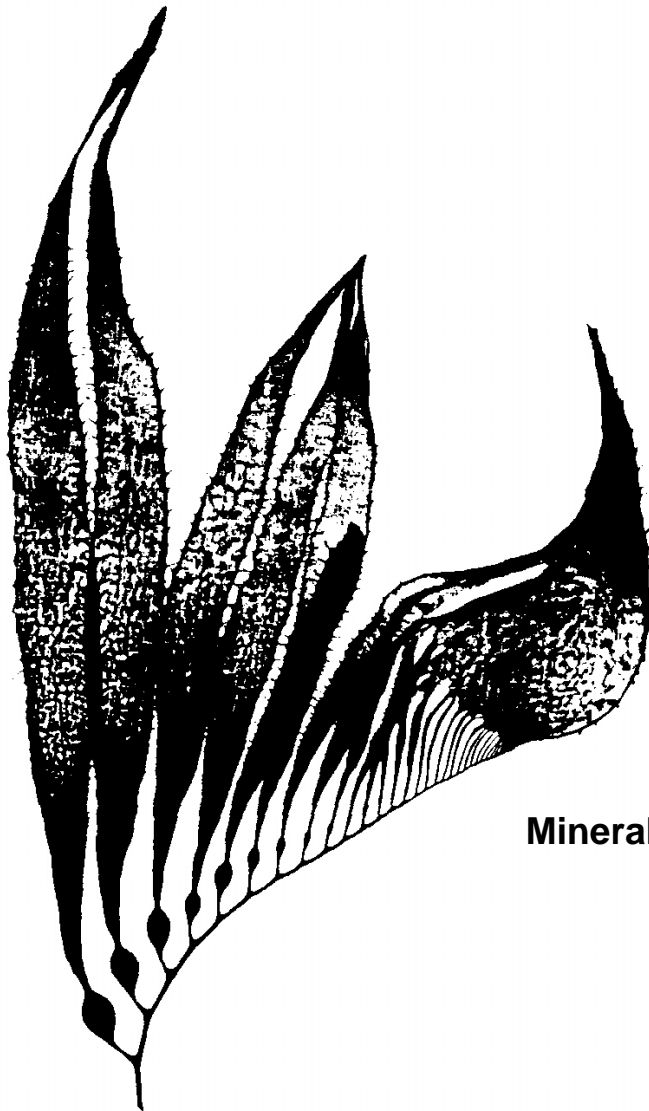


**COASTAL MARINE INSTITUTE
PROGRAM YEAR 13
QUARTERLY REPORT 1**

for the period

July 1, 2006 – September 31, 2006



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

October 31, 2006

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PROGRAM YEAR 13**

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Russell J. Schmitt
Program Manager

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

October 31, 2006

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Program Manager's Report

for the period July 1, 2006 – September 31, 2006

This constitutes the quarterly report for the first 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, one project is currently being conducted under the aegis of the Coastal Marine Institute, 4 projects are currently writing Draft Final Reports, and 3 projects are making revisions to their Final Reports. The 3 Rocky Intertidal Inventory projects will submit Final Study Reports directly to MMS.

MMS Actions Required:

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

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;
- ◆ **Task 85339:** *Ecological Performance and Trophic Links: Comparisons among Platforms and Natural Reefs for Selected Fishes and their Prey* 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 13096:** The Final Study Report and Final Technical Summary for *Utilization of Sandy Beaches by Shorebirds: Relationships to Population Characteristics of Macrofauna Prey Species and Beach Morphodynamics* was submitted to MMS on 08/11/2006.

- ◆ **Task 14181:** The Final Study Report and Final Technical Summary for *Population Trends and Trophic Dynamics in Pacific OCS Ecosystems: What Can Monitoring Data Tell Us?* was submitted to MMS on 10/24/2006.
- ◆ **Task 17605:** The Final Study Report and Final Technical Summary for *Population Dynamics and Biology of the California Sea Otter at the Southern End of its Range* was submitted to MMS on 06/05/2006.
- ◆ **Task 17611:** The Final Study Report and Final Technical Summary for *Simulation of a Subsurface Oil Spill by a Hydrocarbon Seep (SSOS-HYS)* **and Task 18211:** *Oil Slicks in the Ocean: Predicting their Release Points Using the Natural Laboratory of the Santa Barbara Channel* was submitted to MMS on 09/14/2006.

Task 85340: *Relative Importance of POCS Oil Platforms on the Population Dynamics of Two Reef Fishes in the Eastern Santa Barbara Channel*

Principal Investigators: **Hunter Lenihan**, Bren School of Environmental Science & Management, University of California, Santa Barbara, California 93106, and **Andy Brooks**, Marine Science Institute, University of California, Santa Barbara, California 93106

Major Accomplishments, July 1, 2006 – September 31, 2006:

We completed our Draft Final Report and associated publications this past quarter. We submitted our Draft Final Report in August of 2006.

Future Plans:

Receive MMS comments/corrections and submit a Final Study Report and Final Technical Summary.

Problems Encountered:

None

MMS Action Required:

Comments on the Draft Final Study Report.

Estimated Percentage of Budget Expended:

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

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, July 1, 2006 – September 31, 2006:

A paper describing exotic invertebrate species inhabiting POCS offshore oil platforms was accepted for publication in Marine Ecology Progress Series.

We continued to focus our efforts on writing the Draft Final Report and associated publications this past quarter.

Future Plans:

We will finalize and submit our Draft Final Report in the fall quarter.

Problems Encountered:

None

MMS Action Required:

None

Estimated Percentage of Budget Expended:

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

Task 85386: *Observations of the Surface Circulation in the Eastern Santa Barbara Channel Using High Frequency Radar and Lagrangian Drifters*

Principal Investigator: Libe Washburn, Institute of Computational Earth System Science,
University of California, Santa Barbara, California 93106

Major Accomplishments, July 1, 2006 – September 31, 2006:

We completed our Draft Final Report and associated publications this past quarter. We submitted our Draft Final Report in August of 2006.

List of Personnel Associated with the Project:

Principal Investigator:	Libe Washburn
Programmer Analyst:	Brian Emery
Staff Research Associate:	David Salazar
Graduate Students:	Mary Nishimoto Christopher Melton
Undergraduate Students:	Justin Pearson Joshua Kleiner

Future Plans:

Receive MMS comments/corrections and submit a Final Study Report and Final Technical Summary.

Problems Encountered:

None

MMS Action Required:

Comments on the Draft Final Study Report.

Estimated Percentage of Budget Expended:

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

Task 85338: *Weathering of Oil and Gas in the Coastal Marine Environment: Quantifying Rates of Microbial Metabolism*

Principal Investigator: David Valentine, Department of Geology, University of California, Santa Barbara, California 93106

Major Accomplishments, July 1, 2006 – September 31, 2006:

We completed our Draft Final Report and associated publications this past quarter. We submitted our Draft Final Report in September of 2006.

Future Plans:

Receive MMS comments/corrections and submit a Final Study Report and Final Technical Summary.

Problems Encountered:

None

MMS Action Required:

Comments on the Draft Final Study Report.

List of Personnel Associated with the Project:

Principal Investigator:	David Valentine
Graduate Student Researcher:	George Wardlaw
Undergraduate Student Researchers:	Frank Kinniman Alison Schlosser

Estimated Percentage of Budget Expended:

Project Year 1:	100%
Project Year 2:	100%
Project Year 3:	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, CA. and Richard Ambrose, School of Public Health, Department of Environmental Sciences, University of California, Los Angeles, CA

Major Accomplishments, July 1, 2006 – September 31, 2006:

Recruitment:

Safety-walk plates and tuffies were exchanged at Point Sierra Nevada, Stairs and Point Fermin in January, February and March. *Silvetia* and *Endocladia* collectors were exchanged in February 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 Volunteers:	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 fall 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, July 1, 2006 – September 31, 2006:

We are working with Fred Piltz, Mary Elaine Dunaway, and other MMS personnel to arrange additional internship opportunities with MMS during Fall 2006 and Winter 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 Year 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, July 1, 2006 – September 31, 2006:

A paper on exotic invertebrate species inhabiting POCS offshore oil platforms was accepted for publication in Marine Ecology Progress Series.

Several manuscripts are being prepared for publication including: one on the results from recruitment studies, a second on the results from photoquadrat sampling of the platforms, a third on the genetic composition of *Bugula neritina* populations, and a fourth 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 submission of this Draft Final Report by fall of 2006.

Future Plans:

We will finalize and submit our Draft Final Report in the fall quarter.

Problems Encountered:

None

MMS Action Required:

None

Estimated Percentage of Budget Expended:

Project Year 1:	100%
Project Year 2:	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, July 1, 2006 – September 31, 2006:

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

Future Plans:

We will finalize and submit our Draft Final Report in the fall quarter.

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.