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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

1 June 2003

Dennis A. Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street
Suite 200
Los Angeles, CA 90013

College of Letters, Arts
and Sciences

Wrigley Institute for
Environmental Studies

Dr. Anthony F. Michaels
Director

Dear Mr. Dickerson:

On 12 October 2000, the Los Angeles Regional Water Quality Control Board adopted a National Pollutant Discharge Elimination System permit (Order No. 00-140) for the discharge of our seawater aquarium overflow into Big Fisherman Cove. Recently, the 2002 California Ocean Plan, *Section III.E.1*, prohibited all point source discharges directly into Areas of Special Biological significance.

We seek an exception to the prohibition, granted by the State Water Resources Control Board (under the Ocean Plan, *Section III.I.1*), because we are confident that such an exception "will not compromise protection of ocean waters for beneficial uses, and, [t]he public interest will be served". We submit our request for an exception for review by the State Board, which must hold a public hearing and comply with the California Environmental Quality Act and concur with U.S. Environmental Protection Agency regulations.

We request that the Regional Board assist us in requesting an exception from the Ocean Plan from the State Board. We identify the applicable Ocean Plan provision as *Section III.H.2* (the ASBS discharge prohibition). I am a marine biologist (Ph.D, University of California at Berkeley, 1987).

Justification

In 1965, the Philip K. Wrigley Marine Science Center (WMSC) was established (as the Catalina Marine Science Center) when the Wrigley family granted the University of Southern California 14 acres of land at Big Fisherman Cove. The lab was built in 1969-70 and has supported research, school and college education and public outreach ever since. The Wrigley and Offield families have continued its commitment to the WMSC through the Wrigley Institute for Environmental Studies, established in 1995 at the University of Southern California. The Wrigley and Offield families have also played the leading role in terrestrial conservation through the Santa Catalina Island Conservancy, which oversees, protects and restores more than 85% of the island.

Because of the close proximity of the lab to the CMSCMLR, we are very careful about the effect of our activities on the Refuge. The quality of water around Catalina is superb. For example, Dr. Donal Manahan's research program addressing the development of fragile and sensitive invertebrate larvae is based at WMSC in the summer to take advantage of this pristine water source. Our seawater system pumps clean ocean water from our intake pipes, holds it briefly in a settling tank to remove suspended particles, then holds it in a tank on the ridge above the lab, from which it is delivered via gravity to seawater tables in the lab, touch tanks adjacent to the lab and holding tanks at the waterfront. Effluent flows via pipes and a gutter back to the north corner of Big Fisherman Cove (BFC). This system has been in place and functioning for more than 30 years.

As research lab manager in charge of research at WMSC, it is my job to oversee the use of sea tables, tanks and flowing seawater. I conscientiously enforce the policy that NOTHING enters the sea tables except organisms, food for organisms, and clean rocks. No non-native plants or animals are allowed in our sea tables. Experiments that require the addition of chemicals (non-toxic only) are conducted in recirculating baths, not flow-through sea tables. Scientists, students and the public wash their hands before handling creatures held in our flowing seawater.

During the summer, the effluent is typically 1-2 degrees warmer than open water (which is 10-20 degrees C, varying seasonally), and has the same pH (about 7.0) and salinity (about 33 ppt) as open coast water. It is discharged into BFC above the high tide line, where it flows under the rocky beach into the cove. This part of BFC is also typically a few degrees warmer than the rest of BFC because of its shallow depth and protection (via the dock and the adjacent rocky wall) from direct ocean swell. The area where the discharge enters supports a small but typical beach terrestrial flora (e.g., *Suaeda taxifolia*). There is no evidence at the tide line or below of any effect of the effluent on the cove. The waters of the cove are not discolored, rendered turbid, nor are sediments disturbed by the discharge of effluents. There is no physical evidence of effluent on the beach, rocks or water.

This portion of the cove is unusual because it is shallow (less than 2 m depth, falling gradually to greater depths near our floating dock). This is unusual, since much of the coastline of Catalina is nearly vertical, falling rapidly away to deep water. This special condition has encouraged colonization by schools of leopard sharks (*Triakis semifasciata*) that occupy the shallows for most of the year. It is thought that female leopard sharks seek shallow warm coves to enhance the rate of development of their embryos; currently, we have a graduate student studying the sharks to test this behavioral thermoregulation hypothesis. She will be constructing temperature records as well as documenting behavior. Clearly, the effluent has not negatively affected this species, or other species that occupy the cove. The fucal seaweed *Sargassum muticum* and scattered kelp, *Macrocystis pyrifera*, grow in the cove on scattered rock substrates. Many other species of fish (e.g., *Chromis punctipinnis*, *Hypsopops rubicundus*, *Girella nigricans*, *Lythrypnus dalli*, *Paralabrax clathratus*) can also be found in this part of the cove – species identical to those in other parts of BFC. There are no objectionable blooms or degradation of the plant and animal life.

We have long-term temperature records at our intake pipes (collected by the Catalina Conservancy Divers, a volunteer group) that are available upon request.

Our lab is a popular destination for researchers, students and interested public. Conservation is a central theme at the WMSC, in research and education. We are committed to promoting research that takes advantage of our pristine coastline and water, and would never compromise our mission or the creatures that live in our front yard. Thirty years on the shores of BFC have provided experience and sensitivity for protecting and conserving our marine reserve. I would be the first to put a stop to any effluent that would negatively impact our water quality, marine communities and species. This I guarantee.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Kathy Ann Miller". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Kathy Ann Miller, Ph.D
Wrigley Marine Science Center
University of Southern California