



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE

Monterey Bay National Marine Sanctuary
299 Foam Street
Monterey, CA 93940

January 24, 2011

Dr. Chris Scholin
Monterey Bay Aquarium Research Institute
7700 Sandholdt Road
Moss Landing, CA 95039

Dear Dr. Scholin:

The National Oceanic and Atmospheric Administration, Office of National Marine Sanctuaries (ONMS) has approved the issuance of permit number MBNMS-2007-030-A5 to conduct activities within Monterey Bay National Marine Sanctuary (MBNMS) for research purposes. Activities are to be conducted in accordance with the permit application and all supporting materials submitted to the sanctuary, and the terms and conditions of permit number MBNMS-2007-030-A5, as amended.

We have found the previous annual meetings between key staff helpful, and one we would like to continue. This annual meeting allows all permitting agencies to receive a full and detailed briefing on any planned or proposed projects specifically related to the MARS cable. Given that the projects MBARI proposes are often novel, we appreciate the opportunity to learn more about the project in advance of a permit request. Please work with Erica Burton of my staff to re-instate that meeting for the coming 2011-2012 season, should any new work be proposed.

This permit is not valid until signed and returned to the ONMS. Retain one signed copy and carry it with you while conducting the permitted activities. Additional copies must be signed and returned, by either mail or email, to the following individuals within 30 days of issuance and before commencing any activity authorized by this permit:

Erica Burton
Research Permit Coordinator
Monterey Bay National Marine Sanctuary
299 Foam Street
Monterey, CA 93940
Erica.Burton@noaa.gov

National Permit Coordinator
NOAA Office of National Marine Sanctuaries
1305 East-West Highway (N/ORM6)
SSMC4, 11th Floor
Silver Spring, MD 20910
nmspermits@noaa.gov

Your permit contains specific terms, conditions and reporting requirements. Review them closely and fully comply with them while undertaking permitted activities. If you have any questions, please contact Erica Burton at 831-647-4246. Thank you for your continued cooperation with the ONMS.

Sincerely,

Paul Michel
Superintendent





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Monterey Bay National Marine Sanctuary
299 Foam Street
Monterey, CA 93940

MONTEREY BAY NATIONAL MARINE SANCTUARY RESEARCH PERMIT

Permittee:

Dr. Chris Scholin
Monterey Bay Aquarium Research Institute
7700 Sandholdt Road
Moss Landing, CA 95039

Permit Number: MBNMS-2007-030-A5

Effective Date: January 24, 2011

Expiration Date: December 31, 2013

Project Title: Monterey Accelerated Research System (MARS) supplemental research projects not analyzed in the EIR/EIS

This permit is issued for activities in accordance with the National Marine Sanctuaries Act (NMSA), 16 USC §1431 *et seq.*, and regulations thereunder (15 CFR Part 922). All activities must be conducted in accordance with those regulations and law. No activity prohibited in 15 CFR Part 922 is allowed except as specified in the activity description below.

Subject to the terms and conditions of this permit, the National Oceanic and Atmospheric Administration (NOAA) Office of National Marine Sanctuaries hereby authorizes the permittee listed above to conduct research activities within Monterey Bay National Marine Sanctuary (MBNMS or sanctuary). All activities are to be conducted in accordance with this permit and the permit application received January 7, 2011, and additional information received shortly thereafter. The permit application is incorporated into this permit by reference; provided, however, that if there are any conflicts between the permit application and the terms and conditions of this permit, the terms and conditions of this permit shall be controlling.

PERMITTED ACTIVITY DESCRIPTION:

The following activities are authorized by this permit:

The installation, monitoring, use, continued placement, maintenance, repair, and removal of scientific equipment upon the seafloor for use in conjunction with the existing Monterey Accelerated Research System (MARS) cable. The following projects, (not described in the original EIR/EIS for the cable project) are approved herein:

- Eye-In-The-Sea (EITS)
- Benthic Rover
- Sedimentation Sensor/Time-Lapse Camera System
- Deep-Sea Environmental Sample Processor (D-ESP)
- Free Ocean CO₂ Enrichment (FOCE) System
- A Smart Sensor Web for Ocean Observation: System Design, Modeling, and Optimization
- Monitoring Pelagic Biomass Fluxes in Monterey Bay
- Technology Development for Geophysical Monitoring at Cabled Seafloor Observatories



- Acoustic Communications System for Cabled Observatories
- Reburial of the MOBB Replacement Cable
- Laboratory for the Ocean Observatory Knowledge Integration Grid Seismometer System
- MARS Camera System
- Sensors Powered by Benthic Microbial Fuel Cells
- Development of Chemical Sensors and In-Situ Calibrations
- Secondary Junction Box (with Optical Imaging System)
 - In-Situ Chemistry Monitoring Subsystem (at Secondary Junction Box)
 - Dynamics Environment Monitoring System (at Secondary Junction Box)

PERMITTED ACTIVITY LOCATION:

The permitted activity is allowed only in the following location(s):

These projects will be connected to the trawl resistant science node at the end of the MARS cable, or conducted within the vicinity of the cable.

No further disturbance of the cultural or natural resources of the sanctuary is allowed.

In addition to the terms above, the following terms and conditions apply to this permit:

SPECIAL CONDITIONS:

1. Authorized activities may be conducted from January 24, 2011 through December 31, 2013. All equipment shall be removed no later than the expiration date of this permit. The permittee may request an amendment from the MBNMS Superintendent in advance of this expiration date, to extend the effective date of this permit.
2. Permitted activities shall be limited to the following:
 - a) The installation, maintenance, and recovery of individual scientific instruments, moorings, and anchors, related to MARS cable research projects, including instrumentation described under the "Permitted Activity Description" section of this permit.
 - b) The discharge of twenty liters of liquid carbon dioxide (CO₂) to be combined with seawater, to be released at four intervals per year, for a total volume of carbon dioxide not to exceed 80 liters per calendar year. An equal amount of non-toxic chemicals or tracer dyes may be released as part of this experiment.
 - c) Seabed alteration, including the operation of scientific equipment upon the seafloor and coring of the seabed to collect benthic samples; sediments, and non-commercial rocks.
3. The equipment and support structures authorized by this permit shall only be used in accordance with the methods and objectives identified in the permit application cited above. Disturbance of any other Sanctuary resources is prohibited.
4. All equipment authorized for installation under this permit shall be removed when such equipment is no longer in use, or sooner if directed by the MBNMS Superintendent if such equipment is causing or may cause unacceptable harm to Sanctuary resources or qualities. Intentional abandonment of equipment or any item is prohibited.

5. In the event that any scientific equipment are damaged or dislocated due to weather or any other cause, the permit holder shall use all reasonable means available to the permit holder to locate and recover the affected item(s).
6. To the extent practicable, anchors and anchoring devices shall be recovered from the Sanctuary. For logistical reasons, anchors weighing more than 500 pounds, which are deemed unrecoverable, may be left in place. The location and description of any anchor abandoned in the Sanctuary shall be noted in the summary report with an explanation why the equipment was not recovered.
7. No activity authorized by this permit shall disturb or impact any historical or marine archaeological resources of the Sanctuary. If historical or marine archaeological resources are encountered at any time, the permit holders shall cease all further activities under this permit and immediately contact the Sanctuary Superintendent.
8. MBARI shall submit a final summary report of all activities conducted under this permit to the individuals listed in General Condition #2 no later than November 15th of each year that this permit is valid. The report must include information regarding daily activities such as location of research activities, techniques employed, problems encountered, installation and removal techniques employed; equipment maintenance, loss, or replacement; archaeological disturbance; discharge of expendable devices; accidental or unauthorized discharges/deposits of matter into the Sanctuary; or any other significant occurrence throughout the permit period, etc. The annual report shall include a synopsis of research results to date, as well as any proposed future projects. In addition, MBARI shall deliver a synthesized presentation to key MBNMS staff in the Fall of each year this permit is valid. This presentation should highlight the previous year's research as well indicate any upcoming projects that would require consideration under the MBNMS permit.

GENERAL CONDITIONS:

1. Within 30 (thirty) days of the date signed by the sanctuary official the permittee must sign and date on the appropriate line below for this permit to be considered valid. Once signed and dated, the permittee must ensure that the persons listed below each receive a signed original within 35 (thirty-five) days of the date signed by the sanctuary official:

Erica Burton
Research Specialist
Monterey Bay National Marine Sanctuary
299 Foam Street
Monterey, CA 93940
Erica.Burton@noaa.gov

National Permit Coordinator
NOAA Office of National Marine Sanctuaries
1305 East-West Highway (N/ORM6)
SSMC4, 11th Floor
Silver Spring, MD 20910
nmspermits@noaa.gov

2. It is a violation of this permit to conduct any activity authorized by this permit prior to the sanctuary official having received a permit with the permittee's original signature on the appropriate line below. The permittee must contact the sanctuary office to ensure the

requisite documentation has been received before conducting any activity authorized by this permit.

3. This permit may only be amended by the Office of National Marine Sanctuaries. The permittee may not change or amend any part of this permit at any time. The terms of the permit must be accepted in full, without revision; otherwise, the permittee must return the permit to the sanctuary office unsigned with a written explanation for its rejection. Amendments to this permit must be requested in the same manner the original request was made.
4. All persons participating in the permitted activity must be under the supervision of the permittee, and the permittee is responsible for any violation of this permit, the NMSA, and sanctuary regulations for activities conducted under, or in junction with, this permit. The permittee must assure that all persons performing activities under this permit are fully aware of the conditions herein.
5. This permit is non-transferable and must be carried by the permittee at all times while engaging in any activity authorized by this permit.
6. This permit may be suspended, revoked, or modified for violation of the terms and conditions of this permit, the regulations at 15 CFR Part 922, the NMSA, or for other good cause. Such action will be communicated in writing to the applicant or permittee, and will set forth the reason(s) for the action taken.
7. This permit may be suspended, revoked or modified if requirements from previous Office of National Marine Sanctuaries permits or authorizations issued to the permittee are not fulfilled by their due date.
8. Permit applications for any future activities in the sanctuary or any other sanctuary in the system by the permittee might not be considered until all requirements from this permit are fulfilled.
9. This permit does not authorize the conduct of any activity prohibited by 15 CFR § 922, other than those specifically described in the "Permitted Activity Description" section of this permit. If the permittee or any person acting under the permittee's supervision conducts, or causes to be conducted, any activity in the sanctuary not in accordance with the terms and conditions set forth in this permit, or who otherwise violates such terms and conditions, the permittee may be subject to civil penalties, forfeiture, costs, and all other remedies under the NMSA and its implementing regulations at 15 CFR Part 922.
10. Any publications and/or reports resulting from activities conducted under the authority of this permit must include the notation that the activity was conducted under National Marine Sanctuary Permit MBNMS-2007-030-A4 and be sent to the sanctuary official listed in general condition number 1.
11. This activity may also require permission from other agencies. The enclosed permit is not valid until all other necessary permits and/or authorizations are obtained. Any direct or incidental harassment of marine mammals requires a permit from the National Marine

Fisheries Service (contact Monica DeAngelis at 562-980-3232) and/or U.S. Fish and Wildlife Service (contact Douglass Cooper at 805-644-1766). Direct or incidental harassment of seabirds requires a permit from the U.S. Fish and Wildlife Service. Deployment of mooring or surface buoys may require authorization from the US Coast Guard (contact Brian Aldrich at 510-437-2983). Research conducted within California state waters or California State marine protected areas (MPA) may require permission from the California Department of Fish and Game (contact Angela Louie at alouie@dfg.ca.gov, or 562-342-7161). Permission to drill into rock or install devices may require permission from the California State Lands Commission (contact Mary Hayes at 916-574-1812).

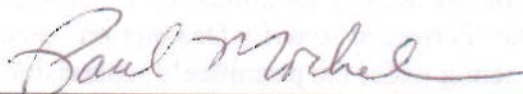
12. The permittee shall indemnify and hold harmless the Office of National Marine Sanctuaries, NOAA, the Department of Commerce and the United States for and against any claims arising from the conduct of any permitted activities.
13. Any question of interpretation of any term or condition of this permit will be resolved by NOAA.

Your signature below, as permittee, indicates that you accept and agree to comply with all terms and conditions of this permit. This permit becomes valid when you, the permittee, countersign and date below. Please note that the expiration date on this permit is already set and will not be extended by a delay in your signing below.



Dr. Chris Scholin
President and CEO
Monterey Bay Aquarium Research Institute

Date



Paul Michel
Superintendent
Monterey Bay National Marine Sanctuary

Date