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HARBOR, RECREATION, AND CONSERVATION
DISTRICT

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MAR 09 2010
DIVISION OF WATER QUALITY

March 4, 2010

Darrin Polhemus
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

RE: Request for conditional waiver of fish cleaning station discharge at the King Range Area of Special Biological Significance.

Dear Mr. Polhemus,

Over the past two years, staff from the Humboldt Bay Harbor, Recreation and Conservation District (District) and the State Water Resources Control Board (SWRCB) have discussed and explored various alternatives to handle the existing discharge from the fish cleaning station at Shelter Cove. To date, the following alternatives have been examined:

1. Closing the fish cleaning station: Prior to construction of the fish cleaning station, and when the station has been temporarily closed, it has been documented that fish carcasses are scattered on public beaches and along roadways. This creates a nuisance and potential health hazard to the residents and visitors of Shelter Cove. As ocean fishing is one of the main attributes and socioeconomic draws to this community, a fish cleaning station in this location is essential to the community and to addressing public health concerns.
2. Sewering the fish cleaning station effluent: This was found to be infeasible because the existing sewer system can not accept this type of waste and the estimated cost for necessary upgrades or replacement of the system would greatly exceed $1,000,000.
3. Collecting the fish cleaning station effluent, holding it, and transferring it to a commercial composting or fertilizer operator: This was found to be economically infeasible due to (1) the seasonally sporadic use of the fish cleaning station; (2) inconsistent volume availability; and (3) the long distance between Shelter Cove and any commercial composting or fertilizer operator. Local composting and fertilizer operators are not interested without continual subsidies. Furthermore, expensive improvements would be required to allow for storage of effluent.

Currently, the only reasonable alternative is to maintain the existing fish cleaning station. It is unknown (and unlikely) that the fish cleaning station has any significant biological impacts. In fact, as noted in previous correspondence, former North Coast Regional Water Quality Control Board staff have found this discharge appropriate and insignificant. Therefore, we are requesting a conditional waiver for the fish cleaning station discharge. The conditions that the District proposes are:

1. A qualified biologist will monitor the biological community at the fish cleaning station discharge site. The monitoring will be guided by a Shelter Cove Fish Cleaning Station Biological Monitoring Plan, a draft of which is attached. This plan will be subject to review and approval of the SWRCB and all monitoring results will be reported to the SWRCB. If the fish cleaning station is found to have a significant biological impact then it may be closed to protect the local biota.
2. Continued best management practices in the operation of the fish cleaning station that include:
    a. Discharges will only occur during ebb tides and never at low tides.
    b. Cleaning materials will only be those such as Simple Green or other biodegradable cleaners approved for use in this situation.

We believe that we have made a good faith effort using District resources to explore alternatives, and feel we have come full circle. We believe that the conditions we have proposed meet the intent of the Ocean Plan to protect ocean resources.

Sincerely,

David Hull

David Hull
Chief Executive Officer

CC. Peter H. Weiner Esq.

Shelter Cove Fish Cleaning Station

Draft Biological Monitoring Plan

This goal of biological monitoring will be to assess any changes to intertidal biological communities that have resulted (or will result) from the fish cleaning station. To achieve this, a site near the project (Project Site) and a Control Site which is further from the project will be sampled. Initially, sampling will occur once a year for three consecutive years. The purpose of the first three years of sampling will be to determine if there is a significant difference in the biota between the Project Site and Control Site that can be attributed to historic outfall from the fish cleaning station. After the initial three years of sampling, future sampling will occur once every five years to determine if future outfall from the fish cleaning station is having a significant impact on biota. The methods are adopted, with permission, from the report Written Summary of Intertidal Biological Data for the Duxbury Reef Area of Special Biological Significance, Bolinas, CA[1].

Sampling Locations

As depicted in Figure 1, the Project Site is approximately 40 meters south of the breakwater and the Control Site is approximately 140 meters to the south. There is a small point between the Control Site and the fish cleaning station which will also reduce any potential influence from the fish cleaning station outfall.

Establishment of Transects

The sites will be sampled using a series of parallel transect lines that extend from the high zone to the low zone. To facilitate the setup of these lines, two permanent 30m horizontal baselines (parallel to the ocean) will first be established. The first baseline will be placed in the high zone above the upper limit of organisms, while the lower baseline will be established farther down the shore. The geographic location of the ends of these lines will be recorded using a global positioning system (GPS) with sub-meter accuracy. Once these two baselines have been established, 20 meter long parallel transects will be run down the shore every three meters along the upper base line. To facilitate resurveys of the site, a map will be drawn showing the locations of the transects; GPS coordinates of the end of each transect will be recorded; pictures will be taken; and the compass heading of the transects will be recorded.

[1] Raimondi P. 2008. Written summary of intertidal biological data for the Duxbury Reef Area of Special Biological Significance (ASBS), Bolinas, CA. University of California, Santa Cruz, Center for Ocean Health, Long Marine Lab, 100 Shaffer Road, Santa Cruz, CA 95060.

Figure 1. Location of biological monitoring Control Site and Project Site.

Point Contact Surveys

Each vertical transect will be sampled using the point intercept method. One-hundred points will be sampled on each transect line, so the interval between points will be 20 cm. For each point, two types of data will be collected: data that are used to determine relative abundance (% cover), and data that are used to describe spatial distributions. The relative abundance data will be collected by identifying all taxa that fall directly under each point, including rock and sand. If there is layering, the taxa occupying the different layers will be identified and assigned a letter: A for the top layer, B for the second layer, and C for the third. If the point falls on an epibiont living on a recognized host species (Table 1), the epibiont will be denoted by the letter E and the host by the letter H. Also recorded will be whether the species under the point are found in pools, on cobble, or on boulders. A total of up to three taxa will be identified under each point.

If fewer than three taxa are recorded under a point, then data will be collected on the identity of the next one or two closest to that point (Table 2). These data will be used to describe the spatial distribution of species, and not used when calculating relative abundance. These "nearby" species must be different than those found under the point, and must fall within a circle centered over the point with a radius half the length of the sampling interval. Closeness will be determined by location on the primary substrate. If all "nearby" individuals are the same taxa as that found under the point, or there are no other "nearby" species, "none" will be recorded. If the nearby species is an epibiont on a recognized host (Table 1), the host will be denoted by the letter H and the epibiont the letter E. Again, a note will be made of whether these nearby species are found in pools, on cobble, or on a boulder.

Table 1. List of recognized hosts.

Balanus crenatus	*Lottia gigantean*
Balanus glandula	*Megabalanus californicus*
Bossiella spp	*Mytilus californianus*
Calliarthron spp	*Mytilus galloprovincialis/trossulus*
Corallina spp	*Petaloconchus montereyensis*
Dendropoma lituella	*Phragmatopoma californica*
Dodecaceria fewkesii	*Pollicipes polymerus*
Haliptylon gracile	*Psuedochama exogyra*
Jania crassa	*Semibalanus cariosus*
Jania tenella	*Serpulorbis squamigerus*
Lithothrix aspergillum	*Tetraclita rubescens*

Table 2. Number of "nearby" species recorded.

Taxa Recorded Under Point	Number of "Nearby" Species Recorded
One taxa (can either be an organism or bare space)	Two additional species
Two layers, with the bottom layer being bare space	Two additional species
Two layers, both of which are organisms	One additional species
Epibiont and Host	One additional species
Three layers, with the bottom layer being bare space	One additional species
Three layers, all of which are organisms	No additional species

Vouchers

If a species cannot be identified in the field, it will be assigned a number and a sample of it will be collected. Samples will be labeled with the date, site, name of sampler, transect line on which it is found, and the number assigned to it. Samples will be collected in seawater and either immediately pressed (algae), or

either desiccated or preserved in alcohol (invertebrates). Samples will be identified using appropriate keys.

Mobile Invertebrate Quadrat Surveys

The abundance of mobile invertebrates will be determined in 50 X 50 cm quadrats placed at three locations along each transect. Each transect will first be divided into three definitive biological zones (e.g., a low, middle and high zone with unique biota). Within each zone a quadrat will be randomly placed on the transect and all mobile species found with the quadrat will be identified and counted. A random number table will be used to select a number which represents the location (in meters) along the transect line where the quadrat will be placed. If a definitive high, mid, or low biological zone does not exist, one of the following protocols will be followed: (in order of preference) 1) the quadrat may be offset from the transect line in order to capture the missing zone; 2) only two quadrats will be sampled on the transect. Sub-sampling may be used when there are more than one hundred individuals of one species in a quadrat. If the location of a quadrat is in a deep pool or in an area dominated by sand, a new location will be selected. The only mobile species not counted will be worms (*Neomolgus littoralis*) and amphipods.

Swath Counts

Sea star abundance will be measured along a two-meter swath centered over each vertical transect. Within this swath, the abundance and location along the transect (to the nearest .5m) of the following sea stars will be recorded. *Asterina miniata*, *Dermasterius imbricata*, *Echinaster* spp, *Evasterias troschelii*, *Heliaster kubinijii*, *Henricia leviuscula*, *Pharia pyramidata*, *Pisaster ochraceus*, *Pisaster giganteus*, and *Pycnopodia helianthoides*. Sea stars measuring less than 5 cm in total length will not be counted. Species of *Leptasteria* will not be counted because these smaller sea stars will be well represented in the quadrat surveys. Abundance and location will also be recorded for individuals of *Cryptochiton stelleri*, *Haliotis cracherodii*, and *Haliotis rufescens*. The locations of any surge channels or pools that cannot be searched will be noted.

Photo Monitoring

To monitor visual changes to the project site, and to ensure that project implementation adheres to the plan, photos will be taken before construction, during construction and during each biological monitoring activity. Pictures will be taken from the fish cleaning station, which provides a good vantage point of the site.

Data Reporting

Upon completion of breakwater rehabilitation and biological monitoring, a report which presents and analyzes the collected data will be prepared. Changes in the biological communities between Sampling Event 1 and Sampling Event 2 will be analyzed to determine if breakwater rehabilitation affected the biological communities. Specifically, if there is a significant change in the number of species present or percent cover of individual species at the Project Site, and these changes are not noted at the Control Site, than the changes may be attributed to breakwater rehabilitation. Photos will also be analyzed to assess any changes in the biological community.