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BODEGA MARINE LABORATORY  
P.O. BOX 247  
2099 WESTSIDE ROAD  
BODEGA BAY, CALIFORNIA 94923-0247

Regional Water Quality Control Board  
5550 Skylane Boulevard, Suite A  
Santa Rosa, California 95403

October 8, 2019

RE: Comments on Draft Waste Discharge Permit Renewal  
Bodega Marine Laboratory, University of California, Davis  
WDID No. 1B840350SON, NPDES Permit No. CA0024333, Place ID 268922

Dear RWQCB:

On behalf of the University of California, Davis and the Coastal and Marine Sciences Institute, the Bodega Marine Laboratory extends its appreciation for the opportunity to be considered for renewal of the facility's waste water discharge permit. The laboratory has made significant investment to ensure that the provisions in the last permit were met, and we intend to uphold the same high standards of compliance as we move forward. We appreciate the willingness of staff to work with us collaboratively in advance to resolve as many issues as possible.

The Bodega Marine Laboratory is part of the Coastal and Marine Sciences Institute within the University of California, Davis. CMSI is a unique organization that catalyzes and coordinates novel interdisciplinary research efforts, undergraduate and graduate educational opportunities and stakeholder collaborations. CMSI leverages UC Davis' physical presence near one of the most productive and economically valuable marine ecosystems in the world; these efforts also included participation in many congressional hearings that ultimately brought about the expansion of the Marine Protected Area.

The scope of CMSI's research programs extends across four colleges and the School of Veterinary Medicine, the School of Law and the School of Management, and reflects our core belief that developing solutions to the unprecedented challenges of restoring and sustaining coastal systems in California and across the globe requires going beyond the traditional bounds of coastal marine science.

The Bodega Marine Laboratory is the primary field research laboratory for CMSI. As the center of UC Davis activities in marine and coastal sciences, both CMSI and the Bodega Marine Laboratory have built a groundwork for new interdisciplinary undergraduate, graduate and professional educational programs; synergized emerging and novel research collaboration across departments, colleges and schools, and established highly productive partnerships with regional, state, federal, non-profit and private organizations.

Enclosed, please find our comments regarding various sections of the newly proposed permit that we would like amended. We would also like to schedule a meeting to further discuss these concerns prior to the December board meeting.

We thank you for the opportunity to review the proposed permit, and remain confident that we can work together to finalize the permit to our mutual satisfaction.

Most sincerely,

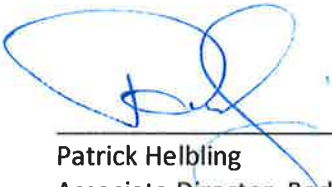


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Dr. Gary N. Cherr,  
Professor, Environmental Toxicology and Nutrition  
Director, Bodega Marine Laboratory

10-8-19

Date



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Patrick Helbling  
Associate Director, Bodega Marine Laboratory

10/8/19

Date

Comments on Draft Waste Discharge Permit Renewal  
Bodega Marine Laboratory, University of California, Davis  
WDID No. 1B84035OSON, NPDES Permit No. CA0024333, Place ID 268922

### Overall BML Comments

To begin, we noticed that much of the new changes in our new proposed permit appear to be based on permit language from the Crescent City Wastewater Treatment Facility No. R1-2017-0002, which is a very different operation than the Bodega Marine Lab (BML). Thus, the proposed permit contains provisions more suitable for an industrial processing waste water treatment plant, but are inappropriate or inapplicable for a marine research facility. The permit referenced can be found at:

[https://www.waterboards.ca.gov/northcoast/board\\_decisions/adopted\\_orders/pdf/2017/170202\\_002\\_CrescentCity\\_WWTF\\_NPDES.pdf](https://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2017/170202_002_CrescentCity_WWTF_NPDES.pdf)

In addition, on page 1, the address listed under "Permittee Information: Facility Address: 2099 Westside Road" is incorrect.

Please revise the permit to reflect the correct street address: 2099 Westshore Road.

1. Proposed Permit Language – Issue #1

Page 7 – V – Receiving Water Limitations

Section V.A.1: *Natural water quality conditions in receiving waters, seaward of the surf zone, shall not be altered as a result of discharges from the Facility. The surf zone is defined as the area between the breaking waves and the shoreline at any one time. Natural water quality shall be defined by Regional Water Board staff in consultation with the State Water Board's Division of Drinking Water (DDW).*

### BML Comment

This paragraph is identical to the last permit with the exception of the last sentence which required consultation with the State Water Board's Division of Water Quality. The proposed permit instead requires consultation with the Board's Division of Drinking Water. BML discharges seawater, not drinking water, so the requirement should therefore remain with the Division of Water Quality.

2. Proposed Permit Language – Issue #2

Section V.A.2: Bacterial Characteristics

*Water-Contact Standards – Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone designated for water contact recreation use by the Regional Water Board, but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column:*

- a) *A 30-day geometric mean of fecal coliform density not to exceed 200 per 100 mL calculated based on the five most recent samples from each site, and a single sample maximum not to exceed 400 per 100mL.*
- b) *A 6-week rolling geometric mean of enterococci not to exceed 30 CFU per 100 mL, calculated weekly, and a statistical threshold value of 110 CFU per 100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.*

#### **BML Comment**

**There is no reason to change standards from the current permit, which are listed below. BML does not conduct research on mammals or birds, but only fish and invertebrates, therefore no coliform should be present. Samples are taken from the ocean near the discharge point, and there would be a possibility of coliform from wild animals in their natural habitat in a sample, but that cannot and should not be attributed to BML.**

- a) *30-Day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location:*
  - 1) *Total coliform density shall not exceed 1,000 per 100 mL;*
  - 2) *Fecal coliform density shall not exceed 200 per 100 mL; and*
  - 3) *Enterococcus density shall not exceed 35 per 100 ml.*
- b) *Single Sample Maximum*
  - 1) *Total coliform density shall not exceed 10,000 per 100 mL;*
  - 2) *Fecal coliform density shall not exceed 400 per 100 mL;*
  - 3) *Enterococcus density shall not exceed 104 per 100 mL; and*
  - 4) *Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1.*

#### **3. Proposed Permit Language – Issue #3**

##### **Page 7 – Section V.A.2.ii – Shellfish Harvesting Standards**

*At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacterial objectives shall be maintained throughout the water column:*

- a) *The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.*

#### **BML Comment**

**BML does not harvest shellfish for human consumption, nor does the public, as they are not permitted access to the reserve, so this section should be removed. BML does not control the wild animals that use the Reserve, marshlands and shoreline as part of their natural habitat, and thus results from testing for coliform would not have any connection to BML activities.**

4. Proposed Permit Language – Issue #4

Page 8 – Section V.A.2.v – Biological Characteristics

- a) *Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.*
- b) *The natural taste, odor and color of fish, shellfish or other marine resources used for human consumption shall not be altered.*
- c) *The concentration of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.*

**BML Comment**

**Again, no harvesting for human consumption occurs at BML by staff or the public, and BML does not conduct any operations in the ocean waters surrounding Bodega Head. This section should be removed.**

5. Proposed Permit Language – Issue #5

Page 11 – Section V,A.3.B – Groundwater Limitations

- 1) *The collection, treatment, storage and disposal of wastewater shall not cause degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements (e.g., Basin Plan) and reasonable BMPs, will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater.*
- 2) *The collection, treatment, storage and disposal of wastewater shall not cause alterations of groundwater that contain chemical concentrations in excess of the MCL and SMCL provisions established for those pollutants in Title 22, division 4, chapter 15, article 4, sections 64431, article 5.5; section 64444; and article 16, section 64449.*
- 3) *The collection, treatment, storage and disposal of wastewater shall not cause groundwater to contain radionuclides in concentrations that cause nuisance or adversely affect beneficial uses, nor in excess of the MCLs and SMCLs established for these pollutants in Title 22, division 4, chapter 15, article 5, sections 64442 and 64443 of the CCR.*
- 4) *The collection, treatment, storage and disposal of wastewater shall not cause groundwater to contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.*
- 5) *In ground waters used for domestic or municipal supply (MUN), the collection, treatment, storage and disposal of wastewater shall not cause the median of the most probable number of coliform organisms over any 7-day period to exceed 1.1 MPN/100 mL or 1 colony/100 mL.*

- 6) *Ground waters shall not contain toxic substances in concentrations that are toxic to or that produce detrimental physiological responses in humans or that adversely affects beneficial uses. This limitation applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances.*

#### **BML Comment**

**Regarding “collection, treatment, storage and disposal of wastewater,” the lab does not collect, treat or store wastewater in the same sense of an industrial processing plant or water treatment plant receiving sewage for processing then disposing of it. This text was taken in large part from the Crescent City Wastewater Treatment Facility R1-2017-0002, pages 13-14.**

**BML has three storm water discharge points: EFF-016 in Horseshoe Cove to the Pacific Ocean; and EFF-003 and EFF-004 into the freshwater marsh. BML does not discharge into groundwater, nor onto land or soil where the discharge could percolate into groundwater. BML’s groundwater does not service any domestic or municipal supply needs, and the lab’s operations of circulating seawater has no impact on groundwater, therefore, monitoring and regulations focused on groundwater should not apply.**

**This was the permit language from the last permit:**

#### **B – Groundwater Limitations**

*Discharges and other activities at the facility shall not cause exceedance/deviation from the following water quality objectives for groundwater established by the Basin Plan.*

- 1) *Groundwater shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.*
- 2) *Groundwater used for domestic or municipal supply shall possess a median concentration of less than 1.1 MPN/100 mL of coliform organisms over any 7-day period or less than 1 colony per 100mL.*
- 3) *Groundwater used for domestic or municipal supply shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) established by the Department of Public Health (DPH) in Title 22 of the California Code of Regulations, section 64443 (Table 4) and listed in Table 3-2 of the Basin Plan.*
- 4) *Groundwater used for domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the MCLs established by DPH in Title 22 of the California Code of Regulations section 64435 (Tables 2 and 3) and section 64444.5 (Table 5), as listed in Table 3-2 of the Basin Plan.*

6. Proposed Permit Language – Issue #6

Page 15 – Section VI.4 – Construction, Operation and Maintenance Specifications

- a) *Proper Operation and Maintenance. This Order (Attachment D, Standard Provision I.D.) requires that the Permittee at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.*
- b) *Operation and Maintenance Manual. The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The Permittee shall operate and maintain the Facility in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following:*
- i. *Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.*
  - ii. *Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.*
  - iii. *Description of laboratory and quality assurance procedures.*
  - iv. *Inspection and essential maintenance schedules for all processes and equipment.*
  - v. *Description of safeguards to assure that, should there be reduction, loss or failure of electric power, the Permittee will be able to comply with requirements of this Order.*
  - vi. *Description of preventative (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.*

## **BML Comment**

This is a new section in the proposed permit; it was not part of the previous permit. This section should be removed for being overly-burdensome. It appears to be written as if the lab were an industrial processing waste water treatment plant. The text is taken directly from the Crescent City Wastewater Treatment Facility permit R1-2017-0002 on pages 17-18.

The University already has requirements for BML to manage its operations and safety programs. Contingency plans are included in the current Emergency Action Plan. The IIPP plan identifies Systems of Communications, Systems for Assuring Employee Compliance with Safe Work Practices, Hazard Identification, Evaluation and Inspection, Accident Investigation, Hazard Correction, and Health and Safety Training. BML is also inspected annually by the Campus' Environmental Health and Safety Department, and the Campus Fire Marshal. The physical property of the lab – pumps, filters, piping, electrical, etc., are inspected and monitored by Campus Facilities. BML contends that existing controls are adequate, as to date, BML has a history of no operational problems.

## 7. Proposed Permit Language -- Issue #7

### Section VI.6 – Other Special Provisions

d. *Solids Disposal. Screenings, sludge and other solids removed from liquid wastes shall be disposed of at a legal point of disposal, and in accordance with the provisions of the Water Code and Title 27 of the CCR. By August 1, 2020, the Permittee shall submit a solids disposal plan to the Regional Water Board. The plan shall describe at a minimum:*

i. *Sources and amounts of solids generated annually.*

ii. *Locations of on-site storage and description of the containment area.*

iii. *Plans for ultimate disposal. For landfill disposal, include the present classification of the landfill, and the name of the location of the landfill.*

### d. *Solids Disposal*

*Screenings, sludge and other solids removed from liquid wastes shall be disposed of at a legal point of disposal, and in accordance with the provisions of the Water Code and Title 27 of the California Code of Regulations.*

## **BML Comment**

This section should be removed as it is overly-burdensome and unnecessary. The only solids that that the lab removes from seawater are organics (chunks of kelp, small crustaceans, broken shells, etc.) that are naturally found in the ocean. The seawater system does not generate sludge or other solids beyond naturally occurring organics. These solids are removed from the seawater before it is pumped through the lab.



8. Proposed Permit Language – Issue #8

Page 20 – VII.H – Bacteriological Limitations

2. **Geometric Mean (GM).** *The geometric mean is a type of mean or average that indicates the central tendency or typical value of a set of numbers by using the product of their values (as opposed to the arithmetic mean which uses their sum.) The geometric mean shall be calculated using the 5 most recent samples from a site using the following formula:  $GM = \sqrt[n]{(x1)(x2)(x3)...(xn)}$ , where  $x$  is the sample value and  $n$  is the number of samples taken.*

3. **Six-week Rolling Geometric Mean.** *The rolling geometric mean shall be calculated using at least 5 sample results over a 6-week period from a site using the following formula:  $GM = \sqrt[n]{(x1)(x2)(x3)...(xn)}$ , where  $x$  is the sample value and  $n$  is the number of samples taken.*

4. **Statistical Threshold Value.** *(1) The data set shall be ranked from low to high, ranking any ND concentrations lowest, followed by quantified values. (2) The number of sample results should then be multiplied by 90 percent then rounded up to the nearest whole number. (3) Count the values in the data set starting from lowest to highest until the number indicated in step (2) is reached. (4) To be compliant with the statistical threshold value in Receiving Water Limitation V.A.2.a.i.b, all sample result less than the point described in step (3) must be less than 100 MPN/100mL.*

**BML Comment**

Three new areas were added to this section pertaining to effluent discharge. These requirements were not included in the last permit, and are not applicable to a seawater circulating facility such as BML.

9. Proposed Permit Language – Issue #9

Page D-7 - Section V – Standard Provisions - Reporting

Section V.E – Twenty-Four Hour Reporting

**BML Comment**

Two additional paragraphs were added to this section for the proposed permit:

1. *The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)*

*For noncompliance events related to combined sewer overflows, sanitary sewer overflows or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow or bypass event), type of overflow structure (e.g. manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.*

*As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Permittee to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows or bypass events under this section. (40 C.F.R § 122.41(1)(6)(i).)*

**BML Comment**

**These two additional paragraphs reference sewer systems and related overflows. BML does not have any sewers, so these paragraphs do not apply and should be removed.**

10. Proposed Permit Language – Issue #10

Page D-8 – Section V – Standard Provisions – Reporting

H. Other Noncompliance

**BML Comment**

**This paragraph was expanded in the proposed permit:**

*The Permittee shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above.*

**New Text Added:**

*For noncompliance events related to combined sewer overflows, sanitary sewer overflows or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Permittee to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)*

**BML Comment**

**As mentioned above, BML does not have any sewers, so this additional text does not apply and should be removed.**

11. Proposed Permit Language – Issue #11

Page E-7 - III. Effluent Monitoring Requirements – Table Notes

8. *The Permittee shall conduct continuous monitoring for total residual chlorine and monthly monitoring for halomethanes when chlorine is used in the seawater system. If Chlorine is not used in the monitoring period, the Permittee shall certify in the quarterly self-monitoring report (SMR) that the use of chlorine-containing agents in the seawater system did not occur during the monitoring period.*

**BML Comment**

**BML no longer uses chlorine, and we would like to cease the quarterly reporting obligation to acknowledge that the use of chlorine-containing agents did not occur. Chlorine stopped being used in 2014.**

12. Proposed Permit Language – Issue #12

Page E-7 Table Notes referencing Table E-4 Effluent Monitoring (Page E6)

14. *The ten metals identified in Ocean Plan Table 1 (i.e., arsenic, cadmium, hexavalent chromium, copper, lead, mercury, nickel, selenium, silver and zinc) shall be monitored twice during the first year of the permit term, once during dry weather and once during wet weather. In accordance with State Board Resolution No. 2007-0058, based on the results from the first year of monitoring, the Regional Water Board will determine the frequency of monitoring for Table 1 metals for the remainder of the permit term; however, the Table 1 metals monitoring shall be required, at a minimum, once per year following the first year of the permit term. Metals shall be analyzed by the approved analytical method with the lowest minimum detection limits (currently inductively Coupled Plasma/Mass Spectrometry (ICPMS) as described in Appendix II of the Ocean Plan (2015). Monitoring requirements for zinc are identified separately in this table, because the Permittee's discharge exhibited reasonable potential for zinc during the term of Order No. R1-2013-0023, therefore the zinc monitoring frequency may not be reduced during the term of this Order.*

**BML Comment**

**On page 5 of the new proposed permit (Table 4 Effluent Limitations) the following parameters were removed: Bis (2-Ethylhexyl) phthalate, Chromium VI, Copper, Lead, Nickel, Silver, Chlorine. In reference to the ten metals described in Table Note # 14 above: arsenic, cadmium, hexavalent chromium, copper, lead, mercury, nickel, selenium, silver and zinc, would imply that we are still obligated to test for these, yet they are not listed in Table 4 of the new proposed permit. Zinc is the only metal that was carried over from the previous permit. Need clarification as Table Note #14 is in opposition with Table 4 Effluent Limitations. The lab should only be obligated to test for zinc.**

13. Proposed Permit Language – Issue #13

Page E-18 – IX. Other Monitoring Requirements

D. Chemical Drug Use

*Annually, the Permittee shall report on chemicals and drugs used for disease used for disease control, disinfection, and health maintenance at the Facility with sufficient information to determine compliance with Discharge Prohibition III.G. Reporting shall include the following information. If no chemicals or drugs are used, the annual report should state, "No chemical or drug use."*

1. Product Name, active ingredients, and reasons for use;
2. Duration of treatment and method of application (batch or continuous);
3. The location where treatment was applied (seawater or freshwater laboratories, etc.);
4. Application rates of products;
5. The amount of medicated feed used, including active medicinal ingredients; and
6. The fate of chemicals and drugs (e.g., discharged, transported off-site, etc.)

**BML Comment**

**This seems overly burdensome and should be removed from the permit. Any chemicals and drugs used in the health of the animals is managed and treated with protocols by isolating the treatment water and disposing it as hazardous waste with the campus' certified waste hauler.**

14. Proposed Permit Language – Issue #14

Page F3 – Attachment F – Fact Sheet

I. Permit Information

*Authorized Person to Sign and Submit Reports – Patrick Helbling, Associate Director (707) 875-1958*

**BML Comment**

**Change to Albert Carranza, BML Lab Manager (707) 875-2016**

[Retain Patrick Helbling as Facility Contact, with same Title and Phone as depicted in previous permit.]

15. Proposed Permit Language – Issue #15

Page F-5 – II. Facility Description

Third paragraph, 4<sup>th</sup> sentence:

*Alarms are activated in the event of a high **sweater** tank level or UV failure.*

**BML Comment**

**Change “sweater” to “seawater.”**

**End of BML Comments**