



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

Monterey Bay National Marine Sanctuary
99 Pacific Street, Building 455A
Monterey, CA 93940

February 25, 2015

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-2015-002 to conduct activities within Monterey Bay National Marine Sanctuary (sanctuary) 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-2015-002 (enclosed).

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:

Sophie De Beukelaer
Research Permit Coordinator
Monterey Bay National Marine Sanctuary
99 Pacific Street, Building 455A
Monterey, CA 93940
Sophie.De.Beukelaer@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 Sophie De Beukelaer at (831) 647-1286. Thank you for your continued cooperation with the ONMS.

Sincerely,


Paul Michel
Superintendent

Enclosure





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Monterey Bay National Marine Sanctuary
99 Pacific Street, Building 455A
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-2015-002

Effective Date: February 28, 2015

Expiration Date: February 28, 2020

Project Title: MBARI 5-year Research Permit

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 (ONMS) 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 02, 2015 and supplemental information received on January 26, 2015, January 28, 2015 and February 4, 2015 and February 24, 2015. 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:

This permit allows the Monterey Bay Aquarium Research Institute (MBARI) to conduct a large and diverse suite of marine research projects each year. This permit is limited to disturbance of the seabed and discharges within the MBNMS. No further disturbance of the cultural or natural resources of the Sanctuary is allowed.

Permitted Activity Location:

The permitted activities are allowed within the contiguous Monterey Bay National Marine Sanctuary. A limited number of activities are allowed within the Davidson Seamount Management Zone (DSMZ; see DSMZ section of Special Terms and Conditions).



Special Terms and Conditions:

1. All authorized activities may be conducted from February 28, 2015 through February 28, 2020. 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. Installation, maintenance, and recovery of individual scientific instruments;
 - b. Installation maintenance, and recovery of moorings and anchors;
 - c. Coring the seabed to collect benthic samples;
 - d. Collection of sediments and non-commercial rocks, minerals;
 - e. Discharge or abandonment of expendable, degradable equipment or matter necessary to conduct marine research, that cannot be practicably retrieved and poses no adverse risk to the Sanctuary resources or qualities.
 - f. Temporary discharge of autonomous underwater vehicles (AUVs) and unmanned surface vehicles (i.e., Wave Glider) provided all such devices are recovered from the sanctuary.
 - g. The permit holders shall contact the MBNMS Research Permit Coordinator (sophie.debeukelaer@noaa.gov) 14 days prior to conducting any project modifications or future research projects that may be prohibited by MBNMS regulations, and shall receive written approval prior to conducting operations, to ensure these new activities meet the intent of Special Condition 2a through 2f above.
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.
4. This permit is limited to disturbance of the seabed and discharges as described in the permit application. Disturbance of any other Sanctuary resources is prohibited.
5. 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.
6. If contacted by MBNMS Sanctuary Integrated Monitoring Network (SIMoN) staff, the permittee agrees to provide project metadata from these permitted activities to the MBNMS Sanctuary Integrated Monitoring Network via a web-based interface. The permittee shall provide the information to the MBNMS within three (3) months of the request date. See <http://www.sanctuarysimon.org> for more information.
7. MBARI shall submit a comprehensive log and a final summary report of all activities conducted under this permit to the individuals listed in General Condition #1 no later than **February 1st of each year that this permit is valid**. The report must include information regarding daily activities such as location of research activities,

geographic location, 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 MBNMS staff in the Winter of each year this permit is valid. This presentation should highlight the previous year research as well indicate any upcoming projects that would require consideration under the MBNMS permit.

8. 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 when such equipment is causing or may cause unacceptable harm to Sanctuary resources or qualities. Intentional abandonment of equipment or any item is prohibited. In the event that any mooring or 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) and notify the Sanctuary within 24 hours and keep the Sanctuary informed of the status of the damaged or dislocated buoy. The location and description of any equipment abandoned or lost in the Sanctuary for any reason shall also be noted in the summary report (see Special Condition #7) with an explanation why the equipment was not recovered.

Discharges

9. Carbon Dioxide Discharge: permitted activities shall be limited to the discharge of 20 liters of liquid carbon dioxide (CO₂), necessary to conduct marine research, which cannot be practicably retrieved. This discharge of 20 liters of CO₂ may occur at four intervals per year, for a total volume of carbon dioxide not to exceed 80 liters per calendar year. An equal amount of hydrochloric acid and non-toxic tracer dye may be released as part of this experiment.
10. Discharge of Rhodamine WT and Sulfur Hexafluoride (SF₆) tracers to mark water masses and microbial populations. Discharge of Rhodamine WT tracer shall remain under the U.S. Environmental Protection Agency recommended levels for discharge rates. The resulting Rhodamine WT dye concentration in seawater shall be approximately 0.3 mg/L (or 300 µg/L) or less.
11. Discharge of all other chemicals (including common elements or compounds, such as iron) that may be toxic to marine life are not authorized under this permit. Separate application must be made to the MBNMS for such activities.
12. Any accidental discharges (e.g. hydraulic fluid, battery acid, fuel, oils, etc.) shall be fully documented in the report required by Special Condition #7 of this permit.

13. Discharge of drifter devices is authorized. To the extent practicable, such devices should be constructed of biodegradable materials and recovered from the Sanctuary. A description and percentage of devices unrecovered for each experiment shall be included in the report required by Special Condition #7.
14. Discharge of expendable equipment or matter necessary to conduct research that cannot be practicably retrieved and poses no adverse risk to the Sanctuary resources or qualities (e.g. XBTs) is authorized. The type and number of such discharges shall be included in the report required by Special Condition #7 of this permit.
15. Temporary discharge of autonomous underwater vehicles (AUVs; including Benthic Rover) and unmanned surface vehicles (i.e., Wave Glider) is authorized, provided all such devices are recovered from the Sanctuary. Approximately 175 missions per year are authorized (ranging from several hours to 120 days per mission). A description and count of devices unrecovered for each experiment shall be included in the report required by Special Condition #7.

Not less than one week in advance, provide notification to the contacts listed below for each unmanned surface vehicle (i.e., Wave Glider) deployment that may enter the sanctuary, including timing of entry and estimated duration of work in sanctuary. Notification should include the following: deployment or mission objectives; approximate survey area and flight characteristics; list of instruments on board and any potential toxic materials (batteries, other); anticipated duration of activity in sanctuary; and general description of the glider (e.g., color, other descriptive characteristics) to be deployed. The following pre-survey notifications are required:

POINT OF CONTACT	AFFILIATION	CONTACT INFORMATION
Sophie De Beukelaer	MBNMS Research Permits	Sophie.Debeukelaer@noaa.gov 831-647-1286
Robert Yerena	NOAA Enforcement Officer	Robert.Yerena@noaa.gov 831-647-4203
Max Delaney (contact for deployments north of Año Nuevo)	GFNMS Permits	Max.Delaney@noaa.gov 415-970-5255

Moorings & Benthic Instruments

16. All equipment authorized for installation under this permit (including, but not limited to, anchors weighing less 500 pounds, mooring lines, tackle, buoys, individual instruments, batteries, and platforms) shall be removed when such equipment is no longer in use, or sooner if directed by the MBNMS Superintendent when such equipment is causing or may cause unacceptable harm to Sanctuary resources or qualities. Intentional abandonment of equipment or any item is prohibited. In the event that any mooring or 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) and notify the Sanctuary within 24

hours and keep the Sanctuary informed of the status of the damaged or dislocated buoy. Investigators shall record in the report all mooring and instrument deployments or repositioning on the seafloor, to include type and identity of each mooring/instrument; date, location, and depth of deployment/recovery; method of deployment/recovery; and any problems encountered. The location and description of any equipment abandoned or lost in the Sanctuary for any reason shall also be noted in the report (see Special Condition #7) with an explanation why the equipment was not recovered.

17. 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 (see Special Condition #7) with an explanation why the equipment was not recovered.
18. All items (e.g. batteries, data recorders, etc.) removed from instrument packages attached to mooring arrays or platforms must be carried to the surface and stored or disposed of properly ashore. At no time may batteries be exposed to the sea or discarded within the Sanctuary.

Benthic Sampling

19. Collection of benthic samples from the seafloor for marine research purposes is authorized under the following methods:
 - a. box coring
 - b. push coring
 - c. gravity coring
 - d. vibracoring
 - e. hydraulic piston coring
 - f. MBARI rock coring system
 - g. grab sampling
 - h. MBARI suction sampler

Each project shall record in the report the date, number, type, volume, and location of all benthic samples collected for subsequent inclusion in the summary report required by Special Condition #7 of this permit.

20. Use of large-scale coring or drilling devices (e.g. boreholes) is not authorized under this permit. Separate application must be made to the MBNMS for approval of such projects.
21. MBARI is permitted to collect benthic samples for research related to methane hydrates associated with naturally occurring cold seep communities. Coring and benthic sampling activities for commercial purposes, or associated with oil and gas exploration are prohibited.

Explosives

22. Use of explosive charges within the Sanctuary is prohibited except as follows: in the event that a Remotely Operated Vehicle (ROV) becomes anchored to the seafloor during standard operations or catastrophic vehicle control failure, MBARI may use an explosive charge to dislodge the vehicle and retrieve the equipment. The location and description of any such explosive charge in the Sanctuary shall be communicated to the Sanctuary within 24 hours, as well as noted in the summary report (see Special Condition #7) with an explanation.

Cables

23. Permitted activities shall be limited to the following: the continued placement, maintenance and recovery of the existing Monterey Ocean Observing System (MOOS) lightweight electro-optical cable upon the seafloor, located within the vicinity of Monterey Canyon. Also permitted, is the continued placement, maintenance and recovery of the associated moorings and individual scientific instrumentation, including a seismic sensor and associated connectors, and Benthic Instrument Nodes (BIN), placed on the seafloor in conjunction with this project. Installation or replacement of any additional cables upon the seafloor is prohibited and must first be approved in writing by the MBNMS Superintendent.
24. Additional cabled observatories or platforms are not authorized under this permit. Separate application must be made to the MBNMS for installation of such systems.

Davidson Seamount Management Zone

25. Permitted activities within the Davidson Seamount Management Zone (DSMZ) shall be limited to the following:
 - a. Installation, maintenance, and recovery of temporary scientific and education-related equipment and structures in non-sensitive areas (e.g., soft sediment; not dense coral habitats);
 - b. Discharge or abandonment of expendable, degradable equipment that poses no adverse risk to sanctuary resources or qualities. The type and number of such discharges shall be included in the report required by Special Condition #7 of this permit;
 - c. Temporary discharge of autonomous underwater vehicles is authorized, provided all such devices are recovered from the Sanctuary. A description and count of devices unrecovered for each experiment shall be included in the report required by Special Condition #7.
 - d. Small-scale collections for educational, conservation or sanctuary research purposes, consistent with and benefiting sanctuary goals and purposes as described in the DSMZ Management Plan, including:
 - i. Coring of the seabed to collect benthic samples;

- ii. Collection of sediments or non-commercial rocks, minerals, vegetation, or invertebrates;
 - iii. Manipulation, transplantation, or removal of seamount fauna. Only common or abundant seamount fauna shall be collected for experiments (e.g., crabs, clams). Damaged corals shall be collected before intact corals are considered. Small-scale coral collection shall come from dense/abundant groups rather than isolated specimens;
 - iv. Collection of mid-water resources below 3,000 feet;
 - v. Traps shall be submerged for up to 48-hours.
 - e. The location and description of samples collected, or disturbed, in the DSMZ shall be noted in the annual report.
26. Although extracted compounds may have biomedical or other commercial applications, permitted activities are for research purposes only, and not for commercial purposes.
27. To the extent practicable, anchors and anchoring devices shall only be placed in non-sensitive areas (e.g., soft sediment; not dense coral habitats) and 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.
28. These activities 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 Brian Owens at brian.owens@wildlife.ca.gov). Drilling into rock or installing devices may require permission from the California State Lands Commission (contact Grace Kato at 916-574-1227 or grace.kato@slc.ca.gov).
29. The permittee may be required to pay any or all expenses associated with the locating of and/or removal by NOAA or its designee of any equipment that is not recovered by the permittee including possible whale entanglement issues that may require a federal response.

General Terms and Conditions:

1. Within 30 (thirty) days of the date of issuance, the permittee must sign and date this permit for it to be considered valid. Once signed, the permittee must send copies, via mail or email, to the following individuals:

Sophie De Beukelaer
Research Permit Coordinator
Monterey Bay National Marine Sanctuary
99 Pacific Street, Building 455A
Monterey, CA 93940
Sophie.De.Beukelaer@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 ONMS having received a copy signed by the permittee.
3. This permit may only be amended by the ONMS. 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 ONMS 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-2015-002 and be sent to the ONMS officials listed in general condition number 1.
11. This permit does not relieve the permittee of responsibility to comply with all other federal, state and local laws and regulations, and this permit is not valid until all other necessary permits, authorizations, and approvals are obtained. Particularly, this permit does not allow disturbance of marine mammals or seabirds protected under provisions of the Endangered Species Act, Marine Mammal Protection Act, or Migratory Bird Treaty Act. Authorization for incidental or direct harassment of species protected by these acts must be secured from the U.S. Fish and Wildlife Service and/or NOAA Fisheries, depending upon the species affected.
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.



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



Date



Paul Michel
Superintendent
Monterey Bay National Marine Sanctuary



Date