7/30/07 Public Hearing
Bodega ASBS
Deadline: 7/31/07 Noon

UNIVERSITY OF CALIFORNIA, DAVIS

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TEL: (707) 875-2211
FAX: (707) 875-2009, 875-2089
E-MAIL: ucdbml@ucdavis.edu
http://www.bml.ucdavis.edu

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

July 26, 2007

Dominic Gregorio
State Water Resources Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812-0100

Subject: University of California Davis, Bodega Marine Laboratory
Exception to the California Ocean Plan

Dear Mr. Gregorio:

On behalf of the University of California, Davis Bodega Marine Laboratory (BML), I thank you for the opportunity to comment on the State Water Resources Control Board's ("State Board") Proposed Draft Mitigated Negative Declaration and Initial Study for the exception to the California Ocean Plan ("Ocean Plan") for BML's discharge into the Bodega ASBS.

We appreciate and support staff recommendations that the State Board grant the exception from the Ocean Plan prohibition. Granting the exception will not compromise the protection of *beneficial uses* of the Bodega ASBS and will allow BML to continue in its mission to promote the *public interest* by conducting critically important research and education that provide significant public and environmental benefits.

Background

BML was established in 1960 by the University of California and is dedicated to research and education in the public interest. Its mission is to provide the multidisciplinary scientific understanding required to solve complex environmental problems on the marine and terrestrial sides of the tideline in northern California. BML is one of the larger and older members of the national network of marine laboratories and field stations that provide specialized research facilities. Between 1996-2006, BML served 65 resident scientists and 465 visiting scientists from 193 institutions representing 28 countries. Nearly 1,000 scientific publications resulted from their work. Over the same period, BML offered 554 classes serving 10,473 students. BML's public education reached 91,141 visitors, of which half were from grades K-12. A research unit of the California Department of Fish & Game devoted to shellfish health and marine conservation is deployed at BML, staffed by two CDFG scientists. BML employs a staff of ~100 employees. Our research and educational programs rely on the availability of seawater that is pumped from the Bodega ASBS into classrooms and laboratories where organisms can be sustained, studied, and observed.

Main Points of Concern

We have included specific comments in Attachment A. Our latest results for our reference and seawater discharge metals analyses meet Table B objectives and are summarized in Attachment B. We limit our general comments to one significant issue. The Initial Study generally assumes that background water quality in the ASBS meets Table B water quality objectives. However, there are insufficient data to determine how water quality varies in the ASBS. There are several sources of potential contamination, including the Russian River, Salmon Creek, Bodega Bay and Harbor, Estero Americano, and potentially San Francisco Bay. Visual observations confirm these results for the

Russian River: during the rainy season, a brown plume of river water can be seen offshore of the ASBS. The impairment of water quality in the ASBS that does not originate at BML is a cause for regulatory concern, since it is not feasible for BML to discharge water cleaner than the water we pump into our seawater system.

We request that the language in Terms and Conditions #2 of the Proposed Mitigated Negative Declaration be changed

> from:
> "UCD/BML shall not discharge any constituents at levels in excess of the objectives in Table B water quality objectives as required in Section III.C. of the Ocean Plan."
>
> to:
> "UCD/BML seawater effluent will not cause a violation of Table B water quality objectives as required in Section III.C of the Ocean Plan."

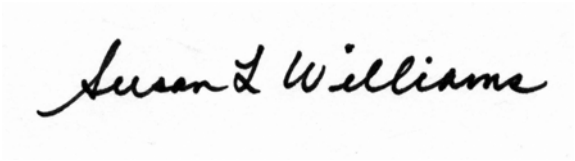
We feel that this change in language would meet the intent of Table B objectives but would not require us to remove constituents that enter the ASBS from external sources.

Conclusion

BML is committed to collaborating with the State and Regional Boards to ensure compliance with the mitigation actions outlined in the exception. We believe that revising the language as proposed will satisfy the requirements established in the Ocean Plan. The beneficial uses of the Bodega ASBS will not be compromised. Public interest will be substantially enhanced by granting the exception, in that significant biological research, oceanographic studies, environmental monitoring, public education and training will continue.

If you have any questions concerning this letter or other items, please feel free to contact me.

Sincerely,



Susan L. Williams, Ph.D.
Professor, Evolution and Ecology
Director, Bodega Marine Laboratory

encl: Attachment A
Attachment B

ATTACHMENT A: University of California Davis Bodega Marine Laboratory's Comments on State Water Resources Control Board's Negative Declaration and Initial Study 7/26/07

#	Page	Paragraph	Text	Comment
			PROPOSED MITIGATED NEGATIVE DECLARATION	
1	Page 1	Item 2	*UCD/BML shall not discharge any constituents at levels in excess of the objectives in Table B water quality objectives as required in Section III.C. of the Ocean Plan.*	We request that the language be changed to "UCD/BML seawater effluent will not cause a violation of Table B water quality objectives as required in Section III.C. of the Ocean Plan." We feel that this change in language would meet the intent of Table B objectives but would not require us to remove constituents that enter the ASBS from external sources.
2	Page 2	Items 12 & 13	*#12 The Results of the survey must be completed and submitted to the Regional Water Board within six months before the end of the permit cycle.* *#13 The results of the survey must be completed and submitted to the Regional Water Board at least six months prior to the end of the permit cycle (permit expiration).*	#12 should be worded the same as #13 to allow for six month review of surveys
			INITIAL STUDY	
3	Page 3	Par 4	*Seasonal marker buoys and moorings were deployed in 2005 to begin delineating the boundaries…..to help inform fishing boats of the location of Refuge boundaries*	One buoy was deployed in 2005. Buoy deployment has been discontinued due to lack of funding.
4	Pages 5-6	Par 9	*In August, Elegant, Forsters, and Caspian Terns may be seen flying or loafing within the harbor. In September, migrating shorebirds arrive. In November, Eurasian Wigeon can be found in the harbor. Emperor Goose and Steller's Eider can also be found. Late in November, Rough-legged and Ferruginous Hawks may be seen. In July, non-breeding loons, Willets, Marbled Godwits, and occasional early migrating phalaropes, are found in the mudflats of the harbor. Also in July, early migrating shorebirds, such as Semipalmated Plovers, Black and Ruddy Turnstones, and pelicans, especially 'White' on UCD/BML mudflats. Baird, Buff-breasted, and other species of Sandpipers arrive at the mudflats in late August. Migratory birds arrive in the mudflats in September and leave in March and April for migration (MAS 1997).*	This paragraph was taken from a source that describes the potential for rare bird sightings. It should not be considered an appropriate description of the prevailing bird community.
5	Page 6	Par 6	*The intertidal and subtidal topography near the northern portion of the ASBS (west of Mussel Point) is much more rugged than the area near the cove in the **northern** portion, well-defined, wave-cut features are not as evident.*	**Replace** area near the cove in the "northern" portion **with** area near the cove in the "**southern"** portion in
6	Page 6	Par 7	*The intertidal and subtidal substrate of the section of Salmon Creek **each** included in the ASBS has been mapped as fine sand.*	**Replace** each **with B**each

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#	Page	Paragraph	Text	Comment
7	Page 8	Par 4	*Coastal current velocities and directions are largely influenced by local wave activity.*	Although waves do play a part, coastal current velocity and direction are predominantly influenced by wind speed and direction.
8	Page 8	Par 5	*Salinities in the area are generally constant and range from 33 to 34 percent.*	Salinities in the area range from 32 to 34 parts per thousand (not percent). Salinities as low as 28 parts per thousand (ppt) in 1997 and as high as 35 ppt (1991, 1994) have been documented. (Reference: UCSD Scripps Institution of Oceanography Shore Stations Program and Bodega Ocean Observing Node)
9	Pages 8-9		*Water Quality and Temperature Section*	No mention of the Russian River, a major drainage 8 miles north of Bodega Marine Laboratory. During high flows, the Russian River plume is visible offshore of the ASBS.
10	Page 9	Par 2	*Bodega Bay discharges to the ocean one mile from the southern boundary of the ASBS. Bodega Bay is a harbor and vessel wastes are associated with harbor waters.*	Bodega Bay is the body of water outside of Doran Beach and the embayment is called **Bodega Harbor. Replace with "***Bodega* ***Harbor*** *discharges to the ocean one mile from the southern boundary of the ASBS.* ***Vessel wastes are associated with harbor waters.***
11	Page 9	Par 6	*The closest wastewater treatment facility is the Mendocino County Wastewater District.*	The closest wastewater treatment facility is Bodega Bay Public Utilities District Wastewater Treatment Plant, and there are several others that discharge into the Russian River.
12	Page 9	Par 9	*(Referring to the California Mussel Watch Program) At Bodega Head ASBS Station, results for four metals (cadmium, mercury, copper, selenium), at times indicated elevated levels above the EDL 85. Of the 36 metals analyses performed, 16 results for cadmium and two results for copper, nickel, mercury, and selenium were above the EDL 95 during the period 1986 to 1999.*	The Mussel Watch Station at Bodega Head is not located within the boundaries of the Bodega ASBS. The sampling station is located on the southwestern tip of Bodega Head approximately 0.5 miles from the southern edge of the ASBS.
13	Page 10	Par 5	*Phaecophyta*	Spelled "**Phaeophyta"**, no c
14	Page 12	Par 2	*Salt water fleas (Amphipods) reach great abundance at all intertidal levels. Because of the difficulties they pose for the non-expert, no attempt has been made to identify them.*	That statement applied to a specific study in 1979. Over BML's history, many scientists have studied and identified local amphipods.
15	Page 12	Par 9	*Locally, there are three genera of limpets found intertidally; especially common are species of* *Collisella* *and* *Notoacmea*	Collisella and Notoacmea are now called *Lottia*
16	Page 18	Par 9	*Sport fishermen in charter boats and private boats likewise normally work well outside the area of the preserve. UCD/BML staff routinely observes these boats fish up to and often cross over the BMR boundaries.*	The first sentence, written in 1979, is contradictory to the next sentence.. **Replace sentence with** "Sport fishermen in charter boats and **most** private boats ~~likewise~~ normally work ~~well~~ outside the area of the preserve. UCD/BML staff routinely observes **sport** boats fish up to and …"

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#	Page	Paragraph	Text	Comment
17	Page 20	Par 4	*It is not unusual to see several individuals of this species (harbor seal, P. vitulina) on any particular day, and individuals appear to maintain favorite hauling places within the ASBS*	We see dozens of harbor seals within the ASBS. Replace beginning of sentence with "It is not unusual to see several dozen individuals of this species.
18	Page 21	Par 1	*In 1980, a Cuvier's beaked whale,*	In 1985
19	Page 46	Par 1	*After treatment, the effluent is exposed to gaseous hydrogen sulfide as a dechlorination process.*	We use sulfur dioxide gas for dechlorination, not hydrogen sulfide
20	Page 47	Par 1	*In February 2001, a temperature monitor was placed*	In February **2007**
21	Page 52	Par 1	*Caulerpa was in culture at the lab, but has since been removed to prevent inadvertent release.*	Caulerpa was grown between 2000-2002 in a quarantine facility permitted by the CA Department of Food and Agriculture, which required no drainage from the facility and highly restricted access. The research conducted in the facility was devoted to Caulerpa eradication techniques for the California Department of Fish & Game. All Caulerpa was destroyed according to permit requirements.
22	Page 55	Page 55	*Two other species of abalone, white (H. sorenseni) and black (H. cracherodii) abalone are also known to occur at Bodega ASBS.*	The northern boundary of the historical range for white abalone is well accepted as Point Conception, California. No white abalone have occurred within the Bodega ASBS in modern times. In the DFG Shellfish Health Lab, we are holding white abalone that were spawned in southern California several years ago. They do not become gravid under our holding conditions, and if they were to spawn, the chlorination treatment of the effluent from this facility would kill any developing larvae. The authors may have mistakenly stated white abalone (H. sorenseni) when they meant flat abalone (H. wallalensis), which does occur in this area (the name wallalensis refers to Gualala). The flat abalone is not listed as endangered or as a candidate for listing (Dr. Jim Moore, Senior Fish Pathologist, Department of Fish & Game).

ATTACHMENT B: University of California, Davis Bodega Marine Laboratory Analysis of Table B Objectives 7/26/07

Bodega Marine Laboratory **REFERENCE** **DISCHARGE**

All results in ug/L Samples A (lab duplicates) & B Samples C & D

Component	Ocean Plan 6 Month Median (ug/L)	Site	Mussel Point					Seawater Discharge	
		Date	7/10/2007					7/10/2007	
		Lab ID	BML-A	BML-A	BML-A	BML-B		BML-C	BML-D
		Time	11:17	11:17	Average	11:20		11:41	11:42
Arsenic	8		1.46	1.45	1.46	1.43		1.42	1.41
Cadmium	1		0.048	0.047	0.048	0.055		0.048	0.074
Chromium (total)	2		0.48	0.46	0.47	0.52		0.76	0.72
Copper	3		0.11	0.09	0.10	0.11		0.74	1.16
Lead	2		0.019	0.017	0.018	0.023		0.059	0.089
Mercury	0.04		nd	nd	nd	nd		nd	nd
Nickel	5		0.285	0.222	0.254	0.320		0.691	1.22
Selenium	15		nd	nd	nd	nd		nd	nd
Silver	0.7		nd	nd	nd	nd		nd	nd
Zinc	20		nd	J 0.005	--	0.367		0.94	0.68

nd = not detected

J= Analyte was detected at a concentration below the reporting limit (0.01 ug/L) and above the laboratory method detection limit (0.005 ug/L). Reported value is estimated.

Analysis performed by CRG Marine Laboratories, Inc.