript form at the journal Deep-Sea Research. Another cruise to Cross seamount was conducted in April of 2008 and an additional 12 tows were collected.

The American Samoa samples have been analyzed. While trawl failures prevented us from assessing the impact of eddies on micronekton we are in the process describing the micronekton community from this important fisheries area for the first time. This work almost completes our objective #3.

PLANS FOR THE NEXT FISCAL YEAR (One paragraph): This project concludes fiscally in Sept 2008. However we will continue to publish our work in peer reviewed scientific journals.

LIST OF PAPERS PUBLISHED IN REFERRED JOURNALS DURING FY 2008, in the following format: (Author or authors with last name and initials, publication year: Article title. *Journal name,* volume, page range.) For example: Charney, J.G., and A. Eliassen, 1964: On the growth of the hurricane depression. *J. Atmos. Sci.*, 21, 68-75.

De Forest, L. G., and J. C. Drazen. 2008. The influence of a Hawaiian seamount on a mesopelagic micronekton community. Deep Sea Res. I. *in press*

OTHER PAPERS, TECHNICAL REPORTS, ETC.:

J. C. Drazen and L. G. De Forest. 2008. The influence of Hawaiian seamounts and islands on the forage base for oceanic predators. PFRP newsletter.

Meeting presentations

The influence of a Hawaiian seamount on a mesopelagic micronekton community. L. De Forest and **J. C. Drazen.** 59th Tuna Conference, Lake Arrowhead, CA.

The influence of a Hawaiian seamount on a mesopelagic micronekton community. L. De Forest, R. Domokos, and **J. C. Drazen**. Ocean Sciences Meeting, American Society of Limnology and Oceanography, March 2-7, 2008, Orlando, FL

The influence of Hawaiian seamounts on the forage base for oceanic predators. **J. C. Drazen**, L. DeForest, and R. Domokos. Pelagic Fisheries Research Program PI Workshop, Honolulu, HI.

GRADUATES (Names of students graduating with MS or PhD degrees during FY 2008; Titles of their Thesis or Dissertation):

Lisa De Forest, MS in Oceanography, The influence of a Hawaiian seamount on a mesopelagic micronekton community.

AWARDS (List awards given to JIMAR employees or to the project itself during the period):

PUBLICATION COUNT (Total count of publications for the reporting period and categorized by NOAA lead author and Institute (or subgrantee) lead author and whether it was peer-reviewed or non peer-reviewed (not including presentations):

	JI Lead Author	NOAA Lead Author	Other Lead Author
Peer Reviewed	1		
Non-Peer Reviewed	1		

PERSONNEL:

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

Lisa DeForest, MS student, University of Hawaii, Department of Oceanography
C. Anela Choy, MS student, University of Hawaii, Department of Oceanography

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:

- Caption 2: