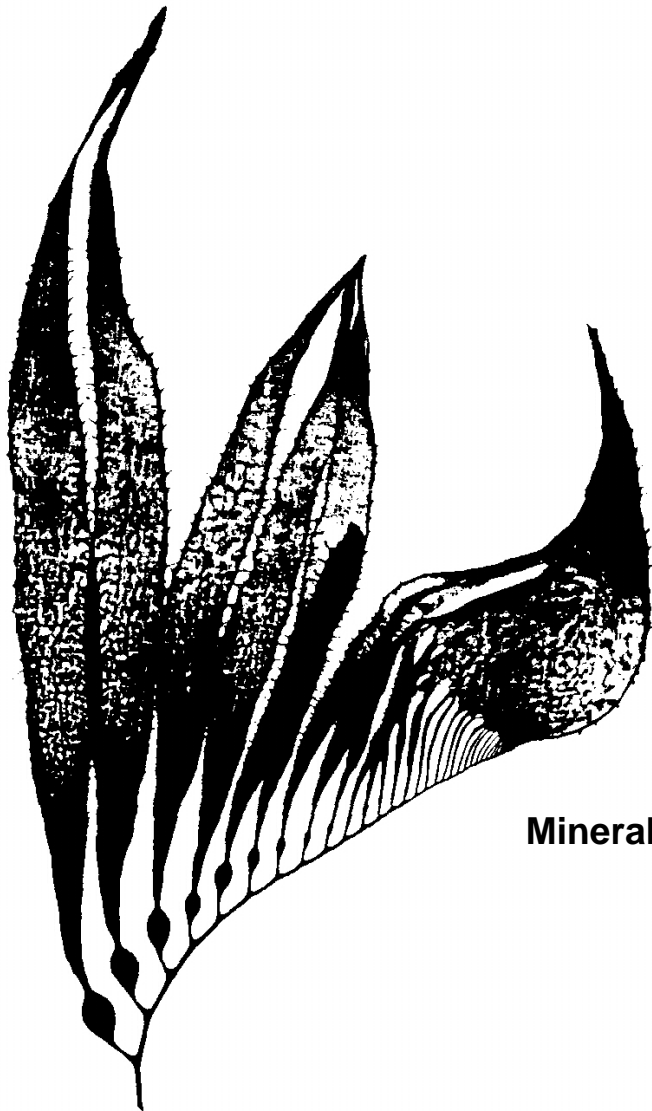


**COASTAL MARINE INSTITUTE  
PROGRAM YEAR 13  
QUARTERLY REPORT 2**

*for the period*

*October 1, 2006 – December 31, 2006*



*A Cooperative Agreement  
between the*  
**University of California**  
*and the*  
**Minerals Management Service**

*January 10, 2007*

**COASTAL MARINE INSTITUTE  
PROGRAM YEAR 13**

**QUARTERLY REPORT 2**

*for the period*

*October 1, 2006 – December 31, 2006*

A Cooperative Agreement

between the

**University of California**

and the

**Minerals Management Service**

**Russell J. Schmitt**  
Program Manager

Coastal Research Center  
Marine Science Institute  
University of California  
Santa Barbara, California, 93106-6150

*January 10, 2007*

# TABLE OF CONTENTS

## Coastal Marine Institute

<b>Program Manager's Report</b> .....	1
<b>Summary of Research Progress:</b>	
Ecological Performance and Trophic Links: Comparisons Among Platforms and Natural Reefs for Selected Fishes and Their Prey .....	2
Spatial and Temporal Variation in Recruitment to Rocky Shores: Relationship to Recovery Rates of Intertidal Communities .....	3
Joint UCSB-MMS Pacific OCS Student Internship and Trainee Program .....	5
Advancing Marine Biotechnology: Use of OCS Oil Platforms as Sustainable Sources of Marine Natural Products .....	6
Population Genetics of Surfgrass ( <i>Phyllospadix torreyi</i> ) for Use in Restoration.....	7



## Program Manager's Report

*for the period October 1, 2006 – December 31, 2006*

This constitutes the quarterly report for the second quarter for Program Year 13 of the Coastal Marine Institute, a cooperative research agreement between the Minerals Management Service, the state of California and the University of California. As of this quarter, 2 projects are currently being conducted under the aegis of the Coastal Marine Institute, 2 projects are currently writing Draft Final Reports, and 1 project is making revisions to their Final Report.

### **MMS Actions Required:**

- ◆ **Task 85339:** *Ecological Performance and Trophic Links: Comparisons among Platforms and Natural Reefs for Selected Fishes and their Prey*, Draft Final Report was completed in December 2006 and submitted to MMS for review; MMS comments needed;
- ◆ **Cooperative Agreement 14-35-001-30758:** *Draft CMI Closing Report*, Draft Closing Report was completed in November 2006 and submitted to MMS for review; MMS comments needed.

### **Major Programmatic Progress and Actions during the Quarter:**

- ◆ **Task 17606:** *Population Genetics of Surfgrass (*Phyllospadix torreyi*) for Use in Restoration* ended September 30, 2005. The Draft Final Report was requested from the Principal Investigators and will be submitted during the next quarter;
- ◆ **Task 17609:** *Advancing Marine Biotechnology: Use of OCS Oil Platforms as Sustainable Sources of Marine Natural Products* ended September 30, 2005. The Draft Final Report was requested from the Principal Investigators and will be submitted during the next quarter;

### **MMS Final Study Reports and Final Technical Summaries Completed:**

- ◆ **Task 85340:** *Relative Importance of POCS Oil Platforms on the Population Dynamics of Two Reef Fishes in the Eastern Santa Barbara Channel*, was completed on November 14, 2006 and mailed to MMS;
- ◆ **Task 85386:** *Observations of the Surface Circulation in the Eastern Santa Barbara Channel Using High Frequency Radar and Lagrangian Drifters*, was completed on November 14, 2006 and mailed to MMS;
- ◆ **Task 85338:** *Weathering of Oil and Gas in the Coastal Marine Environment: Quantifying Rates of Microbial Metabolism*, was completed on November 27, 2006 and mailed to MMS.

**Task 85339:** *Ecological Performance and Trophic Links: Comparisons among Platforms and Natural Reefs for Selected Fishes and their Prey*

**Principal Investigators:** **Mark Page**, Marine Science Institute, University of California, Santa Barbara, California 93106, **Jenifer Dugan**, Marine Science Institute, University of California, Santa Barbara, California 93106, **Milton Love**, Marine Science Institute, University of California, Santa Barbara, California 93106, and **Hunter Lenihan**, Bren School of Environmental Science & Management, University of California, Santa Barbara, California 93106

**Major Accomplishments, October 1, 2006 – December 31, 2006:**

A paper describing exotic invertebrate species inhabiting POCS offshore oil platforms was published in Marine Ecology Progress Series in November 2006.

We finalized and submitted our Draft Final Report for review by MMS in December 2006.

**Future Plans:**

Following MMS review, we will make corrections to our Draft Final Report and submit our Final Study Report and Final Technical Summary to MMS in Winter quarter 2007.

**Problems Encountered:**

None

**MMS Action Required:**

Review of Draft Final Report.

**Estimated Percentage of Budget Expended:**

Project Year 1:	100%
Project Year 2:	100%

**Task 18234:** *Spatial and Temporal Variation in Recruitment to Rocky Shores: Relationship to Recovery Rates of Intertidal Communities*

**Principal Investigators:** **Peter Raimondi**, Department of Ecology and Evolution, University of California, Santa Cruz, California, and **Richard Ambrose**, School of Public Health, Department of Environmental Sciences, University of California, Los Angeles, California

**Major Accomplishments, October 1, 2006 – December 31, 2006:**

*Recruitment:*

Safety-walk plates and tuffies were exchanged at Point Sierra Nevada, Stairs and Point Fermin in October, November, and December. *Silvetia* and *Endocladia* collectors were exchanged in October at all three sites. Algal collectors and natural recruitment were sampled monthly.

*Recovery Plot Sampling:*

Recovery plots were sampled at all three sites in October 2006. A Uniform Pt. Contact (UPC) grid was used to quantify percent cover of each recovery plot and three control plots in the *Chthamalus*, *Endocladia*, *Silvetia* and *Mytilus* zones. Mobile invertebrates were counted in each recovery and control plot. Photographs were taken of all plots at all sites using a digital camera and photo-framer.

*Laboratory Work:*

Monthly barnacle recruitment plates and mussel recruitment collectors (tuffies) are currently being sampled in the lab by Tish Conway-Cranos and two undergraduate volunteers.

**Publications and Presentations:**

None

**List of Personnel Associated with the Project:**

Principal Investigators:	Peter Raimondi Richard Ambrose
Technician/Graduate Student:	Tish Conway-Cranos
Lab Volunteer:	Ashley Cleland
Field Volunteers:	Kelley Higgason (UCSC undergraduate) Ben Perlman (UCSC undergraduate) Justin Milgrim Katie Spencer Morgan Bond (UCSC) Christy Roe (UCSC) Melissa Miner (UCSC) Mary Elaine Dunaway (MMS) Dawn Jech (UCSC) Yuri Springer (UCSC) Hilary Hayford (UCSC)

Field Volunteers continued: Haven Livingston (UCSC)  
Mark Readdie (UCSB)  
Darren Johnson  
Melissa Foley (UCSC)  
Tom Adam (UCSB)  
Aimee Bullard (CSU Fullerton)  
Eric Miller  
Caroline Engel (UCSC)  
Melissa Redfield (UCSC)  
Dave Lohse  
Galen Holt  
Nora Grant (UCSC)

**Future Plans:**

Recruitment collectors will be exchanged and natural recruitment sampled in adjacent plots every month at all three sites. Cleared plots will be sampled every six months. Molecular methods (PCR) will be used to identify the *Mytilus* species that recruit into the tuffies. We will also finalize and submit our Draft Final Report in the Winter quarter.

**Problems Encountered:**

None

**MMS Action Required:**

None

**Estimated Percentage of Budget Expended:**

Project Year 1:	100%
Project Year 2:	100%
Project Year 3:	~99%



**Task 17610:** *Joint UCSB-MMS Pacific OCS Student Internship Program*

**Principal Investigators:** **Jenifer Dugan**, Coastal Research Center, Marine Science Institute, University California, California. 93106, and **Edward A. Keller**, Environmental Studies Program, University of California, Santa Barbara, California, 93106

**Major Accomplishments, October 1, 2006 – December 31, 2006:**

We are working with Fred Piltz, Mary Elaine Dunaway, and other MMS personnel to arrange internship opportunities with MMS during Winter and Spring 2007.

No Information Transfer Seminars were requested by MMS during this period.

**Problems Encountered:**

None

**MMS Action Required:**

None

**Estimated Percentage of Budget Expended:**

Project Year 1:	100%
Project Year 2:	100%
Project Years 3-5:	85%

**Task 17609: Advancing Marine Biotechnology: Use of OCS Oil Platforms as Sustainable Sources of Marine Natural Products**

**Principal Investigators:** **Russell J. Schmitt**, Department of Ecology, Evolution and Marine Biology, **Jenifer Dugan**, Marine Science Institute, **Scott Hodges**, Department of Ecology, Evolution and Marine Biology, **Robert Jacobs**, Department of Ecology, Evolution and Marine Biology, **Mark Page**, Marine Science Institute, **Leslie Wilson**, Department of Molecular, Cellular and Developmental Biology, and **Stephen Gaines**, Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara, CA 93106

**Major Accomplishments, October 1, 2006 – December 31, 2006:**

A paper on exotic invertebrate species inhabiting POCS offshore oil platforms was published in Marine Ecology Progress Series in November 2006.

Several manuscripts are being prepared for publication including: one on the results from recruitment studies and from photoquadrat sampling of the platforms, a second on the genetic composition of *Bugula neritina* populations, and a third on the bioactive properties of a bryozoan from oil platforms in the Santa Barbara Channel. As the funding period for this grant has ended, a Draft Final Report is also in the process of being written and compiled using the manuscripts. We anticipate the completion and submission of this Draft Final Report in the Winter quarter of 2006.

**Future Plans:**

We will finalize and submit our Draft Final Report in the Winter quarter of 2007.

**Problems Encountered:**

None

**MMS Action Required:**

None

**Estimated Percentage of Budget Expended:**

Project Year 1:	100%
Project Year 2:	100%
Project Year 3:	100%

**Task 17606:** *Population Genetics of Surfgrass (Phyllospadix torreyi) for Use in Restoration*

**Principal Investigators:** **Scott Hodges**, Department of Ecology, Evolution and Marine Biology, **Douglas Bush**, Marine Science Institute, **Sally J. Holbrook**, Department of Ecology, Evolution and Marine Biology, and **Daniel Reed**, Marine Science Institute, University of California, Santa Barbara, CA 93106

**Major Accomplishments, October 1, 2006 – December 31, 2006:**

We continued to focus our efforts on writing the Draft Final Report and associated publications this past quarter. We analyzed the data on the genetic structure of surfgrass populations from images of gels that were re-processed by a CMI intern during the Spring quarter, 2006. These data were lost as a result of a computer problem and were needed to complete the Final Report for this project.

**Future Plans:**

We will finalize and submit our Draft Final Report in the Winter quarter of 2007.

**Problems Encountered:**

None

**MMS Action Required:**

None

**Estimated Percentage of Budget Expended:**

Project Year 1:	100%
Project Year 2:	100%



### **The Department of the Interior Mission**

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



### **The Minerals Management Service Mission**

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The **MMS Royalty Management Program** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.