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October 21, 2003

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**CRUISE REPORT**

**VESSEL:** F/V *Katy Mary* and F/V *Marie M* NOAA Charter Cruise 03-02

**CRUISE PERIOD:** 3 September-2 October 2003

**AREA OF OPERATION:** Necker Island (Fig. 1) and Maro Reef (Fig. 2)

**TYPE OF OPERATION:** Personnel from the Joint Institute for Marine and Atmospheric Research (JIMAR) conducted lobster trapping and tagging in the waters around Necker Island and Maro Reef.

***Katy Mary* ITINERARY:**

- 3 September Start of cruise. On board *Katy Mary*: Robert Marshall, John Buchanan, and Lucas Suarez. Departed Pier 35 at 1000; transited to Necker Island.
- 5 September Arrived at Necker Island. Commenced lobster trapping and tagging.
- 6-29 September Continued lobster trapping and tagging.
- 30 September Hauled lobster traps and departed Necker Island; transited to Oahu.
- 2 October Arrived Pier 35, Oahu. End of cruise

***Katy Mary* ITINERARY:**

- 3 September Start of cruise. On board *Marie M*: Joseph O'Malley, Greg Bary, and Philip Anderson. Departed Pier 37 at 0800; transited to Maro Reef.
- 7 September Arrived at Maro Reef. Commenced lobster trapping and tagging.
- 8-16 September Continued lobster trapping and tagging.



- 17 September Hauled lobster traps and departed Maro Reef; transited to Necker Island.
- 19 September Arrived Necker Island. Commenced lobster trapping and tagging.
- 20 September Departed Necker Island in order for Philip Anderson to seek medical attention; transited to Port Allen, Kauai.
- 22 September Arrived Port Allen, Kauai at 0700. Philip Anderson debarked; Eric Woroch embarked. Departed Port Allen at 1045; transited to Necker Island.
- 23 September Arrived Necker Island. Commenced lobster trapping and tagging.
- 24-29 September Continued lobster trapping and tagging.
- 30 September Hauled lobster traps and departed Necker Island; transited to Oahu.
- 2 October Arrived Pier 35, Oahu. End of cruise.

#### MISSIONS AND RESULTS:

- A. Collect, tag, and release live trap-captured Hawaiian spiny lobster (*Panulirus marginatus*) and scaly slipper lobster (*Scyllarides squammosus*) to provide data necessary for reestimation of key biological and population parameters for the Necker Island lobster stock.
1. Collect data on the abundance and species composition of trap-captured lobster at Necker Island; tag and release *P. marginatus* lobster.
 

A total of 645 trapping stations were fished with black plastic lobster traps. Each trapping station consisted of a string of 20 traps. Traps, set between 0930 and 1900 hours, were baited with mackerel and allowed to soak overnight. A total of 300 traps/vessel were set each night. Approximately 12,000 *P. marginatus* were caught at Necker Island in 9,900 trap hauls for an overall CPUE of approximately 1.2 *P. marginatus*/trap-haul. All *P. marginatus* captured at Necker were tagged and released. Sex, carapace length, and reproductive information were collected from each lobster caught.
  2. Collect data on the abundance and species composition of trap-captured lobster at Maro Reef; tag and release slipper lobster.

A total of 120 trapping stations were fished with black plastic lobster traps. Each trapping station consisted of a string of 20 traps. Traps, set between 0930 and 1900 hours, were baited with mackerel and allowed to soak overnight. A total of 300 traps were set each night. Approximately 2,400 *S. squammosus* were caught at Maro Reef in 3,000 trap hauls for an overall CPUE of approximately 0.89 *S. squammosus*/trap-haul. All *S. squammosus* captured at Maro Reef were tagged and released. Sex, carapace length, and reproductive information were collected from each lobster caught.

3. Obtain lobster length-frequency data to compare with previous research and commercial fishery data.

Sex, carapace length, and reproductive status were recorded for approximately 12,441 *P. marginatus*, 5,653 *Scyllarides squammosus*, 1 *Arctides regalis* and an unknown number of *Pararibacus antarcticus* and *Scyllarides haanii*.

4. Conduct video studies of lobster trap fishing.

The lobster trap camera system was deployed 9 times. Four nights of video provided information on lobsters entering the trap.

5. Collect 100 *S. squammosus* for fecundity and sexual maturity analysis.

A total of 100 *S. squammosus* were collected, labeled, and frozen for sexual maturity analysis.

#### B. Piggyback Projects

1. Collect 1-minute videos of the bottom substrate for NMFS/PIFSC/CREI.

A total of 56 1-minute bottom substrate videos were collected.

2. Videotape release cage deployments.

A total of 38 release cage deployments were recorded.

3. Collect DNA of white-tip reef shark (*Triaenodon obesus*) for the University of Hawaii (UH), Department of Zoology.

A total of 61 DNA samples were collected from *T. obesus* and stored in labeled vials provided by UH.

**SCIENTIFIC  
PERSONNEL:**

Robert Marshall, Chief Scientist, Joint Institute for Marine and  
Atmospheric Research (JIMAR), University of Hawaii (UH)  
Joseph O'Malley, Chief Scientist, JIMAR, UH  
Philip Anderson, Cooperating Scientist, Saltwater, Inc.  
Greg Bary, Cooperating Scientist, Saltwater, Inc.  
John Buchanan, Cooperating Scientist, Saltwater, Inc.  
Lucas Suarez, Cooperating Scientist, Saltwater, Inc.  
Eric Woroch, Cooperating Scientist, Saltwater, Inc.

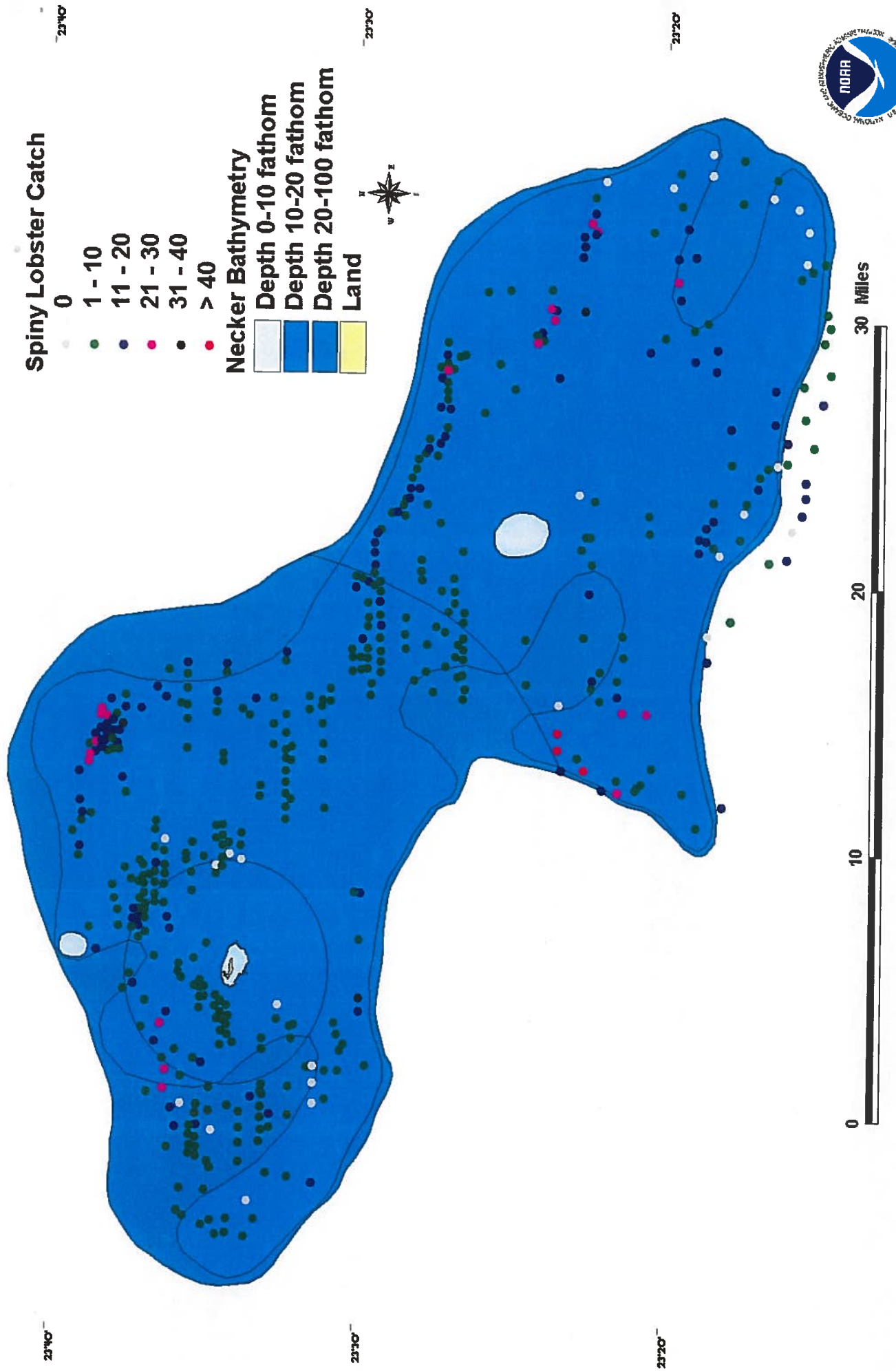
Submitted by: *Joe O'Malley for Robert Marshall*  
Robert Marshall  
Chief Scientist

Submitted by: *Joe O'Malley*  
Joseph O'Malley  
Chief Scientist

Approved by: *J. Polovina*  
Jeffrey J. Polovina  
Acting Science Director  
Pacific Islands Fisheries Science Center

Attachments

# Necker Lobster Release Sites





110°30'

110°40'

110°50'

111°00'

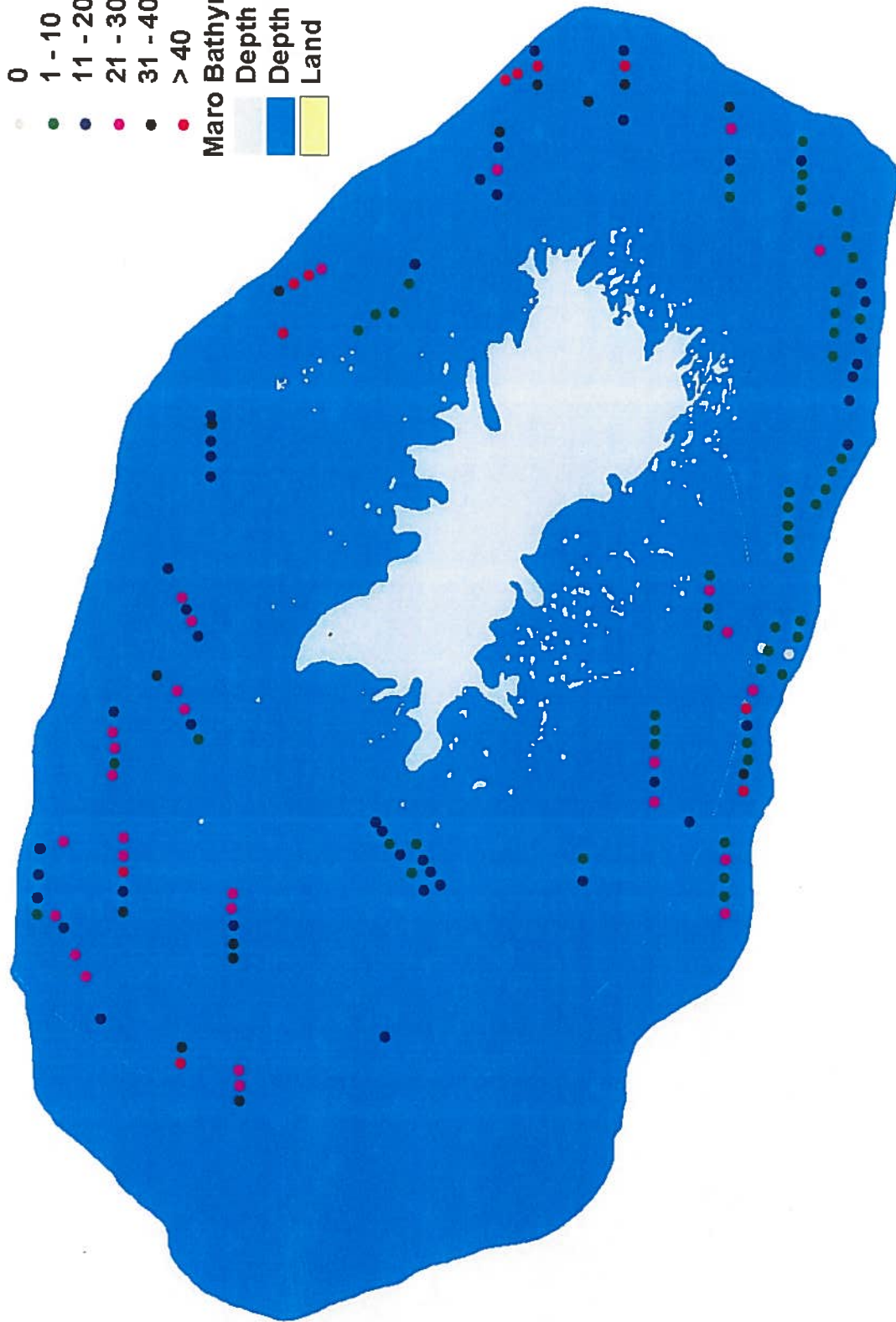
# Maro Lobster Release Sites

Slipper Lobster Catch

- 0
- 1 - 10
- 11 - 20
- 21 - 30
- 31 - 40
- > 40

Maro Bathymetry

- Depth 0-10 fathom
- Depth 10-100 fathom
- Land



25°30'

25°30'

25°20'

25°20'



110°30'

110°40'

110°50'

111°00'



