

CALIFORNIA COASTAL COMMISSION

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REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Th 9g

Application No.: 6-99-75

Applicant: International Jet Sports Boating Association (IJSBA)

Description: Installation of temporary structures for 1999 IJSBA Jet Ski World Finals to be held on October 10 - 17, with set-up and take-down extending from Oct. 1 - 20, including placement of buoys and a starting tower in the water, a controlled entry gate for paid on-site parking/admission charge, the erection of bleachers, a concert stage, portable toilets, inflatables, fencing, bicycle/skateboard ramps, vendor booths and parking areas.

Zoning	Mission Bay Park Master Plan
Plan Designation	Recreation
Ht abv fin grade	35 feet

Site: Mission Bay west of Fiesta Island and the western portion of Fiesta Island, Mission Bay Park, San Diego, San Diego County.

Substantive File Documents: Certified Mission Bay Park Master Plan; City of San Diego Mitigated Negative Declaration LDR No. 99-0398; U.S. Geological Survey New Release "Research Reveals Link Between Development and Contamination in Urban Watersheds", March 31, 1998; Environmental Protection Agency's Office of Wetlands, Oceans, and Watershed, URL: <http://www.epa.gov/owow/oceans/airdep/air3.html>.

STAFF NOTES:Summary of Staff's Preliminary Recommendation:

Staff is recommending approval of the proposed jet ski races. Although personal watercraft have been documented to be associated with impacts to air and water quality, the proposed races would contribute a relatively small increase in the number of jet ski operating hours and their associated impacts in Mission Bay. Special Conditions placed on the project require pre- and post-race water quality monitoring, and eelgrass avoidance, monitoring and mitigation. As conditioned, the project will minimize impacts

to sensitive resources. Concerns raised by the public include the impact the project will have on water quality and sensitive biological resources.

PRELIMINARY STAFF RECOMMENDATION:

The staff recommends the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit for the proposed development, subject to the conditions below, on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions.

See attached page.

III. Special Conditions.

The permit is subject to the following conditions:

1. Eelgrass Survey. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the written approval of the Executive Director, an eelgrass survey which shall include the following components:

- a. Identification of the length, width, and density of the eel grass beds in front of and within 100 feet north and south of the proposed pit area as shown on Exhibit 2, and seaward to a depth of 10 feet MLLW
- b. Identification of potential mitigation site(s)
- c. Identification of the area where the starting tower and water entry points will be located and delineated to verify that that the starting tower and water entry points will be located in areas without eelgrass.

2. Eelgrass Mitigation and Monitoring Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and written approval of the Executive Director, a mitigation and monitoring program, for all identified eelgrass impacts which shall include the following components:

- a. Within 30 days after completion of race activities, a post-race eelgrass report will be conducted by a qualified biologist and submitted to the Commission.
- b. The post-race report shall identify the amount of eelgrass impacted by the project based upon comparison of the pre- and post-construction surveys. The report shall also include a restoration schedule and an estimate of the square footage of area to be replanted.
- c. Eelgrass impacts shall be mitigated by replanting eelgrass at the project site at a ratio of 1.2 square feet of mitigation area for each square foot of area impacted.
- d. Prior to commencement of the mitigation/transplant, the applicant shall obtain final approval for the method of transplant from the California Department of Fish and Game (CDFG). The replanting of eelgrass shall be completed within three months of the completion of the post-construction survey.
- e. Monitoring surveys of the replanted area(s) shall be conducted at intervals of 6, 12, 24, 36, and 60 months post-planting, and submitted to the Commission.
- f. Monitoring shall include an analysis of any declines or expansion of the site based on physical conditions of the site and plants, as well as any other significant observations which are made. The reports must provide a prognosis for the future of the eelgrass bed.
- g. Areas that do not meet the following success criteria must be revegetated and again monitored for another 5 year period until the final goal is met:
 - A minimum of 70% areal coverage and 30% density after the first year
 - A minimum of 85% areal coverage and 70% density after the second year
 - A minimum of 100% areal coverage and 85% density for the third, fourth, and fifth years.

The permittee shall undertake the development in accordance with the approved mitigation and monitoring report. Any proposed changes to the approved plan shall be reported to the Executive Director. No change in the plan shall occur without a Commission-approved amendment to the permit unless the Executive Director determines that no such amendment is required.

3. Water Quality Monitoring Program. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and written approval of the Executive Director, a water quality monitoring program which shall include testing the water at the subject site within 30 days prior to the start of the event (i.e., by October 1), and within 30 days after the completion of the event (i.e., by November 30). Said program shall include an evaluation of the differences in water quality between the pre- and post-race event results.

4. Traffic Control. The road around Fiesta Island shall remain open to the general public and free public access to the southeast portion of the island for fishing, jetskiing, and for persons using the Youth Aquatic Center and group camp area must be maintained throughout the event.

5. Term of Permitted Activity. This permit authorizes the 1999 IJSBA World Finals only. All future events require a separate coastal development permit, unless exempt from permit requirements. The permittee shall contact the San Diego District Office to determine whether any future event is exempt from permit requirements. All temporary improvements shall be removed from the site by October 20, 1999, and the site fully restored to pre-event condition.

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description. The proposed project is the International Jet Sports Boating Association (IJSBA) World Finals personal watercraft races. The race is proposed to be held off the western shore of Fiesta Island and the eastern shores of Government and Ski Islands in Mission Bay, in the City of San Diego. The event itself would take place from October 10-17, 1999, with set-up for the event beginning October 1, and clean-up lasting through October 20, 1999. The actual race area in the water would be closed to public use from October 7 to October 19. The proposed temporary event requires a coastal development permit because the 20-day (total) event does not qualify as an event of "limited duration" defined as "a period of time which does not exceed a two week period on a continual basis," in the Guidelines for Temporary Events adopted by the Commission 1/12/93.

The jet ski competition area would consist of a practice area, closed course racing around a roughly circular course marked with buoys, slalom racing around nine stationary buoys, slalom racing around nine stationary buoys and free-style competition. The event area would be marked off with perimeter buoys. A 30-foot tall starting tower supported by four, 1-foot by 1-foot pilings would be located in Mission Bay.

On-shore events would be located on the western side of Fiesta Island and would consist of a parking area, a 300-foot long pit area and bleachers along the shore, signage, a concert stage, bicycle/skateboard ramps, approximately 90 vendor booths, portable toilets, inflatables, fencing and a VIP/media area. Parking would be located on a 65-acre area, a portion of which has been used in the past for other event parking; the rest of the parking would be provided on a landscaped area where sewage sludge beds were previously located.

In May 1994, the Commission approved a similar jet ski event held by the IJSBA on Ski Beach on the east side of Vacation Isle, Mission Bay; however, this event was much more limited in scale, taking place only over two days in June, with an additional two

days of set-up time (#6-94-59). The permit was approved with special conditions requiring submittal of a final parking program and documentation of the level of attendance at the event and any parking problems. Prior to 1994, the event had been held at that same location for three years, however, 1994 was the first time a parking/admission charge was proposed, and was the first year the Commission asserted jurisdiction over the event. In April 1995, the Executive Director determined that since the 1995 event was essentially the same as the previously approved event (same location, duration, season, and operating conditions) it could be excluded from coastal development permit requirements.

Although the Commission has certified a land use plan (the Mission Bay Park Master Plan) for the Mission Bay segment of the City's LCP, there are no implementing ordinances in place as yet for this area. Thus, the entire park remains an area of deferred certification, and Chapter 3 of the Coastal Act is the standard of review.

2. Environmentally Sensitive Habitats/Marine Resources/Water Quality. The following Coastal Act policies, which address the protection of sensitive habitats, are most applicable to the subject development proposal and state, in part:

Section 30230

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored....

Section 30240

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Until the late 1940's, Mission Bay was a shallow, unnavigable marsh supporting saltwater, swamp, and mud flat habitats. Most of Mission Bay Park was created during the 1950's through a massive operation involving dredging and filling 25-million cubic yards of sand and silt to create the landforms in the Bay. The park is a regional destination for water recreation, picnicking, walking, and bicycling. It also hosts a number of commercial operations including a major aquatic park (Sea World), resort hotels, recreational vehicle camping, and not-for-profit leases such as youth camping and sailing facilities.

In addition, there are a variety of sensitive biological resources present in San Diego Bay. There are seven Least Tern nesting sites; those near Fiesta Island include existing and proposed nesting sites on FAA island and at the north end of Fiesta Island, and on Stony Point at the south tip of Fiesta Island. There are eelgrass meadows growing on the low intertidal to high subtidal slopes throughout the bay. Coastal salt marsh habitat includes the Northern Wildlife Preserve in the northeast section of Mission Bay.

In recent years, there have been growing concerns regarding the contribution personal watercraft make to air and water pollution. Most jet ski-type watercraft are conventional "two-stroke" design that burn fuel inefficiently and discharge up to 30 percent unburned fuel into the air and water environment. According to the California Environmental Protection Agency's Air Resources Board (ARB), a 100-horsepower personal watercraft operated for seven hours emits more smog-forming emissions than a new car driven more than 100,000 miles. San Francisco Bay, Lake Tahoe and other National Parks, and San Juan County (Washington State) are among areas where jet ski use has been banned or restricted, at least temporarily, because of environmental concerns.

In December 1998, the ARB adopted regulations requiring new engines and watercraft sold in 2001, and thereafter, to meet more stringent emission reduction standards. There are no requirements to modify or retrofit engines or watercraft sold prior to 2001. It is anticipated that the majority of the watercraft involved in the proposed event will not meet the most-recently adopted emission standards.

Water Quality/Air Quality

The Mission Bay Park Master Plan designates an area southeast of Fiesta Island in the South Pacific Passage for jet skis-only, but jet skis are not prohibited from using a number of other areas in the bay, including the area west of Fiesta Island where the proposed races would take place. The City of San Diego conducted an environmental initial study and adopted a Mitigated Negative Declaration (MND) for the project. The City attempted to first estimate the amount of fuel/oil discharge that is currently discharged into Mission Bay as a result of personal watercraft activity, and second, to determine how much discharge would occur as a result of the proposed event.

Based on an informal survey of boating activity conducted by City lifeguards during two days in August 1997, the City estimates that during the summer months, average weekday usage of jet skis is 98 jet skis, and average weekend-day use is 253. The City

assumed four operating hours per jet ski, thus, average weekday jet ski operating usage would be 392 (98 x 4) hours and weekend use would be 1,012 (253 x 4), for a total of 3,984 hours over a one-week period.

The City obtained information from the ARB indicating that a typical jet ski consumes five gallons of gasoline per hour and discharges 20% to 30% of the fuel/oil mixture unburned into the water. Thus, the City estimates that existing jet ski discharge into the bay is 5,976 gallons a week (3,984 hours x 5 gallons per hour x 30% = 5,976 gallons per week).

The City then estimated that the proposed project would result in 2,576 hours of jet ski operation over the eight-day event period. At 12 gallons per hour, the event would use 30,912 gallons of gasoline and, at a 30% unburned discharge rate, the City estimates that the event would discharge 9,275 gallons of unburned fuel into the bay over the eight-day event.

Although the City has indicated that the project applicant provided the estimate of 2,576 hours of jet ski operation, it is important to note that the applicant has stated that they do not agree with the City's calculations. In material submitted to staff, the applicant contends that the actual amount of hours during which jet skis would be in the water, including practice time, would be far less than 2,576 hours, and thus, much less than 30,912 gallons of gasoline would be consumed and 9,275 gallons discharged. The IJSBA conducted a study that documented the actual time that personal watercraft spend on the water during the 1998 IJSBA World Finals event in Lake Havasu City, Arizona. Based on this study, the IJSBA estimates that total fuel consumption associated with the proposed event would be 7,080.06 gallons, or 590 hours of jet ski activity. Thus, at a 30% discharge rate, approximately 2,124 gallons of unburned fuel would be discharged into the bay during the course event.

The applicant has conceded that there is no way to predict the exact amount of hours of use and fuel consumption that will occur during the event. In reviewing this type of development, the Commission must assess a "worst-case" situation, to ensure potential impacts to coastal resources are not underestimated. It may be that the City has overestimated the amount of discharge based on a higher-than-realistic estimate of the number of hours jet skis will be on the water. However, the City's figures apparently do not take into account practice hours which may occur outside of the eight-day event. On the other hand, calculating the impact of the event based on the number of hours the jet skis will be in the water could be an overestimation, since the discharge occurs only when the engines are actually in operation, which could be less than the time the vehicles are in the water. It is also possible that there will be a reduction in the number of hours of non-race-related jet ski operations in the area because the general public will not be able to use the site for jetskiing during the race event. Thus, approximately 2,576 hours of jet ski operation, while possibly overestimating the hours in some ways, and underestimating in others, probably approaches a worst-case scenario for purposes of analyzing the potential impact of the project.

In order to assess the significance of the proposed event and 9,275 gallons of discharge into the bay, the City looked at two recent studies of existing water pollution in Mission Bay. The MND cites a study conducted in September 1996 conducted by the State Water Resources Control Board as part of the State's Bay Protection and Toxic Cleanup Program. The report tested for PAHs (polycyclic aromatic hydrocarbons) in sediments in the San Diego Bay region.

A press release from the U.S. Geological Survey, March 31, 1998, describes PAH's as "an organic chemical class...universal products of combustion of natural fuels...also present in unburned coal or oil. Although ubiquitous in aquatic environments, they are typically not detectable in most water samples, but area bound up in sediment." According to the City's MND, the State Water Resources Control Board report found that in Mission Bay, the detectable ranges for both low molecular weight PAHs and high molecular weight PAHs were below the "Threshold Effects Level", the level at or below which no toxic biological effects are expected.

The second study cited by the MND is a study conducted as a condition of removing sewage sludge drying beds from Fiesta Island. In November 1998, the City of San Diego monitored water quality in four groundwater wells on Fiesta Island and three shore stations around the perimeter of Fiesta Island. Testing for contaminants that could be linked to gasoline and oil pollution included benzene, toluene, ethyl benzene, naphthalene, chloroform, bromodichloromethane, dibromochloromethane, bromoform and 1-1-1 trichloroethane. The City's study found that none of these compounds were detectable in the tests.

Thus, the MND concluded that, since currently in the summer months, approximately 3,984 hours of jet ski usage occurs every week in Mission Bay, apparently without resulting in detectable levels of pollutants, the additional 2,576 hours associated with the event would not likely produce detectable levels of pollutants, and thus would not represent an environmental impact.

As further evidence that the project would not significantly impact water quality in Mission Bay, the MND cites a smaller jet ski event held in Orange County in October 1997. For this event, water was impounded in a 1,000 by 3,000 sq.ft., 14.5 million-gallon artificial pond. The event consisted of a total of 360 hours of jet ski operation in the pond. After the event, the water was tested for contaminants that would indicate gasoline or oil pollution. None were detectable, and the water was discharged into the Orange County Water District's recharge basin. Although the Orange County event was far smaller than the proposed event, the artificial pond was approximately .003% the size of Mission Bay. Thus, the discharge into the artificial pond was likely far more concentrated than the discharge into Mission Bay would be. Therefore, the MND concluded that discharges from the proposed event would likely not be detectable either.

The MND also looked at the impact the project could have on air quality. According to the U.S. EPA Oceans and Coastal Protection Division, air pollution can have a significant impact on water quality, as air pollutants can be deposited on land and water, contributing

to declining water quality, contaminated fish, harmful algal blooms, and unsafe drinking water.

Based on the California Air Resources Board's estimate that seven hours of jet ski operation is equivalent to 100,000 passenger car miles, the City's MND determined that 2,576 hours of jet ski operation would equate to a total of 36,800,000 vehicle miles over eight days. The MND acknowledges that this number seems significant, but notes that during the month of October, it is estimated that 2,041,500,000 vehicle miles would be traveled in the San Diego Air Basin without the jet ski races. The 36,800,000 vehicle miles would represent 1.8% of the month's total. Over the course of a year, the percent increase of emission in the County due to the event would be 0.015%. The MND concludes this increase is not significant and thus, no mitigation is required.

Despite the conclusions of the MND, there is ample evidence that, overall, discharges from marine engines contribute significantly to air quality problems throughout the United States. The EPA estimates that of nonroad sources, gasoline marine engines are one of the largest contributors of hydrocarbon emissions, approximately 30% of the nonroad portion. Eliminating this total contribution would clearly significantly improve air and water quality. However, an unlimited number of personal watercraft are currently allowed to operate in Mission Bay. Mission Bay was created as a recreational park, and has been used for recreational activities since it was established. There are no plans at this time to restrict jet skis operation in the bay. Even using the larger estimate of 2,576 hours of jet ski operation, the proposed event would represent a small percentage of overall jet ski usage in Mission Bay.

Although because of the new EPA regulations, the impacts from jet skis should be reduced in the future, local, state, and federal regulating agencies may still determine that the deleterious impacts of personal watercraft warrant banning jet skis from certain areas, or banning certain types of engines. For example, the Commission staff is currently reviewing a negative determination for a proposal by the Gulf of the Farallons Marine Sanctuary to ban the use of jet skis within 1,000 yards of the shoreline in the Sanctuary, while allowing jet skis to access the open ocean area. There are a variety of factors which must be balanced under the Coastal Act, including both the impact jet skis have on the environment, and the public recreational aspects of the sport. Conflicting information on the extent of this particular event would have on air and water quality has been offered. However, in the judgement of the Commission, the particular project proposed here project would have a relatively limited contribution to air and water quality in Mission Bay, and in and of itself is consistent with the Chapter 3 policies of the Coastal Act regarding the protection of water quality. The applicants are proposing to perform water testing at the subject site prior to the proposed event, and after the event, to evaluate the impact the project may have had on water quality. Special Condition #3 requires that the applicant perform pre- and post-event water quality testing, which should be useful in evaluating similar events in the future. Therefore, the Commission finds that the proposed event can be found consistent with Sections 30230 and 30231 of the Coastal Act.

Specific Biological Resources

Additional resource impacts potentially associated with the project including impacts to eelgrass. Eelgrass is a sensitive plant species that plays an important role in the marine ecology of bay and channel waters. Eelgrass habitats support important fisheries resources and are considered vegetated shallows, a habitat considered to be a "special aquatic site" under the Clean Water Act. Recent surveys in the vicinity of the project site indicate that eelgrass coverage in front of the pit area ranges from 50 to 75 percent. The U.S. Fish and Wildlife Service, National Marine Fisheries Service and the California Department of Fish and Game have adopted the "Southern California Eelgrass Mitigation Policy" in 1991 and revised in 1992. This policy requires that impacts to eelgrass be mitigated at a ratio of 1.2 to 1 (replacement to impact). In addition, the policy sets forth success criteria for evaluating the effectiveness of the transplant program.

The proposed event could impact eelgrass beds when watercraft enter the water, by the placement of the proposed starting tower, and through the operation of engines. The City of San Diego's MND estimated that jet ski water pump exhaust can blow out eelgrass beds in depths of less than four feet. As a condition of the MND, within 30 days prior to the commencement of race activities, the applicant must conduct a pre-race eelgrass survey to document the location and percent coverage of eelgrass in front of and within 100 feet north and south of the proposed pit area, and seaward to a depth of 10 feet Mean Lower Low Water. Based on this survey, the starting tower and water access points must be located in an area that does not contain eelgrass. In addition, the applicant must measure the depth of water offshore of the pit area at 20-foot intervals every hour during the period when watercraft are entering and leaving the water (practice days and race days). The area must be delineated hourly to account for tidal changes. The 4-foot depth area must then be delineated with buoys and ropes to prevent watercraft from starting or operating their engines in depths of less than 4 feet.

Special Condition #1 also requires that the applicant perform a pre-race survey and locate the starting tower and water entry points in areas devoid of eelgrass. As conditioned, it is likely that eelgrass impacts will be avoided. However, the City is requiring that the applicants submit a post-race eelgrass survey within 30 days after completion of race activities that delineates and quantifies eelgrass impacts and makes specific recommendations regarding eelgrass restoration at a ratio of 1.2 to 1 (restoration to impact) if necessary to restore the area to its pre-race condition. Special Condition #2 also requires that the applicant submit a detailed mitigation and monitoring program consistent with the requirements of the Southern California Eelgrass Mitigation Policy, including success criteria. Therefore, the proposed project will not have a significant adverse impact on eelgrass.

The Least Tern is a migratory water bird that is listed by the state and federal government as an endangered species. Least Terns breed and nest annually between April and September. In order to ensure that noise associated with the event does not adversely affect the ability of the terns to reproduce, the event has been scheduled outside the April

through September Least Tern breeding and nesting season. Therefore, no significant impacts to the Least Terns are expected.

In past special events such as the thunderboat races, the Commission has been concerned about out-of-control watercraft leaving the race area and potentially entering sensitive habitat areas such as the Northern Wildlife Preserve. In the case of the proposed project, the applicant has indicated that all watercraft in the competition are required to have a properly working lanyard-type engine stop switch. The lanyard is a cable/cord that is attached to both the handlebar or top deck of each boat and the rider. The engine stops immediately when the cable is detached, such as if the rider falls off the boat. In addition, the watercraft engines must be set such that the engine stops should the rider fully release the throttle. Therefore, the event should not result in any watercraft unintentionally entering a sensitive habitat area.

The western shore and proposed parking area on Fiesta Island are comprised of beaches and beach and ruderal vegetation. No direct impacts to sensitive habitat are anticipated from the upland activities. To reduce impacts from oil and gas spilling from the watercraft on land, drip pans must be located under all watercraft to contain fuel and oil leaks while the watercraft are in the pit area. The City has indicated that the City's Fire Marshall requires, pursuant to the Uniform Fire Code, that the applicant maintain booms, oil-absorbing pads and similar equipment in a ready condition in the event of unanticipated spills. Thus, direct spills from watercraft are not expected to have a significant adverse impact on biological resources or water quality.

In summary, the operation of personal watercraft is associated with air and water pollution. However, the impacts from the proposed event are relatively small compared to the on-going jet ski operations that are not currently regulated by the Commission. The applicant will be performing water quality monitoring to assess the impact of the proposed event. Special Condition #5 notifies the applicant that future events may need a coastal development permit. As conditioned, the project will avoid or minimize impacts to sensitive biological resources. Therefore, the project can be found consistent with Sections 30230, 30231, and 30240 of the Coastal Act.

3. Public Access and Recreation/Parking. The Coastal Act contains many policies addressing the issue of public access to and along the shoreline. The following are most applicable to the proposed development and state, in part:

Section 30210

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30212

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

(1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,

(2) adequate access exists nearby...

Section 30212.5

Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.

Section 30223

Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

Additionally, pursuant to Section 30604(c), every coastal development permit issued for any development between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone shall include a specific finding that such development is in conformity with the public access and public recreation policies of Chapter 3 (commencing with Section 30200).

The area to be occupied by the temporary improvements associated with the proposed races is currently unimproved sandy beach area normally available for general public use. Until recently, the southwestern and south central portion of the island was occupied by municipal sludge beds and not open to the general public. Most of Fiesta Island has few permanent public improvements, and those are largely limited to fire rings, trash cans and a few chemical toilets. However, the island is very popular for walking dogs, jogging, fishing and similar informal recreational activities. The area south of the entrance to Fiesta Island is particularly designated for personal watercraft activities and water-skiing; however, these activities take place throughout the Bay.

Proposed fencing and admission gates will prevent the general public from accessing the event area on land and in the water during the event, including during weekends, when public attendance at beaches is highest.

However, the Commission has permitted numerous special events in and around Mission Bay and Fiesta Island over the years, including thunderboat races (#6-92-178; #6-98-80), America's Cup races (#6-91-180; #6-93-154), the X-Games (#6-97-30; #6-98-80), a water ski show (#6-92-102), a sand sculpture event (#6-96-65), a volleyball tournament (#6-92-91), and the San Diego Pops concerts (#6-85-254; #6-86-167; #6-88-102; #6-90-

111; #6-97-15). The proposed event will take place outside of the prime summer season (Memorial Day to Labor Day), thus avoiding the time for greatest amount of conflict with the beach-going public. The road around the island will remain open and free public access to the southeast portion of the island for fishing, jetskiing, and for persons using the Youth Aquatic Center and group camp area will be maintained throughout the event. Special Condition #4 requires that the Fiesta Island road remain open to the general public throughout the event.

Unlike some special events which restrict parking lots normally available to the general beach-going public, all parking for the proposed event can be accommodated on the project site. The MND prepared by the City estimates that the event would attract approximately 38,750 fans over the eight days of activities, plus racers and event staff. The MND estimates that the event will generate from 1,863 trips daily, up to 3,726 trips on the day of the final events. The proposed parking area could accommodate approximately 7,000 vehicles, so more than adequate parking will be provided on the site. There are expected to be some traffic impacts associated with the event; however, these impacts will occur outside the peak summer season, and thus, eight days of traffic in the Fiesta Island area will not have a significant long-term adverse impact on public beach access.

It should be noted that the Commission has identified that charging a fee to the public to use public parklands which are otherwise free is potentially inconsistent with policies of the Act which require that public access be maximized. In the case of recent American Volleyball Professional tournaments, for example, the events were only authorized to charge for 25% of attendees for reserved seating, with the remainder of the public required to be admitted free. However, a fee was approved for thunderboat events in 1998 (#6-98-80) and 1992 (#6-92-178).

The Commission is concerned over the loss of unrestricted public access to the shoreline for up to 20 days. However, the Commission also recognizes that the event is short-term in nature, this land area is not improved at this time and is not extremely heavily used outside the summer season. The event will provide a recreational activity of the sort contemplated by the Commission when it required that the sludge beds be removed. Therefore, the Commission finds that, as conditioned, the proposed special event is consistent with the cited access and recreation policies of the Coastal Act.

4. Local Coastal Planning. Section 30604(a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

The proposed improvements are located on existing public parklands which are designated in the certified Mission Bay Park Master Plan as open beach (the upland areas) and open water/Thunderboat area. The Mission Bay Park Master Plan identifies the perimeter of Fiesta Island as a Primary Zone of Water Influence with priority given to

passive recreational uses or uses compatible with the water setting. The Master Plan addresses special events in general, and recognizes "support facilities" for such events, although it does not define this term or limit what such facilities can entail. Thus, the proposed improvements can be found consistent with the Master Plan designations. The applicant has received a Special Event Permit from the City contingent upon approval of a coastal development permit.

Although the Commission has certified a land use plan (the Mission Bay Park Master Plan) for the Mission Bay segment of the City's LCP, there are no implementing ordinances in place as yet for this area. Thus, the entire park remains an area of deferred certification, and Chapter 3 of the Coastal Act remains the standard of review. Even after an implementation package is certified, much of the park will remain under direct Commission permit jurisdiction, since many areas of the park were built on filled tidelands. The proposed development raises a number of concerns under Chapter 3 policies; however, these have been resolved through special conditions and addressed in previous findings. Therefore, the Commission finds the proposed development will not prejudice the ability of the City of San Diego to complete an implementation program for Mission Bay Park or to continue implementation of its fully-certified Local Coastal Program for the remainder of the City's coastal zone.

5. Consistency with the California Environmental Quality Act (CEQA).

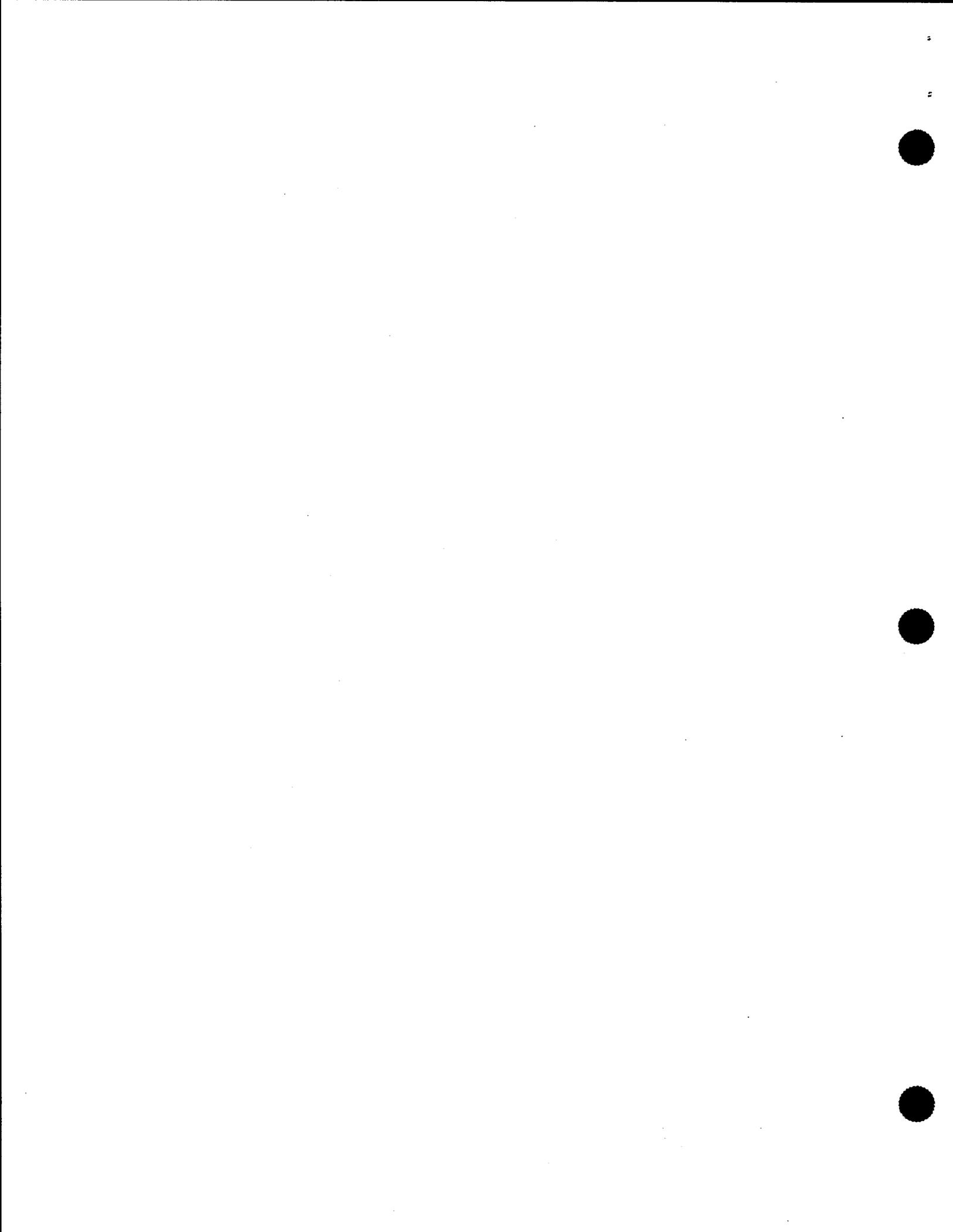
Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The proposed project has been conditioned in order to be found consistent with the public access policies of the Coastal Act. Mitigation measures, including conditions addressing eelgrass avoidance and mitigation, public access and water quality monitoring, will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

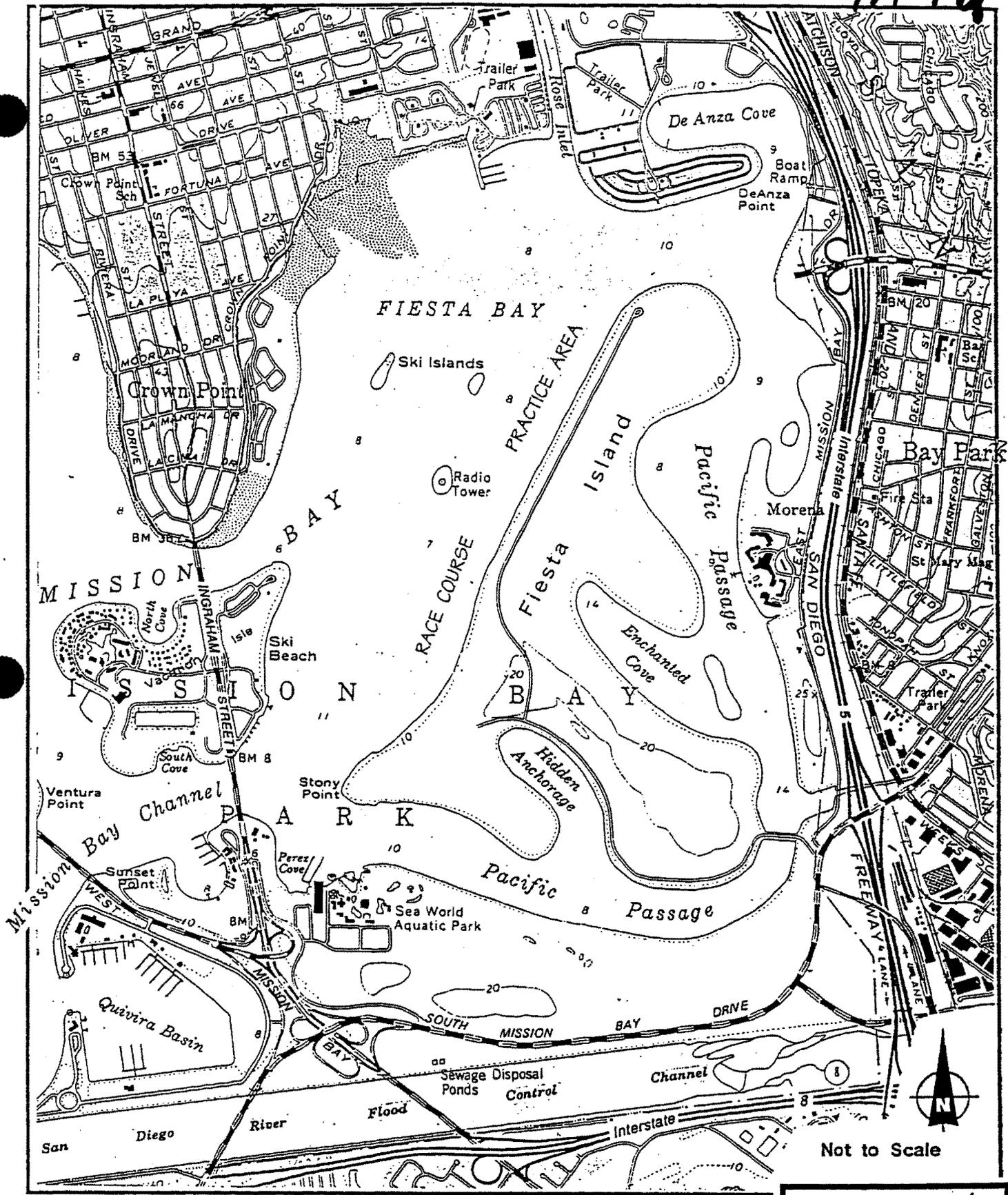
STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



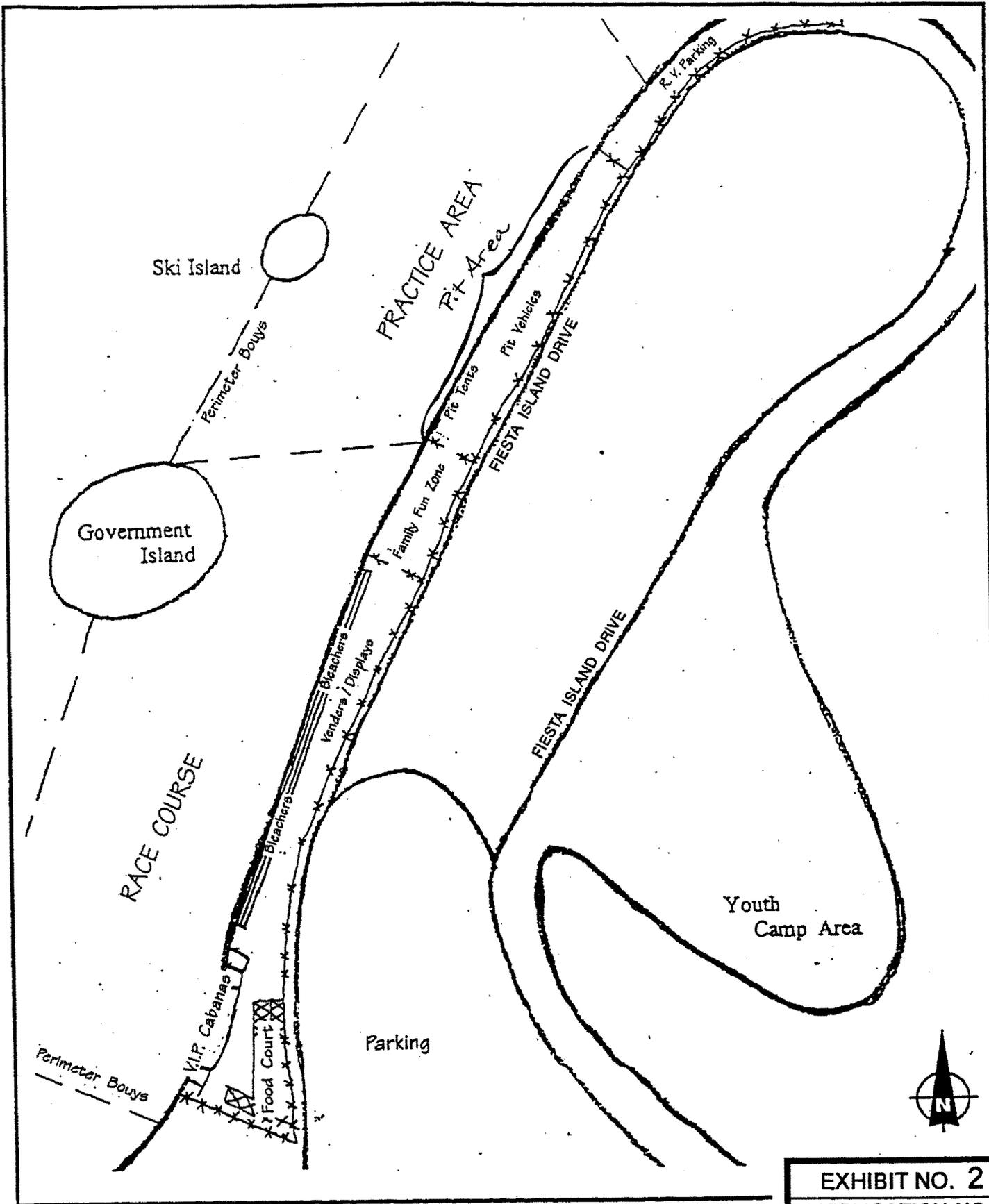
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99-8398

Not to Scale

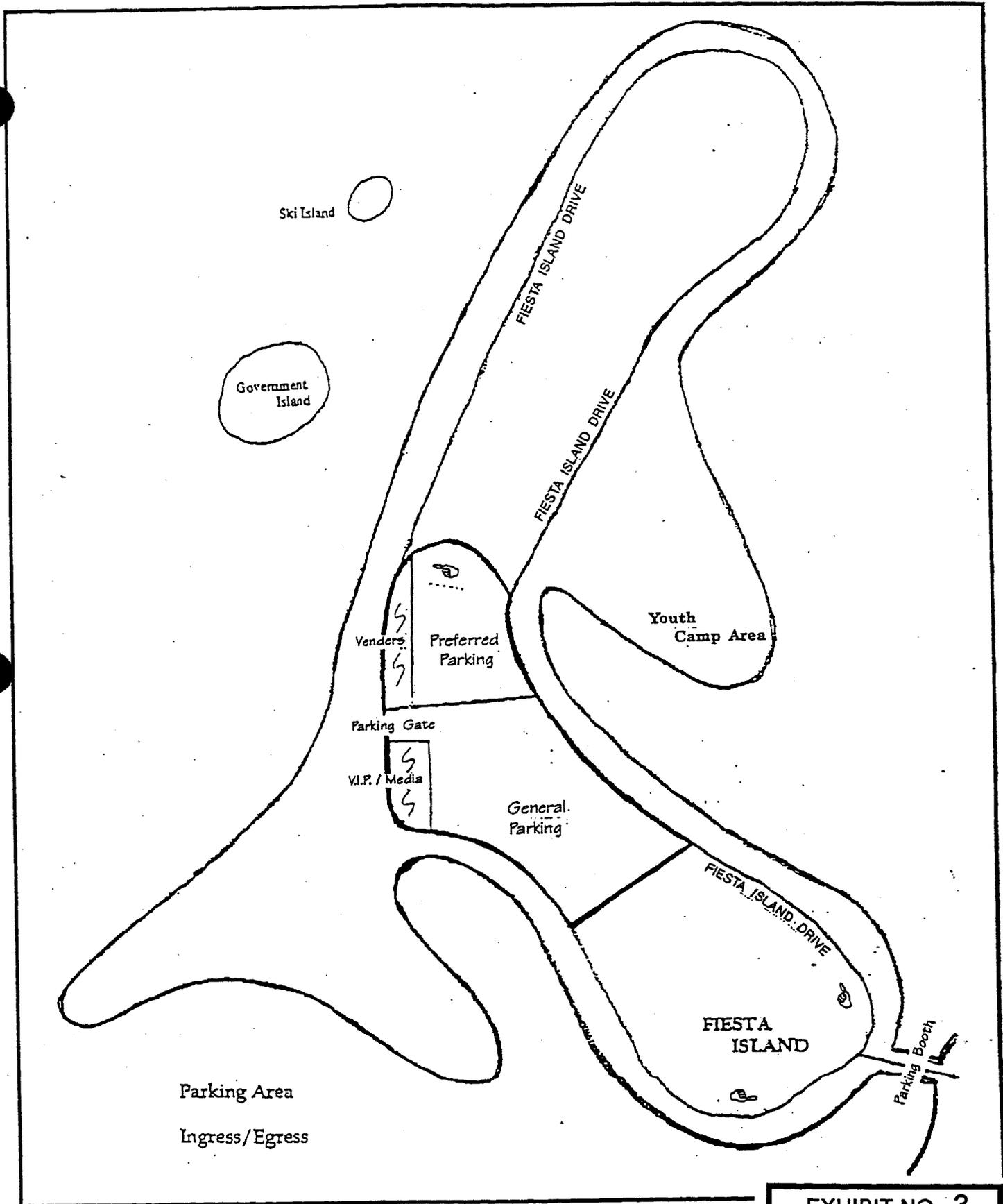
EXHIBIT NO. 1
APPLICATION NO.
6-99-75
Location Map
California Coastal Commission



99-8398



EXHIBIT NO. 2
APPLICATION NO. 6-99-75
Site Plan
California Coastal Commission



Ski Island

Government Island

FIESTA ISLAND DRIVE

FIESTA ISLAND DRIVE

Youth Camp Area

Vendors

Preferred Parking

Parking Gate

V.I.P. / Media

General Parking

FIESTA ISLAND DRIVE

FIESTA ISLAND

Parking Booth

Parking Area

Ingress/Egress

99-8398

EXHIBIT NO. 3
APPLICATION NO. 6-99-75
Parking Plan
California Coastal Commission



Environmental Fact Sheet

Emission Standards for New Spark-Ignition Marine Engines

Information for the Marine Industry

The cooperative efforts of marine engine manufacturers has led the U.S. Environmental Protection Agency (EPA) to issue cost-effective regulations for achieving an unprecedented 75 percent reduction in hydrocarbon (HC) emissions from new gasoline marine engines by the year 2025. These emission standards, which will affect outboard and personal watercraft engines, will be phased-in over a nine year period beginning in model year 1998.

Overview

EPA is issuing regulations for the control of exhaust emissions from new spark-ignition (SI) gasoline marine engines, including outboard engines, personal watercraft engines, and jet boat engines. Both domestic and foreign manufacturers producing engines for sale in the United States are potentially responsible for compliance with these regulations. Once the program is fully implemented, manufacturers of these engines must demonstrate to EPA that HC emissions are reduced by 75 percent from present levels, by testing engines representative of the product line before sale and after use.

EXHIBIT NO. 4
APPLICATION NO. 6-99-75
Informational Sheet
From EPA  California Coastal Commission

HC contributes to ground level ozone which is known to cause a range of human pulmonary and respiratory health effects, including chest pain, coughing, and shortness of breath. Controlling emissions from these engines will help reduce adverse health and welfare impacts associated with ozone.

Study Indicates need for Action

Until recently, emissions from nonroad engines and vehicles have been essentially uncontrolled. The Clean Air Act Amendments (CAA) of 1990, for the first time, granted EPA the authority to regulate these sources. Under the direction of the CAA, EPA completed a study of nonroad emissions which concluded that nonroad HC emissions in total are 10 percent of the urban summertime inventory of HC from all sources (see Figure 1).

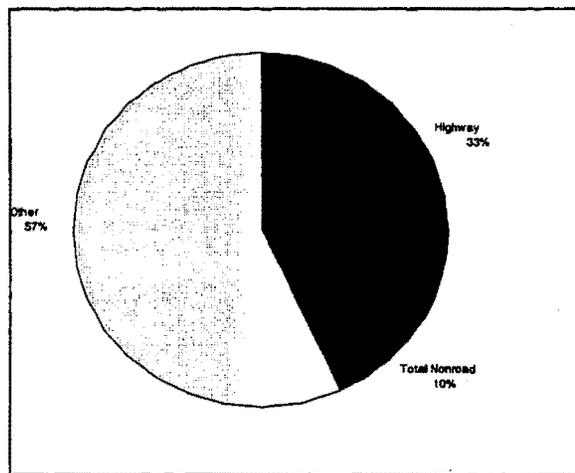


Figure 1- Urban Summertime Hydrocarbons: All Sources

Marine engines in particular contribute significantly to air quality problems throughout the United States. Of nonroad sources, EPA determined one of the largest contributors of HC emissions to be gasoline marine engines. As illustrated in Figure 2, recreational marine engines are 30 percent of the nonroad portion. With this finding, the CAA directed EPA to promulgate regulations to control air pollution from marine engines.

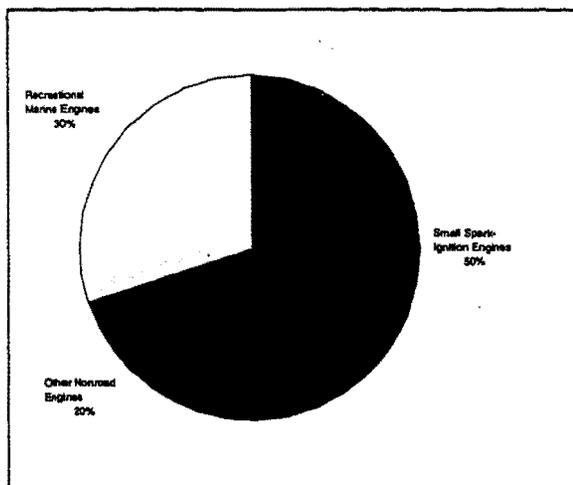


Figure 2 - Nonroad Sources of Hydrocarbons

Cooperative Efforts from the Marine Industry

This rulemaking is a prime example of EPA and industry working together cooperatively to introduce regulations that achieve substantial emission reductions from nonroad engine sources while providing manufacturers with the flexibility to achieve the required reductions based on market demand. The resulting standards will encourage a wide range of new outboard and personal watercraft (OB/PWC) products. With the input and support from the marine industry, EPA has developed a program that is not expected to be overly burdensome or costly in the manufacturing and selling of these new technologies. Manufacturers will have many options for achieving compliance, which include converting current OB/PWC 2-stroke engine technology to 4-stroke, direct-injection 2-stroke, or possibly equipping engines with catalytic converters in some applications.

Highlights of the Regulations

Emission Standards

Unlike sterndrive and inboard (SD/I) gasoline marine engines, the majority of OB/PWC (including jet boat) engines currently utilize 2-stroke technology that emits high rates of HC exhaust emissions. Due to the inherent low emissions of SD/I engines, EPA is only imposing emission standards for OB/PWC engines.

The OB/PWC program requires increasing stringent HC control over the course of a nine-year phase-in period beginning in model year 1998. By the end of the phase-in, each manufacturer must meet an HC+NOx (oxides of nitrogen) emission standard on a corporate average basis that represents a 75 percent reduction in HC compared to unregulated levels. The emission standard allows the manufacturers and the market to determine the best way to achieve the targeted reductions over time by allowing the manufacturer to decide the type of control technologies to be applied to each engine family. Compliance with a corporate average emission standard gives manufacturers the flexibility to build engines below and above the emission standard, provided the manufacturer's overall corporate average is at or below the standard.

These regulations only affect new gasoline OB/PWC engines sold in the future, beginning in 1998. The standards do not apply to any engine or boat already owned.

Administrative Programs

EPA is finalizing some innovative administrative programs for OB/PWC appropriately designed in consideration of the unique market structure and nature of the marine engine industry. The administrative programs are designed to ensure the targeted reductions are met by making manufacturers responsible for testing engines, reporting the results to EPA, and demonstrating compliance with the emission standards.

The pre-production certification program requires all gasoline marine engine families to be certified by EPA as meeting applicable emission standards before they are introduced into commerce. EPA is introducing a proactive approach to quality control for this industry by requiring manufacturers to be responsible for ensuring that engines are produced as designed. Manufacturers will comply by testing engines as they leave the production line, at appropriate sampling rates, without EPA presence.

The manufacturers will ensure their engines are meeting applicable emission standards when actually in use by testing a portion of their fleet each year. EPA has developed an in-use credit program to provide manufacturers flexibility in addressing potential in-use noncompliance. EPA is proud to introduce unique, innovative administrative compliance programs appropriately designed for this industry.

**Extended
Warranty**

With the introduction of new technologies comes the cautious reaction from consumers regarding the reliability of such engines. To help ensure the manufacturing of a durable emission system and to help alleviate potential concerns of consumers, EPA is introducing warranty requirements that will, in effect, double or triple the warranty time period for those items related to the emission characteristics of the engine. Major emission control components and emission related components will be covered by the consumer warranty.

**Small Volume
Engine Families**

While manufacturers in this industry tend not to be "small," EPA has taken measures to reduce the burden on those manufacturers with smaller volume engine families. Manufacturers can feel at ease that the regulations provide appropriate flexibility, as the testing and administrative programs have been designed with such smaller volume families in mind.

**Cost
Effectiveness**

The program is designed to provide manufacturers with the utmost flexibility for finding the lowest cost solutions to meeting the emission reduction targets. EPA expects the average costs for OB/PWC engines will increase modestly, that is, an approximate increase of 10-15 percent per engine, or \$700 for the average power output engine. EPA is confident that consumers will see this as negligible when compared to the performance advantages to be enjoyed by the boat owner from these improved engines. The cost-effectiveness of the program is estimated at \$1000 per ton HC reduced.

For More Information

EPA encourages additional information be obtained electronically via the EPA Internet server or via dial-up modem on the Technology Transfer Network (TTN), an electronic bulletin board system (BBS).

World Wide Web: <http://www.epa.gov/OMSWWW>

TTN BBS: 919-541-5742 (1200-14400 bps, no parity, 8 data bits, 1 stop bit); voice helpline: 919-541-5384

Information is also available on this rulemaking by calling 313-668-4333, or writing to:

U.S. Environmental Protection Agency
National Vehicle and Fuel Emissions Laboratory
2565 Plymouth Road
Ann Arbor, Michigan 48105

SACRAMENTO ADDRESS:

NANCY LUCCHESI NEWBILL
CHIEF OF STAFF

STATE CAPITOL
SACRAMENTO, CA 95814-4906
(916) 445-5581
FAX (916) 327-2187

COMMITTEES
VICE CHAIR
AGRICULTURE & WATER RESOURCES

APPROPRIATIONS
BUSINESS & PROFESSIONS
CONSTITUTIONAL AMENDMENTS
ENERGY, UTILITIES & COMMUNICATIONS
TRANSPORTATION

Senate

California Legislature

DAVID G. KELLEY
SENATOR
37TH DISTRICT



DISTRICT ADDRESSES:

DOROTHY MOELTER
DISTRICT COORDINATOR

11440 W. BERNARDO CT., #104
SAN DIEGO, CA 92127
(619) 675-8211
(619) 675-8262 FAX

73-710 FRED WARING DRIVE, #108
PALM DESERT, CA 92260
(760) 346-2099
(760) 346-0341 FAX
1(800) 824-5200

July 2, 1999

RECEIVED

JUL 8 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Ms. Dianah Lilly
California Coastal Commission
3111 Camino del Rio North, Suite 200
San Diego, California 92108-1725

Dear Ms. Lilly:

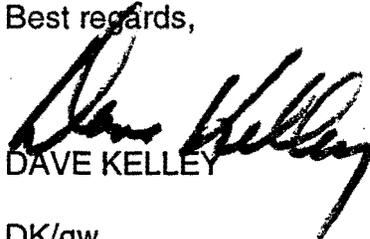
As the California State Senator for the 37th Senatorial District, I would like to lend my strong support of the World Finals Personal Watercraft races to be held in San Diego's Mission Bay in October.

The City of San Diego approved the special event and granted a "Negative Declaration," which would not require an environmental impact report. The city found that the races would "not have a significant effect on the environment."

The International Jet Sports Boating Association (IJSBA) is the world's largest personal watercraft (PWC) enthusiast organization in the world, with over 35,000 members living in the United States alone. The World Finals have drawn over 20,000 spectators to Lake Havasu City in the past and IJSBA is expecting even more this year in San Diego.

I would appreciate your utmost consideration in this decision.

Best regards,


DAVE KELLEY

DK/gw

EXHIBIT NO. 5
APPLICATION NO. 6-99-75
Letters of Support
 California Coastal Commission

SACRAMENTO OFFICE

STATE CAPITOL
ROOM 2187
SACRAMENTO, CA 95814
(916) 445-9781
FAX (916) 447-9008

DISTRICT OFFICE

6800 INDIANA AVENUE
SUITE 130
RIVERSIDE, CA 92506-4260
(909) 782-4111
FAX (909) 276-4483

California State Senate

SENATOR
RAYMOND N. HAYNES
THIRTY-SIXTH SENATORIAL DISTRICT
REPUBLICAN WHIP



June 30, 1999

RECEIVED

JUL 2 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

VICE CHAIR
HEALTH & HUMAN SERVICES
PUBLIC EMPLOYMENT &
RETIREMENT
COMMITTEES:
EDUCATION
JUDICIARY
HEALTH &
HUMAN SERVICES
PUBLIC EMPLOYMENT &
RETIREMENT
JOINT LEGISLATIVE
AUDIT COMMITTEE
FIRST VICE CHAIR AMERICAN
LEGISLATIVE EXCHANGE COUNCIL
SENATOR.HAYNES@SEN.CA.GOV

California Coastal Commission
Attn: Ms. Dianah Lilly
3111 Camino del Rio North, #200
San Diego, CA 92108-1725

Dear Ms. Lilly:

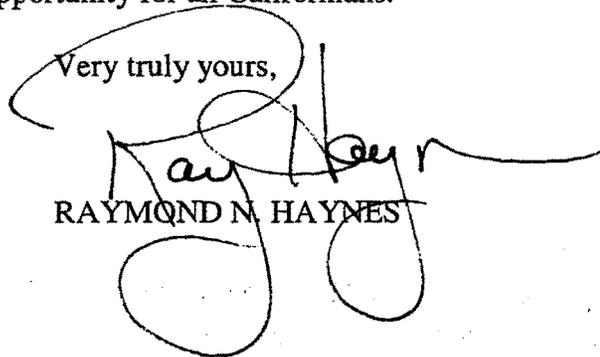
This letter is written to lend my support to the International Jet Sports Boating Association's efforts to secure the California Coastal Commission's approval for the PWC World Finals to be held in the San Diego Mission Bay.

This annual event, which has been held in Lake Havasu City, Arizona in previous years, has been quite successful and will greatly boost the economy in the Mission Bay region.

There have been some issues raised by a few people concerning the race's negative environmental impact on the area. IJSBA has responded with a Proposed Mitigated Negative Declaration as stipulated by the City of San Diego which I have reviewed and found to be well within the parameters of what I would deem "responsible" planning and mitigation.

I urge your serious consideration of the approval of this event which will greatly benefit San Diego and provide another fine recreation opportunity for all Californians.

Very truly yours,


RAYMOND N. HAYNES

RNH:rr

cc: Stephan Andranian, IJSBA

SACRAMENTO OFFICE

STATE CAPITOL
SACRAMENTO, CA 95814-4906
(916) 445-3731
(916) 446-7382 FAX

DISTRICT OFFICES

27126-A PASEO ESPADA
SUITE 1621
SAN JUAN CAPISTRANO,
CA 92675
(949) 489-9838
(949) 489-8354 FAX

2755 JEFFERSON STREET
SUITE 101
CARLSBAD, CA 92008
(760) 434-7930
(760) 434-8223 FAX

California State Senate

SENATOR
BILL MORROW

THIRTY-EIGHTH SENATORIAL DISTRICT



COMMITTEES:

JUDICIARY
(VICE CHAIR)

HEALTH & HUMAN SERVICES

INDUSTRIAL RELATIONS

TRANSPORTATION

SELECT COMMITTEES:

MOBILE AND MANUFACTURED
HOMES

June 29, 1999

California Coastal Commission
c/o Ms. Dianah Lilly
3111 Camino del Rio North, Ste. #200
San Diego, CA 92108-1725

RECEIVED

JUL 6 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Dear Ms. Lilly:

It has come to my attention that a few people are petitioning the Coastal Commission in order to halt the World Finals Personal Watercraft races to be held in San Diego this October. I am writing to show my support for the World Finals.

The City of San Diego granted a "Negative Declaration," which would not require an environmental impact report. Also, the city found that the races would "not have a significant effect on the environment." Now a few people are petitioning the Coastal Commission to have the races halted. I am in support of the races and would very much hope that the Coastal Commission follows the City of San Diego's "Negative Declaration" for the event.

Thank you for your time and please don't hesitate to contact my office with any questions.

Sincerely,

A handwritten signature in black ink that reads "Bill Morrow".

BILL MORROW
Senator, 38th District

BM:gap

REPRESENTING SOUTH ORANGE COUNTY, NORTH SAN DIEGO COUNTY, INCLUDING THE FOLLOWING COMMUNITIES:

AEGEAN HILLS, ALISO VEIGO, BONSALL, BUENA, CAMP PENDLETON, CAPISTRANO BEACH, CARDIFF, CARLSBAD, DANA POINT, DE LUZ, DEL MAR, ENCINITAS, ESCONDIDO, FALLBROOK, LAGUNA HILLS, LAGUNA NIGUEL, LEISURE WORLD, LEUCADIA, MISSION VIEGO, MONARCH BAY, OCEANA, OCEANSIDE, RANCHO SANTA FE, SAN CLEMENTE, SAN JUAN CAPISTRAN, SAN LUIS REY HEIGHTS, SAN MARCOS, SAN ONOFRE, SOLANA BEACH, SOUTH LAGUNA, SOUTH OCEANSIDE, THREE ARCH BAY AND VISTA.

COMMITTEES:

VICE CHAIR
HIGHER EDUCATION
COMMITTEE
MEMBER
EDUCATION
TRANSPORTATION
VETERANS AFFAIRS

**Assembly
California Legislature**



STEVE BALDWIN
ASSEMBLYMAN, SEVENTY-SEVENTH DISTRICT

DIRECT CORRESPONDENCE TO:
STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0001
(916) 319-2077
FAX (916) 319-2177

DIRECT CORRESPONDENCE TO:
DISTRICT OFFICE
8419 LA MESA BLVD., SUITE B
LA MESA, CA 91941
(619) 465-7723
FAX (619) 465-7765

EMAIL: Steve.Baldwin@asm.ca.gov

July 15, 1999

RECEIVED

JUL 19 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

California Coastal Commission
Attn: Ms. Dianah Lilly
3111 Camino del Rio North, #200
San Diego, CA 92108-1725

Dear Ms. Lilly:

I was recently been made aware of a small group of people that have contacted the Coastal Commission in order to halt PWC World Finals that are to be held in the San Diego Mission Bay.

The USBA has responded with a Proposed Mitigated Negative Declaration as stipulated by the City of San Diego. I have reviewed this declaration and have found it to be well within the parameters of responsible planning and mitigation. I strongly support these races environmentally as well as economically. They will provide a great boost to the economy of the Mission Bay region and provide a wonderful recreational opportunity for all of California.

Thank you for your consideration, and I strongly urge your approval of this event that will be solidly benefit the San Diego area.

Sincerely,

STEVE BALDWIN
Assemblyman, 77th District

SB:vbm

cc: Stephen Andranian, USBA

CAPITOL OFFICE
State Capitol
Sacramento, CA 95814
(916) 319-2074
FAX (916) 319-2174

DISTRICT OFFICE
701 Palomar Airport Road
Suite 160
Carlsbad, CA 92009
(760) 438-5453
FAX (760) 438-6620

E-mail: howard.kaloogian@asm.ca.gov
Web Page: www.kaloogian.com

Assembly
California Legislature



HOWARD KALOOGIAN
ASSEMBLYMAN, SEVENTY-FOURTH DISTRICT

State Chair
American Legislative
Exchange Council

National Conference of State Legislatures
Committee on Federal Budget & Taxation

COMMITTEES:
Vice-Chair
Revenue & Taxation

Member
Human Services
Local Government

July 14, 1999

Ms. Dianah Lilly
3111 Camino del Rio North
Suite 200
San Diego, CA 92108

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JUL 19 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

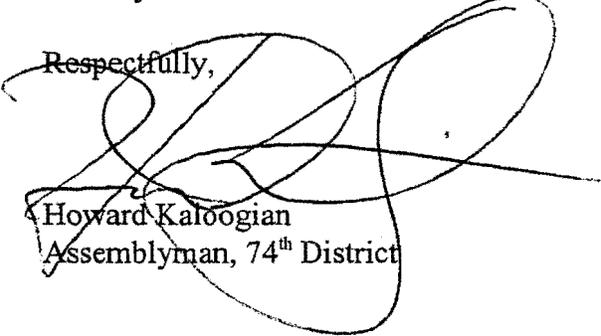
Dear Ms. Lilly:

I am writing to urge you to approve the permit request for the International Jet Sports Boating Association World's Finals in Mission Bay. I understand there has been some contention on the necessity of an Environmental Impact study.

The IJSBA has responded to all environmental concerns presented by the city, and has demonstrated a willingness to ensure the wildlife of Fiesta Island is unharmed. As such, the city of San Diego has declared there will be no detrimental effect on the environment, and has granted a "Negative Declaration". It will, however, have a positive effect on the hotels, restaurants, and merchants of San Diego, by improving tourism of the water. I urge you to recognize the findings of the city of San Diego and approve the IJSBA's permit another expensive, time consuming, and redundant Environmental Impact study.

Thank you for assistance in this matter.

Respectfully,


Howard Kaloogian
Assemblyman, 74th District

HK/jk

10696 Cassowary Ct.
San Diego, Ca 92131
619-417-3465

PC MEDIC

RECEIVED

JUN 18 1999

June 17, 1999

Dianah Lilly

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

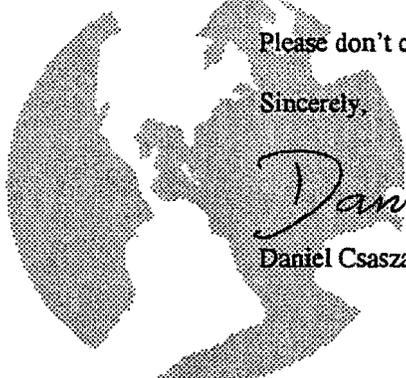
Dear Dianah:

Subject: IJSBA FINALS IN SAN DIEGO

I have been using personal watercraft for over 10 years and belong to two great clubs Orange County Personal Watercraft Club and San Diego Jet Sports Club. I have a lot of pride for living in San Diego and knowing that I can ride personal watercrafts in Mission Bay at anytime and feel safe. One of my main motivation to move to San Diego is all the outdoor activities that are available. I hope that we feel strong about outdoor promotions like the world finals so that we don't let the community down for the reasons we have all moved here in the first place. This is a great city and I would really like to keep it that way.

Please don't close the doors on activity's that our youth can look up to.

Sincerely,



Daniel Csanar, Gerry McLean-Csanar

Daniel Csanar, Gerry McLean-Csanar, and my Daughter Jessica Csanar

LETTERS OF SUPPORT

SDJSC

San Diego Jet Sports Club

PWC and Sport Boat Enthusiasts

17161 Alva Road #2732

San Diego, CA 92127

858-675-8291

fax 858-675-9676

e-mail SDJSclub@aol.com

RECEIVED

JUN 21 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

June 16, 1999

Dianah Lilly
CA Coastal Commission
3111 Camino Del Rio N #200
San Diego, CA 92108-1725

Dear Ms. Lilly,

Our membership consists of residents throughout San Diego county. We currently have over 130 members. Our membership is very excited that the IJSBA Skat-trak World Finals are coming to San Diego this year. What a great event for the City of San Diego. The location couldn't be better. Having the event on Mission Bay's Fiesta Island is the perfect spot. Plenty of room, with little to no impact on the surrounding communities.

This event should bring between \$5 -10 million dollars in revenue during our off-peak time of year for tourism. Not only will visitors be coming from over 36 countries, but ESPN will give San Diego more international exposure with a weeks worth of activities. Lots of visitors with lots of money to spend throughout San Diego, especially those areas' closest, Mission Bay and Pacific Beach.

The aspect that our club is most pleased about is that it will increase boating safety awareness with personal watercraft users who are at the event. The Coast Guard will be providing the 'Operation Boat Smart Safety Tent' at this event and our club will also have a booth with boating safety information.

Some people may have concerns about the number of pwc in use during the event, but from participating in this event in Lake Havasu I know there will be fewer pwc in use during the event than there is in Mission Bay on any summer weekend. Keeping in mind that the races limit the number of watercraft on the water at any given time.

Bottom line is that we are very excited to have San Diego be the host city for such a great event.

Sincerely,



Christine Milton, President

San Diego the New PWC Capitol of the World

RECEIVED

JUN 23 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COASTAL DISTRICT



MOTORSPORTS

9935 MAINE AVE ● LAKESIDE CA 92040
TEL:619-561-4973 ● FAX:619-561-1866

Dianah Lilly
CA Coastal Commission
3111 Camino Del Rio N #200
San Diego CA 92108-1725

Dear Ms. Lilly;

As an active distributor of Personal Watercraft (PWC) parts. I am heartened to see this sport making a comeback from just a few years ago. The usage conflicts, arising from the limited areas available, are diminishing as this sport becomes accepted by the mainstream population. This sport is more actively embraced by individuals and families of all ages than ever before. As a motorsports enthusiast I have been active in several aspects of recreational riding on motorcycles and ATV's. PWC's are by far one of the safest forms of all motorsports. In fact since Mission Bay has instituted the regulation counter clockwise riding pattern, the pattern adopted by most other lakes and bays, the accident rate has fallen next to nothing.

I am writing to add my support to the International Jet Sport and Boating Association (IJSBA) and Skat Trak World Finals race to be held here in San Diego. It is my understanding there are some concerns by environmentalists in the area, regarding the use of Mission Bay for this event.

Any new sport has it's detractors and PWC's have theirs. Some environmental criticisms, primarily the emissions of a gasoline additive called MTBE, are being used as a smoke screen for getting rid of the PWC's. Primarily where there are usage conflicts with other craft. This is especially true of those belonging to members of the Blue Water Coalition, another group composed of boat owners and water resource users. A good example of this can be seen in Lake Tahoe where the PWC were blamed for causing MTBE pollution. Only after a PWC ban went into effect, was it conveniently discovered, an underground tank was leaking directly into the lake. Once a ban is instituted, even against all logic, it is very difficult to reverse and there is no current action by any environmental group to retribute the thousands of dollars the owners around the lake invested in the Personal Watercraft used at the lake.

The high performance gas usually used in racing contains no MTBE's. (Which the state has banned beginning in 2002) Additionally all of the race craft are extremely well tuned and fuel efficient. These craft actually pollute less than the outboard boats used to monitor the bays and rivers environment. In addition PWC's are leading the way in *decreasing* engine emissions with several craft already running cleaner than 90% of other boats and even more advances, including catalytic converters, in the works. As for the "noise pollution", PWC are far quieter and have much less acoustical impact on sea life than any other propeller driven craft. Overall atmospheric noise at the height of a race is soft enough to carry on normal conversation just a few yards from the shore.

The pragmatics and economics of bringing the race to San Diego justifies having the race held here. Just as the X- Games brought considerable benefit so too will the IJSBA world finals. All of the environmental cries at that time were shown to be totally unfounded but had a negative enough effect to cost San Diego the continuous hosting of the event. What did we lose? Increased national and international recognition, increased tourism and tourist dollars. Financial gains for all waterfront businesses involved, recognition of San Diego as a premiere sports destination. Will we let this happen again?

I certainly hope the bay, created specifically for watersports, is allowed to continue it's purpose. I also hope the efforts made on behalf of the environment are placed where they are most needed. Perhaps with thoughtful consideration of the facts we will better allocate these resources, and with increased economic strength, address even more needs.

Sincerely yours,

David L. Kassel

CC: San Diego Special Events
1250 6th Avenue
San Diego, CA 92101

LAW OFFICES OF

E. GREGORY ALFORD*
SANDRA L. MAYBERRY

E. GREGORY ALFORD, CFLS
ATTORNEY AT LAW
1551 FOURTH AVENUE, SUITE 300
SAN DIEGO, CALIFORNIA 92101

RECEIVED

TELEPHONE
(619) 232-4734

FAX
(619) 239-3345

JUN 28 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

CALIFORNIA COASTAL COMMISSION
3111 Camino Del Rio North, Suite 200
San Diego, California 92108-1725

**HAND
DELIVERED**

June 28, 1999

RE: *Support of PWC World Finals at Mission Bay*

Gentlemen:

I have been a responsible Jet Ski owner for years. My wife and our three children in fact own three Kawasaki skis. We have enjoyed hundreds of hours of wholesome family fun with our PWC's.

I am an educated person and I do not intentionally pollute our precious environment. I am an Eagle Scout and I learned many years ago to leave only footprints after visiting a park such as Mission Bay.

According to the National Marine Association, outboard motors and personal watercraft operated at the same power level emit similar amounts of exhaust emissions.

The environmentalists who propose that the World Finals not be held in Mission Bay would also probably propose that there be no paved parking lots at the Park. These people have an agenda which will ultimately result in a proposal that all motorized recreational vehicles be banned, everywhere.

Why allow outboard motorboats and ban jet skis? Please be objective and logical as you make this most important determination. Thank you.

Very truly yours,



E. Gregory Alford, CFLS
Attorney at Law

EGA:f

www.galfordlaw.com

* ADMITTED TO CALIFORNIA STATE BAR ASSOCIATION, DECEMBER 18, 1973

* CERTIFIED AS FAMILY LAW SPECIALIST, CALIFORNIA STATE BOARD OF LEGAL SPECIALIZATION, JULY 15, 1980

* CERTIFIED AS FELLOW, AMERICAN ACADEMY OF MATRIMONIAL LAWYERS, NOVEMBER 5, 1981

Denise & Marcus Barreto
8321 Aqua View Ct.
Spring Valley CA 91977
619/267-3449 hm.
619/338-9051 wk

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JUN 28 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

June 25, 1999

Dianah Lilly
California Coastal Commission
3111 Camino Del Rio North, #200
San Diego CA 92108-1725

Dear Ms. Lilly,

My husband, three girls and myself are members of the San Diego Jet Sports Club. We have two Jet Skis and a boat right now and have owned Jet Skis for about six years. Through the Club we have participated in many events, (all volunteer status by the way), and have learned and experienced many new things. Our daughters, ages 16, 13 & 10 have been with us through this all. They have gone to many safety classes and will continue to do so.

We are in support of the IJSBA Skat-trak World Finals being in San Diego this year and will help in any way needed. This is a big event that will bring many dollars into San Diego. I have learned from other events that safety is always the number one concern. I have no doubts that this event will be just as safe. As I stated above, my girls have been raised around Jet Skis and boats, and with anything in life the more you learn and prepare the better off you are.

Please add our family's name to the others that are for the World Finals to be held in San Diego.

Cordially,



Denise Barreto & Family

CC: San Diego Special Events

June 26, 1999

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JUN 29 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Ms. Dianah Lilly
California Coastal Commission
31111 Camino Del Rio N #200
San Diego CA 92108

Dear Ms. Lilly,

I have learned that a few people who do not like powerboat racing are petitioning the Coastal Commission to have the International Jet Sport Boating Association (IJSBA), Skat-trak World Finals races stopped, demanding the IJSBA pay for an environmental impact report.

I have also learned that the City of San Diego approved these races and granted a "Negative Declaration", which would not require an environmental impact report. The city found that the races would "not have a significant effect on the environment". These few individuals are requesting something totally unnecessary.

These race are good for the City of San Diego and all surrounding cities. They will bring in tourist revenue during a slow month, October. People from 36 countries participate in these races and bring their families and friends. The races are aired on ESPN bringing more world wide exposure to San Diego. But most of all this is the largest watercraft event in the world and San Diego is the perfect place for it.

Sincerely,

Shonna Fleck
Signature

Shonna Fleck
name

4147 Utah St,
address

S.D. 92104
address

SAME LETTER WITH
296 SIGNATURES

cc: San Diego Special Events Dept.

Supportive ISJBA Members:
+ Fans

RECEIVED

JUN 29 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Name Address

Deanna Evans
Mike Evans 2417 S 1950 E St George UT 84790
2417 S 1950 E St George UT 84790

Matt Manson 10519 Colorado Rd ATAS CA 93422
Luke Manson 10919 Colorado Rd Atascadero, CA 93422
Mike Wright 9200 Bloomfield Ave #7 Cypress CA 90630

Kevin Froese 5482 Golden West Ave Riverside CA 92509
Kelly Wright 9200 Bloomfield #7 Cypress, CA 90630

Jim Lewis 716 5th Ave NW Puyallup WA 98371

STEVE FITZGERALD 4066 W. MARTIN LANE CA 92009

David Fox 121 E Granada Ct. Ontario Ca. 91764

Tim Alley 1248 Flemington Rd Riverside CA 92506

Jim Hakow 5395 OLD DAIRY WAY BONITA, CA. 91902

Dan Baptista 1174 Del Sur CT CV. CA 91910

Lisa Amoroso 2949 Unicornio #10 Carlsbad, Ca 92009

Greg Amoroso 2949 UNICORNIO CARLSBAD, Ca 92009

Patti Sebel 1395 Sunset Shore Rd, Fallbrook, CA 92008

Audia Hakow 5395 Old Dairy Way, Bonita, CA 91902

Deanna Hakow 5895 Old Dairy Way - Bonita. CA 91902

Kirk Workman 2358 Valley View Pl Escondido CA 92026

~~Josh Lathaye~~ 3810 American Ave. LAMESA CA 91941

Amanda Prescott 3810 American Ave. LAMESA CA 91941

John Prescott 9385 Dian Ave. Spring Valley CA 91941

Lucas Prescott
Larry Lathaye Box 1164 El Cajon

World Finals - San Diego Supporters
FJSBA Members + Fans

RECEIVED.

JUN 29 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DIST

CHUCK TAYLOR

PO BOX #2 85342

Ted Miller

Henderson Nu 89015

JAY HAWKINS

L.V. UU. 89122

~~Jay Hawkins~~
Don Fryer
Ben Younger
Ben Carr

Phoenix 85032

Phoenix 85032

Phoenix 85032

RECEIVED

World Finals - San Diego
Supportive IJSSBA Members and Fans

JUN 29 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Name:	Address:
Sylvia Gonzales	1778 Ravenscrest Dr. Brea CA 92821
Maria DiTurno	3300 Palm Dr #318 Fullerton CA 92833
Diane DeJarnett	865 Buttonwood Dr Brea CA 92821
Dan Andrews	4941 Del Mar Ave. San Diego CA 92107
KATHY ARANT	5119 Telegraph Way Riverside, CA 92506
Nicole Coute	12035 Arden Ave Highland CA 92346
ROSCOE TULLS, JR	27112 STRATFORD HIGHLAND, CA 92346
SCOTT HOWES	6035 ARDEN AVE Highland CA. 92346
RANDY TULLIS	7183 BRADFORD, AVE HIGHLAND CA 92346
ROB KURN	4116 W. WETFIELD RD DUX AZ 85029
Kurt Geisel	4326 W Charleston Ave

Connie Braun
3024 Laurashawn Lane
Escondido CA 92026-8525
(760) 489-0668

RECEIVED

JUL 1 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

June 30, 1999

Attn: Dianah Lilly
Calif Coastal Commission
3111 Camino Del Rio North, #200
San Diego CA 92108-1725

Dear Ms. Lilly:

I'm writing regarding the *IJSBA World Finals* event coming to Mission Bay this year. My family and I are looking forward to the event. We have personal watercraft ourselves and the opportunity for my children to see the racers doing something they love on a competitive level is such a positive example for them. The racers are welcoming and kid loving. At other events, we've been able to walk through the pits, see the boats and talk with race teams. Almost all of those teams, even the ones with big sponsors, are families. The racers sign autographs and chat with the kids. My son, Benjamin, loves it.

I've read about the concerns of impact to the environment. It's got to be pretty minimal compared to normal boating weekends on the bay. At the Silver Strand, there were only about 20 boats in the water at any given time. The boats are finely tuned to run at optimal performance. I've read that people are concerned about unburned fuel being exhausted into the water. These race teams are pretty effective at getting the boats to burn as much fuel as possible, it makes the boats more competitive. It would be nice if the technology and expertise used to tune these boats was used on pleasure craft.

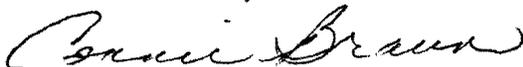
There seems to be an issue regarding Eel grass around Fiesta Island being damaged by this event. Is the event using areas that are normally unused during regular boating weekends? It doesn't seem so to me and again, there will be fewer people in and out of the water during the races than there are on regular weekends.

My understanding of the trash on land is that it's a requirement of the permit to have the area cleaned up after the event. On our normal weekends down there, I'm appalled at the amount of trash some individuals or families just get up and walk away from. The IJSBA won't do that, they have to comply with the permit requirements.

People have voiced their concern about the traffic in the Mission Bay area. Honestly, we spend a lot of time at the water and traffic in Mission Bay is regularly pretty heavy. Because we have such wonderful weather for so much of the year, my family chooses to visit really popular areas selectively if we don't want to deal with traffic.

I understand both the enthusiasm and reluctance we've seen in the general public about this event. I believe that much of the reluctance is because people have believed misinformation about the number of boats on the water and the type of people this race will draw. I'd like to encourage your support of the event and your attendance at it. You'll see that it's great fun and well run.

Thanks so much for your time!



Connie Braun

June 21, 1999

RECEIVED

JUL 1 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Dianah Lilly
3111 Camino Del Rio N. #200
San Diego, CA 92108-1725

Ms. Lilly
Dear ~~San Diego Special Events~~:

Our membership consists of residents throughout San Diego County. We currently have over 130 members. Our membership is very excited that the IJSBA Skat-trak World Finals are coming to San Diego this year. What a great event for the City of San Diego. The location couldn't be better. Having the event on Mission Bay's Fiesta Island is the perfect spot. Plenty of room, with little to no impact on the surrounding communities.

This event should bring between \$5-10 million dollars in revenue during our off-peak time of year for tourism. Not only will visitors be coming from over 36 countries, but ESPN will give San Diego more international exposure with a weeks worth of activities. Lots of visitors with lots of money to spend throughout San Diego, especially those areas closest, Mission Bay and Pacific Beach.

The aspect that our club is most pleased about is that it will increase boating safety awareness with personal watercraft users who are at the event. The Coast Guard will be providing the Operation Boat Smart Safety Tent at this event and our club will also have a booth with boating safety information.

Some people may have concerns about the number of PWC in use during the event, but from participating in this event in Lake Havasu, I know there will be fewer PWC in use during the event than there is in Mission Bay on any summer weekend. Keeping in mind that the races limit the number of watercraft on the water at any given time.

Bottom line is that we are very excited to have San Diego be the host city for such a great event.

Sincerely,

Kurt & Melissa Schaefer

Kurt & Melissa Schaefer
Members SDJClub

CC: San Diego Special Events

Jessica Donovan
710 Coronado Ct. San Diego, CA 92109

Diana Lily / Deborah Lee
California Coastal Commission
3111 Camino Del Rio, Suite 200
San Diego, CA 92108-1725

July 13, 1999

RECEIVED

JUL 15 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

RE: Upcoming Skat Trak World Final P.W.C. Event.

Dear Ms. Lilly/

Upon reading the articles on the event, it is obvious that many parties are uninformed on the facts available concerning pollution levels in our Bays (Mission Bay in particular).

Hydrocarbon residues in our waterways have been studied for decades. During the 1980's, the discovery of PCB's in the waters of Mission Bay prompted extensive studies by the City of San Diego in to the air, water surface, and water column and bay floor sediments. Hydrocarbons were also sampled. The study showed that Hydrocarbon counts varied daily, with the weekends recording vastly higher percentages than weekdays.

The hydrocarbon counts, during the event, will be lower than normal due to the closure of traffic to boats/watercrafts in the event area. The racer's watercrafts are extremely efficient versions of the two-cycle engine, (exhausting minimal amounts of hydrocarbons compared to other two cycle engines). Computing the released hydrocarbons is a simple equation based upon engine displacement, thermal efficiencies etc. A similar event, the "Thunderboat Event", that yearly tours in Mission Bay, also releases hydrocarbons from the varied Gas/Alcohol/Kerosene and Jet Fuels expelled by their various engines and turbines. Obviously, this event does not pollute our bay, and has not required an Environmental Impact Study.

California State Waterways Department studies show that many recreational boats either willfully or automatically "pump out" extremely hydrocarbon-laden bilge water into the bay "as necessary". This practice contributes greatly to the hydrocarbon counts in Mission Bay and even more so in San Diego Bay (due to the larger military, commercial sector using the bay). The two-cycle engine industry is aware of efficiency problems and is working to correct engine designs to meet new federally mandated requirements. This is taking place now. Soon the underinformed extremist groups will realize that the two-cycle engine will be as pollution free as any internal combustion engine can be. Also, from a health standpoint, we should be aware that the dangers caused by the PCBs leeching into the waters, from the sunken dumpsite on the Northeast end of the bay, is a much larger pollution problem needing to be dealt with.

Sincerely,


Jessica Donovan

cc: International Jet Sport Boating Association
cc: San Diego Special Events
cc: San Diego Jet Sport Association

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0001
(916) 319-2078
FAX (916) 319-2178

DISTRICT ADDRESS
1350 FRONT STREET, SUITE 6013
SAN DIEGO, CA 92101
(619) 234-7878
FAX (619) 233-0078

howard.wayne@assembly.ca.gov

Assembly California Legislature

HOWARD WAYNE
ASSEMBLYMEMBER, 78TH DISTRICT

CHAIR:
NATURAL RESOURCES

MEMBER:
HEALTH
INSURANCE
WATER, PARKS AND WILDLIFE
VETERANS AFFAIRS



July 15, 1999

RECEIVED

JUL 19 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

The Honorable Susan Golding
Mayor
City of San Diego
202 "C" Street
San Diego, CA 92101

Dear Mayor Golding:

I encourage you to complete a full Environmental Impact Report of the proposed International Jet Sports Boating Association's world championship competition slated to begin in San Diego this October. This event could have significant environmental impacts to the air, water and wildlife of Mission Bay.

Personal watercraft (PWC) engines are noted for their horrible polluting characteristics. According to the San Diego County Air Pollution Control District, a single personal watercraft operated for seven hours, emits as much air pollution as a new car releases over the course of 100,000 driving miles. The event's sponsors also concede that personal watercraft release unburned oil and gasoline into the water.

Oil pollution caused by offshore oil platform accidents has resulted in a public outcry against the further degradation of our coast. However this annual race would, not by accident, but by its nature, pollute Mission Bay with oil and gasoline.

This annual race would promote Mission Bay as a haven for personal watercrafts, which have been shut out of National Parks and Lake Tahoe because of the very pollution they cause. Therefore, absent an Environmental Impact Report, I am not convinced that holding this event is in the best interest of the people of my district. I respectfully request the City of San Diego complete a full Environmental Impact Report under the California Environmental Quality Act prior to forwarding this proposal to the California Coastal Commission.

Sincerely,

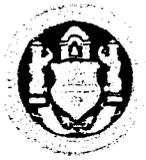
A handwritten signature in cursive script that reads "Howard Wayne".

HOWARD WAYNE
Member of the Assembly
78th District

EXHIBIT NO. 6
APPLICATION NO. 6-99-75
Letters of Opposition
California Coastal Commission

cc: California Coastal Commission
City Council, City of San Diego
Parks and Recreation Board, City of San Diego
Mission Beach Town Council
Mission Beach Precise Planning Board
Pacific Beach Town Council
Pacific Beach Planning Committee
International Jet Sports Boating Association
Environmental Health Coalition
Surfers Tired of Pollution

THE CITY OF SAN DIEGO



VALERIE STALLINGS

COUNCILMEMBER
SIXTH DISTRICT

RECEIVED

JUL 22 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

July 14, 1999

California Coastal Commission
45 Freemont Street, Suite 2000
San Francisco, CA. 94105-2219

RECEIVED
JUL 19 1999

CALIFORNIA
COASTAL COMMISSION

Dear Honorable Coastal Commissioner:

I am writing this letter to express my support for further environmental analysis to determine the impact that the IISBA World Finals Personal Watercraft Race will have on Mission Bay Aquatic Park.

The final Mitigated Negative Declaration report issued by City of San Diego on June 25, 1999 states that over the eight day race period, more than 9,000 gallons of unburned fuel and oil will be discharged into Mission Bay. The Mitigated Negative Declaration concluded, however, that the unburned fuel discharged into the bay will not have a significant environmental impact on water and air quality. I am concerned that a portion of this unburned fuel will evaporate, turning from liquid into smog-forming emissions, while the remaining percentage will stay in the water significantly impacting the fragile Mission Bay ecosystem.

I urge the California Coastal Commission to place additional conditions on the event organizers and to request that further environmental studies be conducted to determine the true environmental impact this event will have on Mission Bay. Furthermore, I ask that the California Coastal Commission place these same conditions on similar events that take place along the City of San Diego's coastline.

Sincerely,

A handwritten signature in cursive script that reads "Valerie".

Valerie Stallings
Councilmember
District Six

Mission Beach

Precise Planning Board

CHAIRPERSON

Kevin McCabe

BOARD MEMBERS

Alan Murray

Gary Glover

Bill Kocar

Dennis Lynch

Pamela Glover

Mike Meyer

Chris Cott

Carol Havlat

Mike Soltan

Pat Gallagher

Leo Urbanski

Tom Saska

Sherry Kendrick

Zeva

California Coastal Commission
Ms. Diane Lilly
3111 Camino del Rio North
San Diego, CA 92108

RE: CDP Coastal Development, Application #6-99-75

Dear Ms. Lilly:

The Mission Beach Precise Planning Board voted at our meeting on July 20, 1999 to adopt the following steps regarding the permitting of the Mission Bay Jet Ski Races:

1. oppose the issuance of the Special Event Permit for the IJSBA Jet Ski Races on Mission Bay until the City of San Diego prepares an Environmental Impact Report (EIR), and the public has the opportunity to review and comment on the EIR.
2. Oppose the issuance of a Coastal Development Permit by the California Coastal Commission for the IJSBA Jet Ski Races until the City of San Diego and IJSBA prepare an EIR.

Our Board feels that there is adequate time to prepare an EIR and that this should have been required from the beginning of the permit process. We need to preserve the natural resources of Mission Bay and at the is time there are too many unanswered questions and issues that have not been addressed.

Sincerely,
Pamela Glover
Pamela Glover
Secretary

THE MISSION BEACH PRECISE PLANNING BOARD MEETS ON THE THIRD TUESDAY OF THE MONTH. THE MEETINGS ARE HELD IN THE COMMUNITY ROOM AT BELMONT PARK (ACROSS FROM THE PLUNGE) AND START AT 7:00 PM. MEETINGS OF THE MISSION BEACH PRECISE PLANNING BOARD ARE OPEN TO THE PUBLIC.

P.O. Box 9842 San Diego CA 92169
PHONE: (619) 488 - 2550 FAX: (619) 488 - 3980

July 21, 1999

RECEIVED

JUL 22 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

7/22/99
p9/0f6**S.T.O.P.**

Surfers Tired of Pollution
705 Felspar Street
San Diego, CA 92109
(858) 270-3886

To: Diana Lilly
California Coastal Commission
RE: Mission Bay Jet Ski Races, CDP Application No. 6-99-75

Surfers Tired of Pollution (S.T.O.P.) is opposed to the issuance of a Coastal Development Permit for the Mission Bay Jet Ski Races.

S.T.O.P., San Diego BayKeeper, Pacific Beach Community Planning Committee, Pacific Beach Town Council, San Diego Sierra Club Coastal Committee, San Diego Audubon Society, Environmental Health Coalition, League of Conservation Voters San Diego, Mission Beach Town Council and the Mission Beach Precise Planning Board are on record as being opposed to the City of San Diego's use of a Mitigated Negative Declaration (MND) to assess the environmental impacts for the proposed Mission Bay Jet Ski Races, and in favor of the preparation of an Environmental Impact Report (EIR) as required under the California Environmental Quality Act (CEQA). On June 23, 1999 the project was submitted to the Mission Bay Park Committee for approval, and the motion to approve failed to pass.

Assemblyman Howard Wayne has requested the preparation of an EIR. Councilmembers Christine Kehoe and Valerie Stallings have also issued letters and statements supporting more environmental review for the proposed project. The *San Diego Union-Tribune* issued an editorial on July 5, 1999 ("Consider it carefully, Pollution by personal watercraft needs more study"). It concluded that, "The city should strive to improve the water quality of Mission Bay, not further degrade it."

The proposed event would include 750 racers competing in the event, as well as concerts, snowmobile races, vendor booths and fuel storage on Fiesta Island. The event is scheduled for October 10 through the 17th, with preparations beginning October 1 and cleanup lasting until October 21. The City of San Diego signed a three-year contract with the International Jet Sports Boating Association (IJSBA) in December 1998 to allow them to hold the World Finals in Mission Bay. The IJSBA is already promoting the event in the news and on their website, even though the California Coastal Commission has issued no coastal development permit.

An admission fee will be charged on the last four days, ranging from between \$12 and \$18. Access for other water users during the event will be restricted from October 7 to October 19. Fiesta Island will also be used as a fuel storage facility. According to the City of San Diego "Fuel would be delivered to the site and stored in 55-gallon drums within a fueling compound. A maximum of 128 drums (7,040 gallons) of fuel would be stored at any one time."

The City of San Diego has identified environmental impacts to both water and air quality that will occur if the proposed race takes place. According to the City of San Diego's final MND dated June 25, 1999:

"... the event would use 30,912 gallons of gasoline and, if racing jets also exhaust 30% of fuel unburned, the event would discharge 9,274 gallons of unburned fuel into Mission Bay over three weekend days and five weekdays. Because jet skis emit the majority of the burned exhaust into the water (except when the exhaust pipe is out of the water), a commensurate amount of burned fuel currently is and would be discharged into the bay. Some of this fuel would bubble up and be released into the air while some would be trapped in the water." (See page 6 of MND.)

The MND estimates that during the summer personal watercraft already account for over 70,000 gallons of unburned fuel and oil being discharged into Mission Bay. (See page 5 of MND.)

The only "mitigation" proposed in the final MND by the City of San Diego to address these discharges is to "ensure that drip pans are located under all watercraft to contain fuel and oil while the watercraft are in the pit area". There is no mitigation, however, to address the discharging of over 9,000 gallons of unburned fuel and oil and over 9,000 gallons of burned fuel and oil directly into Mission Bay. The City states that, "Water quality impacts are not significant and no mitigation is required."

The City's MND reached this conclusion based on three studies. The first, "Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region", was issued in 1996. It is based on sampling data collected in 1993. The report showed the presence of both high molecular weight and low molecular weight polycyclic aromatic hydrocarbons (PAHs) in Mission Bay. PAH's are components of crude and refined petroleum products and incomplete combustion. The conclusion made by the city (no impact) failed to look at the 1998 National Oceanic and Atmospheric Administration (NOAA) "Sediment Toxicity in San Diego Bay Region" map. It shows that the area designated solely for personal watercraft use and the water surrounding the PWC-only area as having slight to moderate toxicity. To put this in perspective, "moderately toxic" is the same term used by NOAA to describe most of San Diego Bay, which is considered the second most toxic of 18 bays studied in the United States.

According to NOAA, toxic contaminants can pose a serious threat to the health of marine life. Many contaminants are accumulated in plant and animal tissues in concentrations much higher than in their environment. A study conducted in 1997 at Lake Tahoe showed that "ambient levels of exhaust components from motorized watercraft cause photo-activated toxicity to fish and zooplankton as well as direct (i.e., no-UV) toxicity to zooplankton". The work was funded in part by a grant from the National Marine Manufacturer's Association. (See attached.)

The second study referenced by the city stated that (3) shore stations around the perimeter of Fiesta Island failed to detect contaminants that could be linked to gasoline and oil. No details, no sampling sites, and no sampling protocol were provided in the city's MND to enable any discussion as to the conclusions of this study. The third study referenced was based on an IJSBA event held in 1997 in Orange County. The same comments apply for this study as for the second study.

It would appear that the city failed to ask and/or the IJSBA failed to reveal the fact that a study of a two-day IJSBA event was conducted in May 1999. Sampling was done for pollutants such as benzene, MTBE and toluene. Preliminary results of hydrocarbon testing from the New York IJSBA event shows that, "In general, the samples taken at the end of the second day of competition (5/23) show a sharp increase for those sites located in the vicinity of the race course, whereas those sites outside the race area showed slight or no increase." The report shows increased levels of MTBE detected on the second day of competition. Additionally three sites in the race area showed considerable exceedences for toluene, in some instances as much as 17 times the New York state standard of 5 parts per billion.

Given that the IJSBA event is scheduled to last for at least eight days, it is reasonable to assume that toluene and benzene levels will increase in Mission Bay, possibly to levels in exceedence of California state standards, if the event is approved.

The MND also identifies an increase in air pollution if the event is approved.

"According to the San Diego Association of Governments, in 1998 there were 68,050,000 (sixty-eight million and fifty thousand) vehicle miles traveled per day within San Diego County alone. The California Air Resources Board estimates that seven hours of jet ski operation is equivalent to 100,000 passenger car miles. Therefore, the proposed 2,876 hours of jet ski operation would equate to a total of 36,800,000 vehicle miles over eight days (54% of a single day's existing miles)." (See page 4 of MND.)

There is no mitigation or monitoring discussed, even though the MND admits the event will result in more hydrocarbons and nitrogen oxides (smog-forming emissions) being released into the environment. The City of San Diego states that, "This increase is not significant and no mitigation is required."

There was no analysis provided in order to reach this conclusion, and no discussion regarding the existing air quality in San Diego County. For example, according to the California Air Resources Board (CARB), San Diego is listed as a non-attainment zone for California's one-hour ambient air quality standard for ozone. The San Diego Air Basin is also listed as one of six regions in California that does not meet the federal one-hour standard for ozone. Personal watercraft discharge hydrocarbons and oxides of nitrogen (NOx). The reactive organic gases (ROG) are a subset of hydrocarbons that are most involved with the formation of ozone.

According to CARB, "Ozone, which is created by the photochemical reaction of NOx and ROG, causes harmful respiratory effects, including chest pain, coughing, and shortness of breath, affecting people with compromised respiratory systems and children most severely. In addition, NOx itself can directly harm human health. Beyond their human health effects, other negative environmental effects are also associated with ozone and NOx. For example, ozone injures plants and materials. NOx contributes to the secondary formation of particulate matter (PM) in the form of nitrates, acid deposition, and excessive growth of algae in coastal estuaries." (Emphasis added.)

The City's MND did not evaluate the total emissions levels of ROG and NOx that would occur as a result of this event. In fact, the MND dismissed *all* air quality impacts as being "temporary".

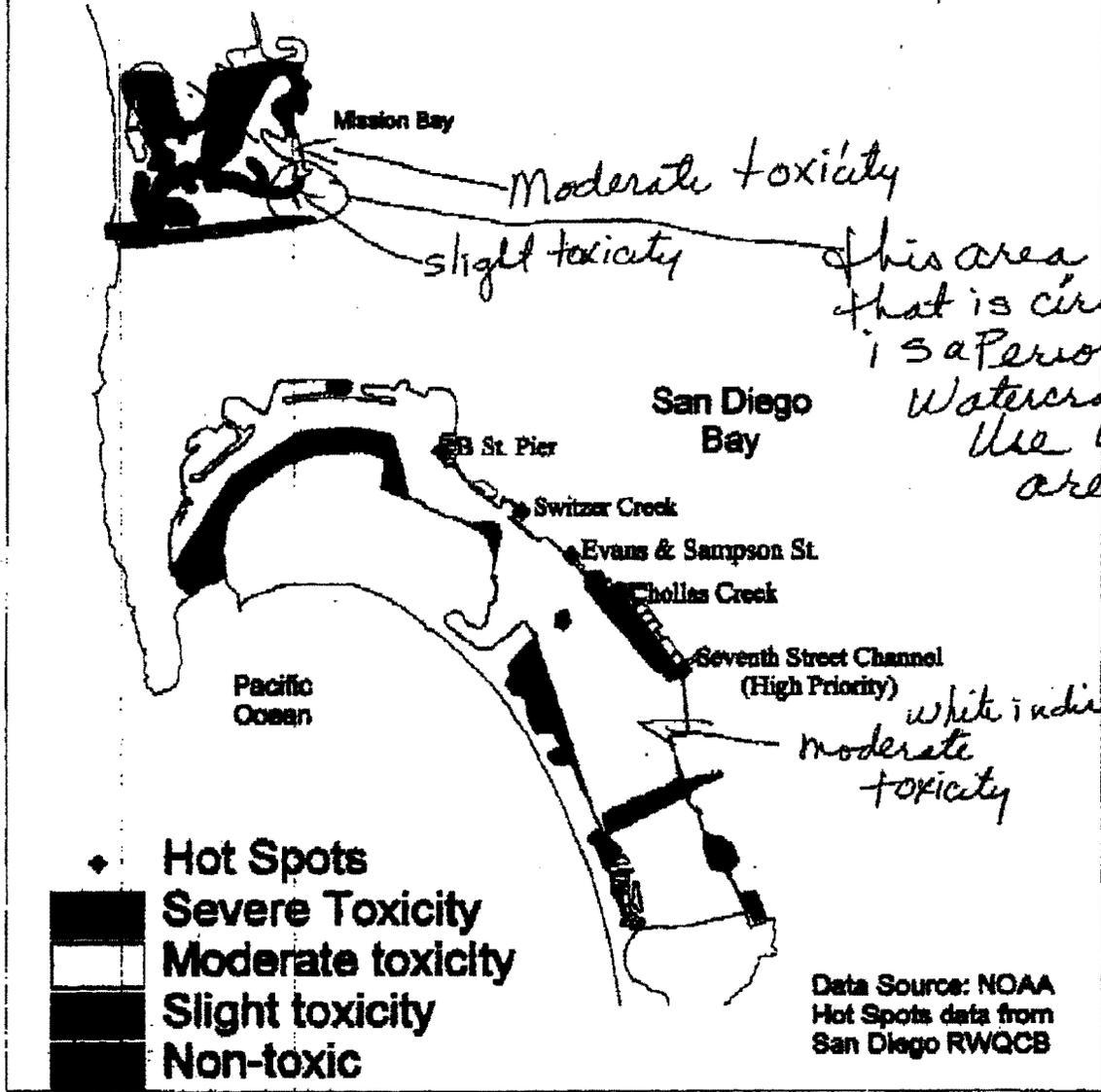
The secondary and cumulative impacts to air, water, biological resources, traffic, public health and public access that will occur if Mission Bay becomes the new "home" of the IJSBA World Finals also needs to be addressed by the City of San Diego. Personal watercraft use is being banned and restricted throughout the United States. This event, coupled with the use restrictions in the National Parks, Lake Tahoe and other communities, could dramatically increase the use of personal watercraft on Mission Bay, particularly with the added worldwide promotion and three-year commitment.

Communities are concerned about the air, water and noise pollution, not to mention the safety issues associated with personal watercraft use. For example, in 1997 according to the California Department of Boating and Waterways, "Personal watercraft accounted for 17% of the vessels registered in California, but were involved in 42% of reported boating accidents and 52% of injuries." In San Diego, according to the San Diego City Lifeguards, over 50% of all boating accidents (from 1987 to present) involved personal watercraft.

There has been adequate time to prepare an EIR. The City of San Diego signed a contract with the IJSBA in December 1998. The fact that the City of San Diego and the IJSBA chose to wait until the end of June to issue a final MND does not negate the need for a full EIR. Poor planning on the part of the City and IJSBA is not an acceptable reason to deny the public their right to participate in protecting and preserving the natural resources of Mission Bay. The preparation of an EIR is the reasonable and proper way to ensure that significant environmental impacts are avoided, and that the public has a real opportunity to participate in the process. The San Diego City Council held no public hearings on this matter because it is considered a Special Event Permit.

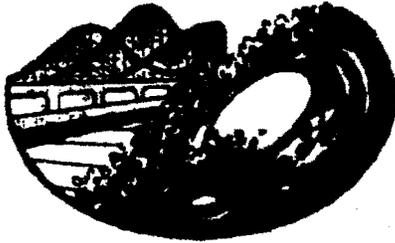
S.T.O.P. requests that the California Coastal Commission oppose the issuance of a Coastal Development Permit for the IJSBA Jet Ski Races at Mission Bay and require the City of San Diego and IJSBA to prepare an EIR. Mission Bay is already listed as an impaired water body under section 303(d) of the Clean Water Act, due to bacteria. This means that Mission Bay does not meet the most basic standards of "fishable and swimmable" waters. To allow additional pollutant loads to be discharged without a full EIR is to commit Mission Bay to further degradation.

Sediment Toxicity in San Diego Bay Region



Data Source: NOAA
Hot Spots data from
San Diego RWQCB

Note: Map is in color so it has been marked to show slight and moderate toxicity areas



MISSION BEACH TOWN COUNCIL
P.O. BOX 8842, SAN DIEGO, CALIFORNIA 92109

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JUL 19 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

July 15, 1999

Mr. Michael Uberauga, City Manager
City of San Diego
202 C Street
San Diego, Ca. 92101

Dear Mr. Uberauga,

At the Town Council meeting on July 14th, a motion was approved to request the City to require an Environmental Impact Report before approving a permit for Jet Ski races promoted by the International Jet Sports Boating Association, that are to be held on East Mission Bay during October, this year.

The statistics cited by representatives of the IJSBA and Donna Frye (Surfers Tired of Pollution) were widely divergent, to the point of absurdity. Ms. Frye stated that the statistics she cited were from the City studies. These differences preclude any reasonable conclusion of the potential water and air pollution that may be generated by this event. The only practical solution to this conflict of information is to ask for an EIR which is open to more scrutiny and expert input.

Mission Bay is a jewel of this tourist oriented City. It is subject to pollution from many sources. Each source is as bad as the other. We must be informed about, and be on a trend to, at least, minimize all pollution in this Bay. The statistics presented to this Council last evening were so wild, that any thinking person would be led only to additional (hopefully objective) information, to support or oppose the event.

Sincerely,

Richard Mitchell, Pres.

Catherine A. Strohleln
3559 Jewell Street
San Diego CA 92109-6723

Phone: 858/274-2362
Fax: 858/274-2361
e-mail: cathstro@att.net

July 21, 1999

Peter Douglas, Executive Director
California Coastal Commission
via Fax

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JUL 21 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Re: Personal watercraft races on Mission Bay

The City of San Diego has prematurely signed a contract with the International Jet Sports Boating Association (IJSBA) to allow the finals of the season to take place on Mission Bay in October. The contract states applicable permits must be obtained. It is now the 11th hour and the Coastal Commission is being pressured to approve the city's Mitigated Negative Declaration and allow the races to go forward. We believe the bay should not be held hostage because of errors made by the City and the IJSBA.

The IJSBA argues incorrectly that the...emissions by all recreational boats...account for only 3 percent of the nation's total hydrocarbon emissions. Even if those statistics are accurate, they're illogically comparing apples and oranges. There are millions more road vehicles than water vehicles and, unlike PWC, most road vehicles have emission controls. PWC's don't pollute Death Valley. So what?

A Washington Supreme Court decision overturning a lower court ruling on a suit brought by the IJSBA, stated:

Tiny San Juan County in Washington state is the first local government in the country to ban the use of personal watercraft (PWC) in its waters.... The county includes some 400 islands.... There are approximately 375 miles of shoreline and about 440 square miles of marine waters within the county boundaries.... In the San Juan Islands, the quality of the natural environment, marine habitat issues, and the potential for irreconcilable conflicts between these and PWC use have been recognized by the highest court in the state as warranting use of local government authority to "just say no." (The full decision may be found at <http://www.epa.gov/owowwtr1/estuaries/coastlines/janfeb99/jetski.html>)

San Juan County has 281,600 acres of *open water*. Mission Bay has approximately 1500 acres. That is one-half of one percent of San Juan's water--and the bay is *not* open water. It takes a long time to flush the bay; stuff that sinks to the bottom, such as heavy metals, will stay there virtually forever, and will be absorbed by bottom-feeding organisms. Those organisms are, in turn, eaten; toxins travel up the food chain. People eat fish from Mission Bay.

San Juan County banned all PWC. Why is it unreasonable to ask 750 ski racers to wait for an Environmental Impact Report (EIR)?

Through its spokesman, Stephan Andranian¹, the IJSBA said their fuel will not contain MTBE, which means, we presume they will bring it from outside California. Will it be unleaded? What additives will it have? Will it meet California emissions standards? These questions would be answered in an EIR. Perhaps that is why the IJSBA doesn't want it

Mr. Andranian stated that PWC engines are the same as many other outboard two-cycle engines. On the contrary, according to the California Air Resources Board (CARB), PWCs are far more polluting than two-stroke outboards. There are seven times more two-stroke boat registrations than PWC registrations. Even so, PWC craft spew *more than half* of all marine engine emissions in California. (Proposed [CARB] Regulations for Gasoline Spark-Ignition Marine Engines," June 11, 1998)

Two-stroke engines operate on a 50:1 ratio of gasoline to oil, discharging 25-30% of unburned fuel into the water (ARB Emissions Hearing). Tests run by *Boating World Magazine* indicate that PWC models burn from 5 to 14 gallons of fuel per hour. CARB data indicate an average two-hour ride on a PWC may dump three gallons of gas and oil into the water.

Mr. Andranian pointed an accusatory finger at sail boats in the bay. However, nearly all bay sailors use sails, not engines. He also enumerated other offending vessels, including life guard boats. We strongly doubt we have ever had 750 outboard engines over any one-week period in one small area of Mission Bay.

He said PWC are getting cleaner and that they will be highlighted in the race. But he does not say they will be *used* in the race. Improved vessels are irrelevant if they are merely on display. Also irrelevant is the argument that there are other causes of bay closures. All closures are undesirable and all should be eliminated. We're working on that. He seems to argue that more pollution doesn't matter.

Mr. Andranian asserts, "...boat racing was one of the primary uses for which Mission Bay Park was designed." He cites no authority for that statement either, we flatly deny it. He was not here when the bay was dredged and designed, when the grass was laid, when the beaches were established. The truth is the bay was designed for water enjoyment—enjoyment which will be denied the general public, at least from the Fiesta Island beach, for three weeks in October if these races are permitted.

- Fact: an environmental impact report should have been prepared.
- Fact: the Jet Sports Boating Association should have had a permit from the Coastal Commission *before* advertising this race.
- Fact: the contract demands that permit, yet it has not been done.
- Fact: the City Manager mishandled this race by not announcing it late last year when the contract was signed—or better, before signing—and by not preparing an EIR.
- Fact: the city's Environmental Services Department did the citizenry a great *disservice* by perpetrating a Mitigated Negative Declaration on us. And the mitigation offered—drip pans under the PWC *on the shore*. Do they think we're idiots?

The City Manager should have considered another matter: the bay is occasionally closed to the general public during the year—e.g., the thunder boat races, rowers' regatta. Admission is charged to viewers and for parking. Other events restrict the park but do not charge—e.g., the X-games. Adding another such event is

¹*San Diego Union Tribune*, Sunday, July 18, 1999, page G-3

detrimental to those who want to use the park and to nearby residents, who suffer great inconvenience from congestion on the streets, property vandalism and loud noise which continues long after the races end.

We who live around the bay understand it is a recreation area and are able to cope with it, but events which draw huge crowds threaten our tranquility and our property. The pittance the city will receive from the IJSBA (which goes into the General Fund, not into providing services at the bay) is insufficient compensation.

Environmental groups and public boards in communities around the bay have advised the city to do an environmental study. These are not "a few groups who don't want recreational motorboats on Mission Bay," but a substantial number of elected and appointed citizens who care mightily about clean air and water and who live here all year round.

/s/ CATHERINE A. STROHLEIN

/s/ ALFRED C. STROHLEIN



Alfred C. Strohle
3559 Jewell Street
San Diego, CA 92109-6723

New Area Code: 858/274-2362
Fax: 858/274-2361
E-mail: cathstro@att.net

Mr. Peter M. Douglas, Exec. Dir.
and Commissioners
California Coastal Commission
3111 Camino del Rio North, Ste. 200
San Diego, CA 92108-1725

Via Fax: 521-9672

Dear Mr. Douglas and Commissioners:

July 21, 1999

This October, the International Jet Sports Boating Association is scheduled to hold its annual races on Mission Bay. In its continuing effort to encourage more "economic engines" to chug into town, the City Council granted a permit for 750 jet skis to race across the bay *without* an Environmental Impact Report (EIR).

This oversight, if left unchallenged, will have profound and lasting adverse effects upon the bay, especially from unburned fuel which is the hallmark of two-stroke engines.

I urge the Coastal Commission to honor its mandate to protect our jeopardized coastal resources in two ways:

- 1) suspend the races
- 2) require an Environmental Impact Report

Please note that the Jet Ski Association received its permit last year, well in advance of the October, 1999, races. There was more than adequate time to complete an EIR. Regrettably, the lack of time before October is now being cited as the reason for *not* completing an EIR. The city's haste in granting the permit without an EIR should not be used to excuse one at this time.

Sincerely,

/s/ **Alfred C. Strohle**

Alfred C. Strohle

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JUL 21 1999
CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

TO: Miana Lilly

FROM: Donna Frye

7/20/99

10f6

RE: CDP # 6-99-75

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JUL 21 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

Dear Miana,

I am faxing over a study,
funded in part, by the National
Marine Manufacturer's Association.
The tests were conducted July & August
of 1997 at Lake Tahoe.

Thank you,
Donna

Toxicity of ambient levels of motorized watercraft emissions to fish and zooplankton in Lake Tahoe, California/Nevada, USA.

J.L. Orr¹, A.C. Hatch², J.E. Weinstein¹, R.H. Findlay¹, P.J. McClain¹, S.A. Diamond³, R. Garret¹, W. Jackson¹, G. Burton⁴, B. Allen⁴. ¹Miami University, Oxford, OH 45056, USA; ²Wright State University, Dayton, OH; ³National Research Council, U.S. EPA, Duluth, MN; ⁴Univ. California-Davis, Davis, CA.

Poster number 3E-PO03, presented at the 8th Annual Meeting of the European Society of Environmental Toxicology and Chemistry (ESEAC-Europe), 14-18 April, 1998, University of Bordeaux, Bordeaux, France.

Abstract

Two, one-week experiments were conducted at Lake Tahoe to assess the impact of ambient levels of motorized watercraft emissions on zooplankton and fish larvae. Water was collected daily from a nearshore (NS) site and an offshore (FS) site, representing areas of high and low boating activity, respectively. Water from the sites was returned to shore and used in standard U.S. EPA effluent toxicity tests using zooplankton, *Caridina dubia*, and fish larvae (*Pimephales promelas*), that accounted for direct toxicity of exhaust components as well as ultraviolet radiation-induced toxicity of polycyclic aromatic hydrocarbons (PAHs). Chemical analysis revealed good correlation between peak boating activity and PAH concentrations in the lake (range 5-70 ng total PAH/L). A significant effect on fish growth was observed in the UV treatment of NS site water during Experiment 1 (46% decrease). There was significant mortality of zooplankton observed at all sites during both experiments in the UV treatments. Dose response relationships were observed between integrated PAH dose and mortality of zooplankton in UV treatments, and between PAH and reproduction in the no-UV treatments, indicating both photo-toxicity and direct toxicity on zooplankton. Results from these experiments provided evidence that ambient levels of exhaust components from motorized watercraft caused photo-toxicity to fish and zooplankton as well as direct (i.e., no-UV) toxicity to zooplankton.

Introduction

In 1997, the Governing Board of the Tahoe Regional Planning Agency passed a ruling that banned the use of carbureted 2-stroke engines from Lake Tahoe Basin effective June 1, 1999. The prediction of photo-induced toxicity due to polycyclic aromatic hydrocarbons (PAHs) in the lake was a major factor in this ruling. Thus, experiments were designed and conducted to assess the potential toxic and phototoxic impacts of ambient levels of motorized watercraft emissions in Lake Tahoe. These experiments were conducted during the months of July and August, 1997, near Tahoe City, California, USA (39°N, 120°W).

Methods

- Two, one-week experiments were conducted at Lake Tahoe (Figures 1 - 7) during the summer of 1997.
- Experiment 1 was conducted during the period 15 July - 23 July, 1997.
- Experiment 2 was conducted during the period 29 July - 06 August, 1997.
- Water was collected daily from a depth of 3m from two sites: nearshore (NS — 600' offshore from the Tahoe City Marina) and offshore (FS — approx. 2 miles S.E. of Tahoe City in deep water) (Figure 2).
- These locations were chosen based on estimation of local boating activity with the goal of testing a gradient of potential hydrocarbon contamination.
- Water from the sites was returned to shore and was used in standard U.S. Environmental Protection Agency effluent toxicity tests using zooplankton, *Caridina dubia*, and fish larvae, fathead minnow (*Pimephales promelas*), that accounted for direct toxicity of exhaust components as well as ultraviolet radiation-induced toxicity of polycyclic aromatic hydrocarbons (PAHs).
- A 0.5 µg/L addition of fluoraminone to FS water served as a positive, photo-toxicity control.
- Water collected from each site on a daily basis was also extracted and analyzed by GC-MS for PAHs to determine concentration and make-up of possible exhaust components in water.
- Data for survival and reproduction (zooplankton) and for survival and growth (fish) were analyzed for differences between sites and between UV and no-UV treatments. In addition, toxicity data were regressed against integrated PAH exposure to examine potential dose-response relationships for photo-toxicity and direct (i.e., no-UV) toxicity.

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SAN DIEGO COAST DISTRICT

Figure 7. Results of informal survey for total boating activity taken during water collection time periods. Numbers of boats include all use-categories and engine types, and are totalled over both experimental periods. Data shown below are intended to demonstrate a qualitative comparison for relative activities between offshore and nearshore sites, and do not represent a quantitative estimate of boating activity.

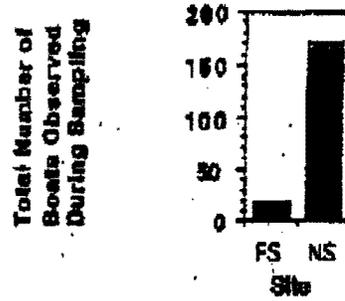


Figure 8. Summary of daily GC/MS measurements of PAH designated to be phototoxic during Experiments 1 and 2. Values are means \pm 1 standard error. Units on the X-axis are days ("T"=Tuesday, "W"=Wednesday, "Th"=Thursday, "Fr"=Friday, and "M"=Monday). "St" marks days on which storms occurred on the lake.

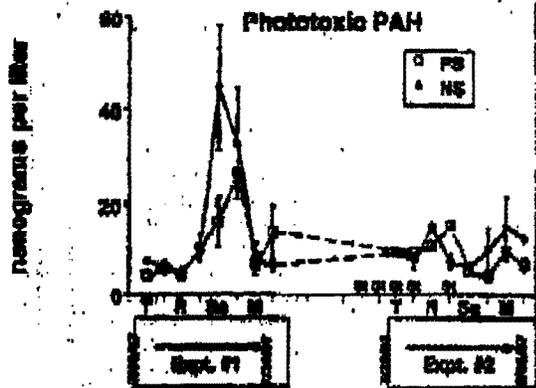


Figure 9. Weight of fish larvae at termination of Experiments 1 and 2 plotted versus integrated phototoxic PAH dose from Experiments 1 and 2. "FS" and "NS" represent the offshore and nearshore sites, respectively. "1" and "2" represent Experiments 1 and 2, respectively. Symbols represent mean values and error bars represent \pm 1 standard error of the mean. Lines drawn through data points represent predicted values based on regression analysis. The intersection of the two regression lines represents a "no observable effect dose" of 43.1 ng-day/L. The division of this dose by the duration of the experiment (7 days) was used to obtain a predicted "no observable effect concentration" (NOEC) of 9.0 ng phototoxic PAH/L.

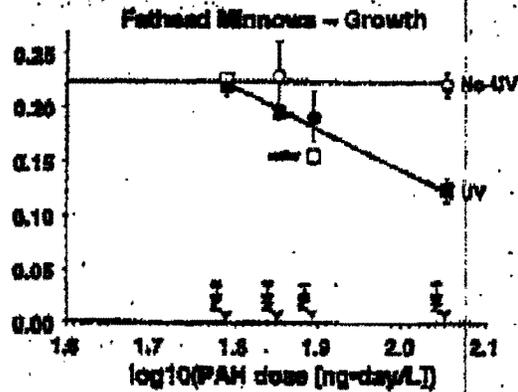
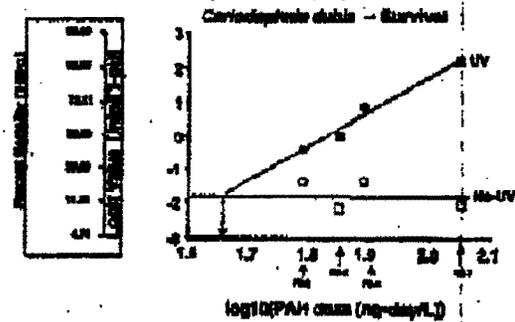


Figure 10. Log₁₀-converted mortality of zooplankton plotted versus integrated phototoxic PAH dose from Experiments 1 and 2. "FS" and "NS" represent the offshore and nearshore sites, respectively. "1" and "2" represent Experiments 1 and 2, respectively. The straight lines plotted through the data points represent predicted values of toxicity from logistic regression models fitted for each light treatment (i.e., UV and No-UV). The intersection of the two regression lines represents a "no observable effect dose" of 45.2 ng-day/L. The division of this dose by the duration of the experiment (7 days) was used to obtain a predicted "no observable effect concentration" (NOEC) of 6.5 ng phototoxic PAH/L.



Author List:
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Post-IT Fax Note	7871	Date	1999, 7/1
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Keywords:

PAH, 2-stroke engines, phototoxicity, aquatic, Lake Tahoe, UV

Toxicity of ambient levels of motorized watercraft emissions to fish and zooplankton in Lake Tahoe, California/Nevada, USA. J.T. Oris¹, A.C. Hatch², J.E. Weinstein¹, R.H. Findlay¹, P.J. McGinn¹, S.A. Diamond³, R. Garrett¹, W. Jackson¹, G.A. Burton², B. Allen⁴. ¹Miami University, Oxford, OH 45056, USA; ²Wright State University, Dayton, OH; ³U.S. Environmental Protection Agency, Duluth, MN; ⁴Univ. California-Davis, Davis, CA. Two, one-week experiments were conducted at Lake Tahoe to assess the impact of ambient levels of motorized watercraft emissions on zooplankton and fish larvae. Water was collected daily from a nearshore (NS) site and an offshore (OS) site, representing areas of high and low boating activity, respectively. Water from the sites was returned to shore and used in standard U.S. EPA exhaust toxicity tests using zooplankton, *Caridina dubia*, and fish larvae (*Pimephales promelas*), that accounted for direct toxicity of exhaust components as well as ultraviolet radiation-induced toxicity of polycyclic aromatic hydrocarbons (PAHs). Chemical analysis revealed good correlation between peak boating activity and PAH concentrations in the lake (range 5-70 ng total PAH/L). A significant effect on fish growth was observed in the UV treatment of NS site water during Experiment 1 (46% decrease). There was significant mortality of zooplankton observed at all sites during both experiments in the UV treatments. Dose response relationships were observed between integrated PAH dose and mortality of zooplankton in UV treatments, and between PAH and reproduction in the no-UV treatments, indicating both phototoxicity and direct toxicity on zooplankton. Results from these experiments provided evidence that ambient levels of exhaust components from motorized watercraft caused photo-activated toxicity to fish and zooplankton as well as direct (i.e., no-UV) toxicity to zooplankton.

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Session: 3B, 3C, 4J

My preference is platform but will accept poster

Figure 1. Lake Tahoe is located along the border of California and Nevada, USA, at longitude W120° and latitude N39°. (Land-use information and map adapted from U.S. Geological Service information.)

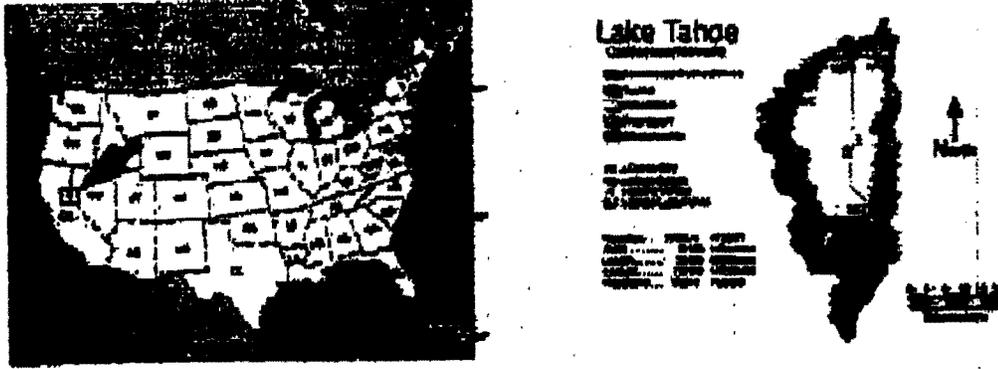


Figure 2. Sampling sites for water collection for Experiments 1 and 2. PS and NS represent the offshore and nearshore sites, respectively. Site location was determined each day using a Global Positioning System (GPS) device to determine longitude and latitude. Size of sampling areas was determined by wind velocity and direction for the distance drifted on the sampling vessel (engine off).

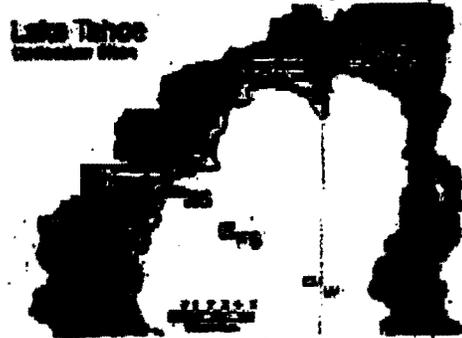


Figure 3a. Tahoe City Marina with view to the South. NS site was located along the edge of the no-wake zone (200 m). PS site was located approximately 3 km southeast of the marina.

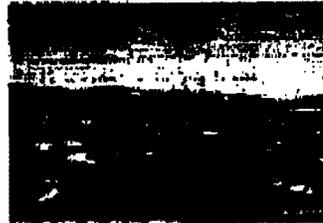


Figure 3b. Water was collected on a daily basis from a depth of 3 m using battery powered pumps into glass containers. Water was transported back to the Tahoe Research Group Laboratory for use in toxicity tests.



Figure 3c. Tests were conducted outdoors under ambient sunlight conditions. UV and no-UV treatments were achieved using sheets of UV transparent (left half) or UV opaque (right half) plexiglass.



Figure 11. Total young produced per female of zooplankton at termination of Experiments 1 and 2. "PS" and "NS" represent the offshore and nearshore sites, respectively. "1" and "2" represent Experiments 1 and 2, respectively. "PL-1" represents a 0.5 µg/L addition of fluoranthene to PS water, used as a positive, photoactive control.

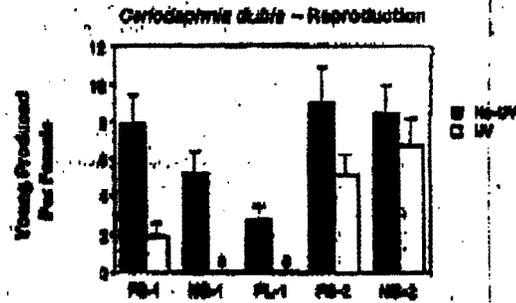
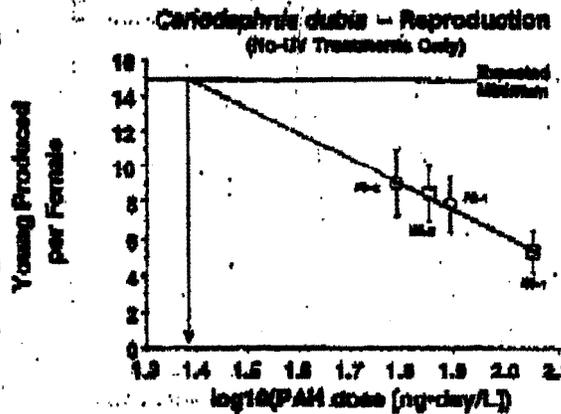


Figure 12. Total young produced per female of zooplankton at termination of Experiments 1 and 2 plotted versus integrated phototoxic PAH dose from Experiments 1 and 2. "PS" and "NS" represent the offshore and nearshore sites, respectively. "1" and "2" represent Experiments 1 and 2, respectively. Line down through data points represents predicted values based on regression analysis. A reference line is drawn through the minimum reproductive output expected for this species (15 young per female in a 7 day period as specified by the U.S. EPA). The intersection of the two lines represents a "no observable effect dose" of 24.0 µg-day/L. The division of this dose by the duration of the experiment (7 days) was used to obtain a predicted NOEC of 3.4 ng phototoxic PAH/L.



Conclusions

- Photoactive materials were present in Lake Tahoe waters in sufficient levels to cause measurable, negative impacts on fish growth, and on zooplankton survival and reproduction.
- Ambient concentration of PAHs ranged from 5 - 70 ng/L, with an apparent "weekend peak" during Experiment 1.
- Different weather conditions between Experiment 1 and Experiment 2 followed roughly the variation in PAH concentration over time, was related to meteorological watercraft activity.
- There was a direct relationship between integrated photoactive PAH dose and observed toxic effects.
- Direct toxicity (no-UV) was also observed, and also correlated with integrated PAH dose, but it was unclear if this toxicity was caused by PAH or other meteorological emissions.
- Predicted "no-observable effect" levels of both PAH and UV radiation suggest that the observed toxicity would persist as deep as 20m in the lake.

Acknowledgements

This work was funded in part by a grant from the National Marine Manufacturers' Association (NMMA) to Miami University, Oxford, OH. The authors gratefully acknowledge the assistance and guidance from Dr. E.J. Morgan (Mercury Marine Corp.), Dr. C.R. Goldman (U.C. Davis), Dr. J. Reuter (U.C. Davis), Dr. B. Richards (U.C. Davis) and Dr. F. Marumura (U.C. Davis).

RE: 6-99-75

June 3, 1999

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JUN 16 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

City of San Diego
 Planning and Development Review Department
 Land Development Review Division
 1222 First Ave, Mail Station 501
 San Diego CA 92101

Comments RE: LDR No. 99-0398

Proposed Mitigated Negative Declaration (MND) for Mission Bay Jet Ski Race Special Event Permit proposed from Oct 1 - October 21, 99

Thank you for considering these comments. Please incorporate them into the record and respond to the points I'm including.

1. The project description is incomplete and inadequate. The project description is incomplete and inadequate to evaluate the environmental impacts. Specifically, there is no description of the number of jet skis that will be allowed to compete and the number of hours they will be competing, the number of how many would be allowed to operate at once etc. , nor any description of types of fuels, additives or discharges. While the documents indicate there will be 750 racers, they do not indicate the details of the types and kinds of crafts and the types and kinds of fuels and motors they will be operating.

This is critical to the environmental review with respect to the following issues: Water Pollution, Air Pollution and Noise. Though there were not the specifics of the types of equipment and fuels and the manner in which they will be deployed, there is a great deal known about the impacts of jet skis generally available in the marketplace today. The rest of my comments are based from general body of knowledge and what a reasonable person could conclude from the inadequate description provided in the MND.

2. Inadequate assessment and evaluation of water pollution from greatly increased deployment of jet skis.

In Section III C, Question 5. Will the proposal result in Discharge into surface or ground waters, significant amounts of pesticides, herbicides, fertilizers, gas, oil, or other noxious chemicals? is answered with a "Maybe" and "SEE DISCUSSION." The DISCUSSION is inadequate and doesn't even begin to address the amounts of pollution that could be discharged into the bay, but only states that

LETTERS OF OPPOSITION

"The final source of potential biological resource impacts would be from oil and gas spilling from the watercraft. Mitigation measure 5 requires locating drip pans under all watercraft in the pit areas. This measure would mitigate the impact to below a level of significance."

This analysis is incomplete and there is no discussion pertaining to the discharge of oil and gas directly into Mission Bay. Furthermore, the use of drip pans does nothing to mitigate the discharge of pollutants directly into the water. Two-stroke engines, which power most jet skis run on a mixture of oil and gasoline, and discharge as much as one-third of this mixture unburned into the water. An average two-hour ride on just ONE jet ski can dump three gallons of gas and oil into the water.(1)

Jet skis have double the load factor (rpm, payload, etc.), and significantly more horsepower than a typical two-stroke outboard.(2) For these reasons, jet skis emit eight times more pollution than equivalent motorboats.(3)

Gas and oil contain more than 100 compounds, many of which are listed as toxic by the EPA. These include benzene, known to be carcinogenic to humans, and toluene, which can damage developing organisms and MTBE (methyl tertiary butyl ether), which has recently ordered to be removed from gasoline, by Governor Gray Davis due to its water pollution problems, but would likely still be in fuels in use under this permit.

Hydrocarbons in gas and oil released from two-stroke motors float on the surface and settle within the shallow ecosystems of water bodies. These areas are home to many organisms at the base of the food chain: fish eggs, algae, shellfish, and zooplankton. Scientists have determined that hydrocarbon pollution can bioaccumulate within the complex food web, posing a serious threat to the marine environment.(4)

According to Michigan State's Dr. John Giesy, one of the world's leading experts on the toxicological effects of marine hydrocarbon pollution, the two-stroke emissions released into the water are up to 50,000 times more toxic under field conditions in the presence of the ultraviolet (UV) light in sunlight. This is due to polycyclic aromatic hydrocarbons (PAHs), substances contained in petrochemicals that form highly toxic and persistent compounds

known to be: 1. ubiquitous contaminants that bioconcentrate; 2. carcinogenic to mammals; and 3. acutely photo-toxic to aquatic organisms within minutes or hours.

Through controlled experiments, Dr. Giesy found that it takes .05 ppb (parts per billion) of PAHs in water to cause a ten percent decrease in zooplankton; as little as five ppb (parts per billion) kills all zooplankton in a thirty minute test period. Sampling has found PAH levels substantially in excess of five ppb during recreational boating activity. PAH's are considered so dangerous that the New York State Department of Environmental Conservation now regulates PAH's on the same toxicity level as PCB's. Research demonstrates that chromosomal damage, reduced growth and high mortality rates of fish occur at extremely low levels of hydrocarbon pollution. Scientists believe that such pollution may bioaccumulate, poisoning much of the marine environment.

The MND disclosed no information as to whether or not the craft involved were modified for competition. Jet skis used for performance uses may have special fuel additives which would increase pollution. Organizers must disclose any and all fuels and additives that are allowed or suspected or the procedures for disallowing their use and these must be analyzed for pollution problems into shallow Mission Bay. Certain fuels and additives should not be allowed. But there is no way to properly evaluate the impacts because of a lack of disclosure.

The mitigation suggested by the City is utterly inadequate. One possible mitigation: requiring four-stroke engines in order to be eligible for competition. There are four basic types of marine propulsion engines: two-stroke, four-stroke, stern drive, and inboard engines. Four-stroke motors emit less than 4 g/Kwh (grams per kilowatt hour) of hydrocarbons, while two-stroke motors emit more than 150 g/Kwh. Four strokes, which have been on the marine market since 1972, emit 97 percent less pollution than conventional two-strokes. Even the latest fuel-injected two-stroke engines (developed for 1998) emit ten times as many hydrocarbons as do four-stroke engines. Four-stroke motors do not mix oil with fuel (no raw petrochemical discharge) and are designed for complete combustion prior to exhausting. Even the latest direct fuel-injected two-stroke motors emit ten times as many hydrocarbons as four-strokes. In addition, four-strokes are substantially more fuel efficient and are cost-competitive compared to two-stroke motors.

By honestly assessing and requiring that organizers use the best technologies available, as a condition of the permit, the City becomes a leader in linking environmentally sound behavior with economic opportunity.

3. Inadequate assessment and evaluation of air pollution from greatly increased deployment of jet skis.

While the MND answers all the questions in Section III B. Air with a "no" - this answer is questionable and not backed with credible analysis. Objectionable odors are created now with simply recreational jet ski use. How could there not be significantly increased odors and air pollutants with as many as 750 additional crafts? To state that the odors are only "TEMPORARY" is meaningless. All odors released into the air from moving sources are temporary to some degree or another. But what is an acceptable threshold?

The California Air Resources Board has reported that a two-hour ride on a 100 horsepower jet ski emits the same amount of pollution as driving 139,000 miles in a 1998 passenger car.(5) Therefore, a reasonable person could conclude that the increased air pollution from an additional 750 jet skis would be significant.

4. Inadequate assessment and evaluation of noise from greatly increased deployment of jet skis.

The MND states that "jet skis limited by race regulations to 86DB(A) at tailpipe. Noise is temporary during 9-day event." To state that the noise levels are temporary is to state the obvious. But how many of the 86 DB750 jet skis will be operating at once? What will be the peak DB allowed under any permit?

Jet skis produce noise levels in the range of 85-105 decibels (dB) per unit — levels at which the American Hospital Association recommends hearing protection (above 85 dB). By comparison, a busy city street produces about 85 dB. Furthermore, the design of jet ski results in noise that is particularly disturbing. The jet drive emerges from the water every time a jet ski goes over a wave; this change in loudness and pitch during normal use make jet skis much more disturbing than constant sounds.

5. Wildlife Impacts: Disruption & Displacement

While the MND does a better job addressing and attempting to mitigate impacts on eelgrass, it does not discuss the impacts of the increased water pollutants and noise from nine days of operations.

Wildlife biologists throughout North America have testified on the existing and potential impacts of jet ski use. In California, a controlled study of personal water craft/jet skis in the San Juan Islands (Washington state) by the Woods Hole Oceanographic Institute concluded that jet skis, which lack a low-frequency long distance sound, do not signal surfacing birds or mammals (including humans) of approaching danger until they are almost on top of them.(6) The high frequency sounds produced in both air and water also startle birds and other wildlife.(7) Joanna Burger of Rutgers University in New Jersey, found that fast and noisy traffic sent almost 200 birds flapping into the air, more than six times that of ordinary motorboats.(8) Tom Wilmers, a U.S. Fish and Wildlife Biologist at Key Deer National Wildlife Refuge, reported that he saw a jet ski repeatedly flush an Osprey from its nest site eleven times in less than one hour.(9) Wilmers also noted that jet skis' tendency to circle continuously in one location for extended periods of time exacerbates the disturbance factor because it reduces opportunities for displaced birds to return to feeding or nesting areas.(10) This would seem to be directly applicable to increasing intensive uses of jet skis in this shallow bay area.

In conclusion, the project description and analysis of impacts is incomplete and the permit should not move forward without complete project disclosure and environmental review to determine if impacts are mitigable or not.

6. Public Safety and responsible public education

A University of Arkansas professor has conducted one of the world's first descriptive studies to examine the dangers of personal watercraft use. More than half of the people injured by these vehicles are children under the age of 14. In the state of Arkansas alone, over the past five years, more than 110 people have been injured or killed on rivers and lakes while using personal watercraft vehicles. Personal watercraft collisions make up 30 percent of all boating accident reports in the state of Arkansas. Furthermore, Ninety-eight percent of accident reports show that the operator had no boater education before he got on the water.

The City should require that the race organizers which by its very nature will be promoting this activity - and in a competitive, speed-oriented fashion, also provide public educational materials as part of any published program and on-site at the event. These materials should be specifically targeted at youth and their parents, and present the critical importance of boater education prior to use and the importance of safe jet ski operations and what that entails including, but not limited to: training, speed limits, life jackets and adult supervision.

Thank you for considering these comments and I would appreciate a point-by-point response.

Carolyn Chase on behalf of the Coastal Committee of the San Diego Sierra Club c/o
P.O. Box 99179
San Diego CA 92169

Footnotes:

(1) Statistics taken from "Proposed Regulations for Gasoline Spark-Ignition Marine Engines, Draft Proposal Summary." Mobile Source Control Division, State of California Air Resources Board; June 11, 1998, p. 2: Average 77 horsepower (Hp) PERSONAL WATER CRAFT/JET SKIS emits 8,427 grams hydrocarbons (HCs)/hour; 8,427 g HC/hr. ÷ 45.1g/lb. = 18 lbs./hr; 18lbs./hr. ÷ 6 lbs./gallon = 3 gallons HC/hr.; The average 77 Hp PERSONAL WATER CRAFT/JET SKIS emits 3 gallons of gas and oil per hour of use.

(2) Ibid; Federal Register, Air Pollution Control; Gasoline Spark-Ignition Marine Engines; 40 CFR Parts 89,90,91, October 4, 1996; California Air Resources Board staff (Mark A. Carlock, Chief), "Proposed Pleasure Craft Exhaust Emissions Inventory," July 7, 1998, pp. 4-9.

(3) Draft Proposal Summary, California Air Resources Board. (June 11, 1998) op.cit. p. 2.

(4) U. Tjarnlund G. Ericson, E. Lindesjoo, I. Petterson, L. Balk, Investigation of the Biological Effects of 2-Cycle Outboard Engines' Exhaust on Fish. Institute of Applied Research, University of Stockholm, 1993.

(5) Watercraft SIP Team. "Overview of ARB's Spark-Ignition Marine Engine Regulations." July 9, 1998, pp. 2-3.

(6) Richard Osborne, Curator of Science Services & Resident Scientist, Whale Museum, Friday Harbor, WA. "Testimony and Exhibits Submitted to Board of County Commissioners Regarding Restrictions on Use of Jet Skis in San Juan County," Superior Court of Washington for Whatcom County, Jan. 31, 1996. Study conducted with Dr. Johnson of Woods Hole Oceanographic Institute.

(7) Ibid.

(8) Susan Milius. "Oh, not those jet-ski things again!" Science News, Aug. 15, 1998, Vol. 154, No. 7, p.107.

(9) John Kelly Director of Research and Resource Management at Audubon Canyon Ranch, Marshall CA. "Letter of Testimony for the National Oceanic and Atmospheric Administration." Personal communication with T. Wilmers.

(10) John Kelly, Director of Research and Resource Management at Audubon Canyon Ranch, Marshall CA. "Letter of Testimony for the National Oceanic and Atmospheric Administration." Personal communication with T. Wilmers.



BLUEWATER NETWORK

Protecting the Earth
for all Living Creatures

July 22, 1999

Ms. Diana Lilly
California Coastal Commission
3111 Camino Del Rio North - Suite 200
San Diego, CA 92108-1725

RE: CDP Application # 6-99-75

Dear Ms. Lilly,

Bluewater Network would like to formally request that the California Coastal Commission deny the City of San Diego's special permit request to conduct jet ski races in Mission Bay until an Environmental Impact Report is completed -- consistent with the California Environmental Quality Act (CEQA).

Enclosed are the results of tests conducted by the Canandaigua Lake Pure Waters Association to investigate the water quality impacts of a jet ski race in New York State involving 75 personal watercraft (PWC). The tests confirm that PWC are a threat to water quality and the marine environment, especially when used in concentrated areas such as Mission Bay. Canandaigua's test results are particularly alarming in the context of numerous studies revealing the direct and photo toxic effects of hydrocarbon emissions -- especially polycyclic aromatic hydrocarbons (PAHs) -- on fish and zooplankton. PAH levels as low as 5-70 parts per trillion (enc.) have been found to reduce the growth rate of fish by 46%.

The proposed race in Mission Bay would have 10 times as many watercraft as the race in New York, with an estimated 9,000 gallons of raw fuel and oil emissions. The toxic compounds in gasoline will have an immediate effect on Mission Bay's water quality. PAHs, for example, reach maximum effect on fish and zooplankton in less than 24 hours -- well before any evaporation occurs.

The controversy in San Diego is emblematic of the growing problem of jet skis along California's coastline. Pollution is only one component of jet ski use which degrades the quality of the state's coastal environment. PWC have unique noise and use patterns which cause significant impact on wildlife, recreationalists, and coastal residents. Because PWC are driven aggressively, and consume high quantities of gasoline (10-14 gallons/hour), these craft are far more polluting than boats -- even those with two-stroke engines.

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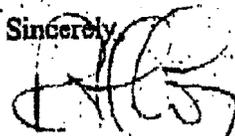
JUL 22 1999

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

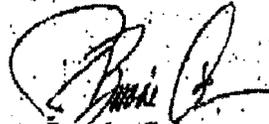
As a result, we urge the California Coastal Commission to investigate the effects of PWC on the quality of the state's coastal areas, including noise impacts. In the meantime, we request that the provisions of CEQA are upheld by the California Coastal Commission, and all preparations for the proposed jet ski race in Mission Bay are suspended until an EIR is completed.

We look forward to working with you on this issue. If you have any further questions, please do not hesitate to call.

Sincerely,



Russell Long, Ph.D.
Executive Director



Brooke Coleman
Project Coordinator

cc: Charles Emmett, California Air Resources Board

enc: Canandaigua Test Results
Lake Tahoe Emissions Study Summary

Toxicity of ambient levels of motorized watercraft emissions to fish and zooplankton in Lake Tahoe, California/Nevada, USA.

I.T. Ode¹, A.C. Hatch², J.B. Weinstein¹, R.H. Findlay¹, P.J. McGinn¹, S.A. Diamond³, R. Garrett¹, W. Jackson¹, G.A. Burton², B. Allen⁴, ¹Miami University, Oxford, OH 45056, USA; ²Wright State University, Dayton, OH; ³National Research Council, U.S. EPA, Duluth, MN; ⁴Univ. California-Davis, Davis, CA.

Poster number 3E.P005, presented at the 6th Annual Meeting of the European Society of Environmental Toxicology and Chemistry (SETAC-Europe), 14-18 April, 1998, University of Bordeaux, Bordeaux, France.

Abstract

Two, one-week experiments were conducted at Lake Tahoe to assess the impact of ambient levels of motorized watercraft emissions on zooplankton and fish larvae. Water was collected daily from a nearshore (NS) site and an offshore (OS) site, representing areas of high and low boating activity, respectively. Water from the sites was returned to shore and used in standard U.S. EPA effluent toxicity tests using zooplankton, *Daphnia magna* dults, and fish larvae (*Daphnia rerio* neonates), that accounted for direct toxicity of exhaust components as well as ultraviolet radiation-induced toxicity of polycyclic aromatic hydrocarbons (PAHs). Chemical analysis revealed good correlation between peak boating activity and PAH concentrations in the lake (range: 5-70 ng total PAH/L). A significant effect on fish growth was observed in the UV treatment of NS site water during Experiment 1 (46% decrease). There was significant mortality of zooplankton observed at all sites during both experiments in the UV treatment. Dose response relationships were observed between integrated PAH dose and mortality of zooplankton in UV treatments, and between PAH and reproduction in the no-UV treatments, indicating both photoactivity and direct toxicity on zooplankton. Results from these experiments provided evidence that ambient levels of exhaust components from motorized watercraft caused photoactivated toxicity to fish and zooplankton as well as direct (i.e., no-UV) toxicity to zooplankton.

Introduction

In 1997, the Governing Board of the Tahoe Regional Planning Agency passed a ruling that banned the use of carbureted 2-stroke engines from Lake Tahoe Basin effective June 1, 1999. The prohibition of photo-induced toxicity due to polycyclic aromatic hydrocarbons (PAHs) in the lake was a major factor in this ruling. Thus, experiments were designed and conducted to assess the potential toxic and photoactive impacts of ambient levels of motorized watercraft emissions in Lake Tahoe. These experiments were conducted during the months of July and August, 1997, near Tahoe City, California, USA (39°N, 120°W).

Methods

- Two, one-week experiments were conducted in Lake Tahoe (Figures 1 - 2) during the summer of 1997.
- Experiment 1 was conducted during the period 15 July - 23 July, 1997.
- Experiment 2 was conducted during the period 29 July - 06 August, 1997.
- Water was collected daily from a depth of 3m from two sites: nearshore (NS) — 600' offshore from the Tahoe City Marina) and offshore (OS) — approx. 2 miles S.E. of Tahoe City in deep water) (Figure 2).
- Three locations were chosen based on a maximum of local boating activity with the goal of testing a gradient of potential hydrocarbon contamination.
- Water from the site was returned to shore and was used in standard U.S. Environmental Protection Agency effluent toxicity tests using zooplankton, *Daphnia magna* dults, and fish larvae, fathead minnow (*Pimephales promelas*), that accounted for direct toxicity of exhaust components as well as ultraviolet radiation-induced toxicity of polycyclic aromatic hydrocarbons (PAHs).
- A 0.5 µg/L addition of fluoranthene to OS water served as a positive, photoactivity control.
- Water collected from each site on a daily basis was also extracted and analyzed by GC-MS for PAHs to determine concentration and make-up of possible exhaust components in water.
- Data for survival and reproduction (zooplankton) and for survival and growth (fish) were analyzed for differences between sites and between UV and no-UV treatments. In addition, toxicity data were regressed against integrated PAH exposure to examine potential dose-response relationships for photoactivity and direct (i.e., no-UV) toxicity.

Figure 11. Total young produced per female of zooplankton at termination of Experiments 1 and 2. "PS" and "NS" represent the offshore and nearshore sites, respectively. "1" and "2" represent Experiments 1 and 2, respectively. "FL-1" represents a 0.5 µg/L addition of fluoranthene to PS water, used as a positive, phototoxic control.

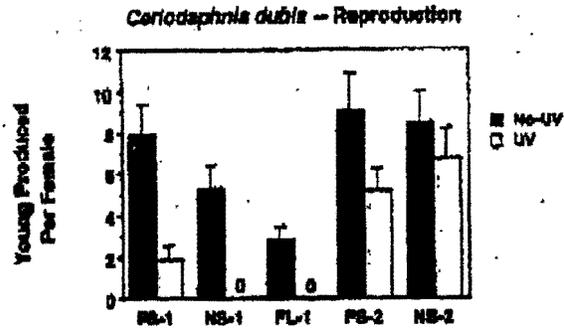
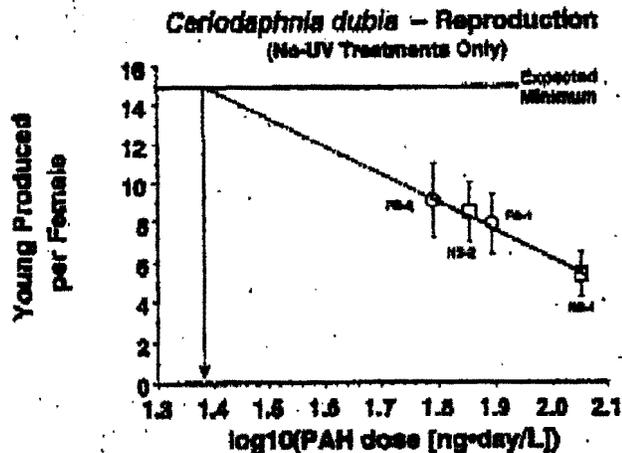


Figure 12. Total young produced per female of zooplankton at termination of Experiments 1 and 2 plotted versus integrated phototoxic PAH dose from Experiments 1 and 2. "PS" and "NS" represent the offshore and nearshore sites, respectively. "1" and "2" represent Experiments 1 and 2, respectively. Line drawn through data points represents predicted values based on regression analysis. A reference line is drawn through the minimum reproductive output expected for this species (15 young per female in a 7 day period as specified by the U.S. EPA). The intersection of the two lines represents a "no observable effect dose" of 24.0 ng-day/L. The division of this dose by the duration of the experiment (7 days) was used to obtain a predicted NOEC of 3.4 ng phototoxic PAH/L.



Conclusions

- Phototoxic materials were present in Lake Tahoe water in sufficient levels to cause measurable, negative impacts on fish growth, and on zooplankton survival and reproduction.
- Ambient concentration of PAHs ranged from 5 - 70 ng/L, with an apparent "weekend peak" during Experiment 1.
- Different weather conditions between Experiment 1 and Experiment 2 indicated strongly that variation in PAH concentration over time was related to motorized watercraft activity.
- There was a direct relationship between integrated phototoxic PAH dose and observed toxic effects.
- Direct toxicity (no-UV) was also observed, and also covaried with integrated PAH dose, but it was unclear if this toxicity was caused by PAH or other motorcraft emissions.
- Predicted "no-observable effect" levels of both PAH and UV radiation suggest that the observed toxicity could persist as deep as 20m in the lake.

Acknowledgements

This work was funded in part by a grant from the National Marine Manufacturer's Association (NMMA) to Miami University, Oxford, OH. The authors gratefully acknowledge the assistance and guidance from Dr. R.J. Morgan (Mercury Marine Corp.), Dr. C.R. Goldman (U.C. Davis), Dr. J. Reuter (U.C. Davis), Dr. B. Richards (U.C. Davis), and Dr. F. Masumura (U.C. Davis).

CANANDAIGUA LAKE PURE WATERS, LTD.

Preliminary Results of
Hydrocarbon Testing on Canandaigua Lake, May 21-26, 1999

The attached information describes the sampling protocol, site locations, and summarizes the results by pollutant. The laboratory analyses were performed by Lozier Analytical Group (NY Certification #s 10390, 11369). Several chemists and biologists from the academic and government sectors were invited to review the results. The opinions of additional reviewers are welcomed. Listed below are CLPW's preliminary observations with regard to the results.

- ◆ There are concentrations of hydrocarbon compounds and additives (notably MTBE, Xylene and Toluene) present at many of the test sites prior to the jet ski competition. This indicates a "background" level existed prior to the race. This is a noteworthy result in itself.
- ◆ In general, the samples taken at the end of the second day of competition (5/23) show a sharp increase for those sites located in the vicinity of the race course (sites 7,8,10), whereas those sites (3,5,6,9,11) outside the race area showed slight or no increases.
- ◆ The samples taken on 5/26, following two days of rain, show a dramatic decline in the concentrations of most contaminants. In many cases, the concentrations on 5/26 were lower than the "background" conditions present on 5/21. There was an anomaly for site 10 which showed increases on 5/26 while almost everything else declined. Possible explanations include the presence of a motorboat just prior to sampling on that date or an accumulation of pollutants caused by currents in the area.
- ◆ The New York State DEC ambient surface water standard for Benzene is 1 part per billion (ppb) and for Toluene and the Xylenes it is 5 ppb. There is no standard at this time for MTBE. The results for Toluene, for example, show that prior to the race the concentrations are below or slightly above the level of 5 ppb, including those in the race area. On the 23rd, the sites in the race area (7,8,10) are all considerably in excess of this standard, as much as 17 times the standard for site 10 which was located at the outer leg of the race course. The non-race sites remained near or below the standard. The smaller variations from day to day may be inconclusive due to statistical limitations but these large shifts are evident.
- ◆ Visual observation of the water clarity showed very little effect of the race overall. The bottom was clearly visible throughout the race course area immediately following the conclusion of the race.
- ◆ Samples taken from the City Water Treatment Plant prior to treatment showed concentrations of Toluene and Xylene at or below (not detected in most cases) the ambient standards. Subsequent tests conducted by the City show no detectable concentrations in either the raw or treated water.
- ◆ Additional samples were taken and sent to the US Geological Survey in Ithaca. The results from these analyses are not certified and are therefore not being released at the request of the USGS. The results do, however, indicate a need for further testing in areas at the north end of the lake that are not in the vicinity of the race area.
- ◆ The results of future testing could be improved through increased use of redundant samples, with a set going to a different, certified laboratory to provide for more statistical certainty. This would increase the cost substantially, which was a limiting factor in this initial set of tests.

In summary, the race does appear to have had an effect in terms of increasing the concentrations of certain specific pollutants, however these concentrations declined quite rapidly following 48 hours with rain and light boat traffic.

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It is important to note that, at best, these test results provide baseline data. In order to put these results in the proper context it is important that continued testing for these pollutants be conducted throughout the summer at times of peak boating activity. This would allow the effects of this particular event to be compared to a busy holiday weekend when as many as 120 boats (many of which are two cycle) are concentrated in the waters off Kershaw Park. Sampling in the area of the State Boat launch on Sucker Brook would also be meaningful since this is a major tributary to the lake.

The City of Canandaigua approached CLPW in June about conducting additional tests and as a result, samples were collected on July 9, 11, & 14 at eight sites throughout the north end of the lake. The results of these tests should be available shortly and we look forward to the opportunity to learn more about the potential pollution caused by engine emissions (from all sources) since this issue has received very little attention previously. We are continuing to gather information from many sources on the effects of these pollutants on fish and wildlife and will make new information available to any interested parties.

For further information, please contact:

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Executive Coordinator
Canandaigua Lake Pure Waters, Ltd.
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Canandaigua, N.Y. 14424
(716) 327-7064
(716) 325-2612 (FAX)
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CANANDAIGUA LAKE PURE WATERS LTD.

CANANDAIGUA LAKE HYDROCARBON SAMPLING

GENERAL NOTES ON PROTOCOL

The jet ski race held on May 22 and 23 was the second event of its type to be held on Canandaigua Lake. The 1998 event raised concerns over the possible effects of the concentrated presence of jet ski exhaust containing various hydrocarbons. Time and funding constraints did not permit an effort to sample the first event. This year when plans were drawn up to repeat the event, CLPW committed \$2,000 of its funds to conduct hydrocarbon sampling to determine if the event did indeed constitute an environmental risk. Literature exists which suggests that 20 - 30% of the fuel consumed by 2 cycle jet ski engines is released into the water through incomplete combustion and exhaust. It was decided to sample for MTBE, BTEX, and TPH since these are typically associated with the presence of gas/oil.

Lozier Analytical Group was engaged to perform the sample analysis as they are a state - certified laboratory. In addition, the US Geological Survey Ithaca Office offered to provide analytical services but is not certified for these analyses.

The sample sites were determined by Scott Sherwood, CLPW's Executive Coordinator, and are shown on the attached map. Eight sites were selected for analysis by both Lozier and USGS and an additional six sites were sampled for analysis by the USGS only, since their services were being offered at no expense. The combined cost for the certified analysis at Lozier was approximately \$150/sample. The total expense for the sampling was approximately \$3,500.

Sampling occurred on Friday, May 21 for all sites, Saturday May 22 for selected sites to go to USGS only, on Sunday May 23 for all sites, and again on Wednesday May 26 for all sites. The attached chart shows the dates and times for all sampling activities over the four days. It should be noted that the samples for Sunday were collected in the race area within 10 minutes of the conclusion of the last heat, with a representative of the race present. The race buoys were still in place which allowed for optimum collection of the samples at the high traffic areas.

In all cases, proper procedures were observed with regard to collecting the samples including the use of gloves which were changed after each sample, sampling from the bow in a forward movement at surface level (with the engine off and slight forward drift). Care was taken not to allow the presence of air bubbles in any of the samples and after labeling site and time, the bottles were placed in a cooler until they were transferred to a refrigerator. The samples were transported to the respective labs in Middlesex and Ithaca within 24 hours of collection in most cases (Sunday and Wed. sessions) and no more than 72 hours (Friday session), well within the guidelines provided by the labs.

**CANANDAIGUA LAKE PURE WATERS LTD.
RACE FORMAT**

The race drew approximately 70 competitors each day and about 50 jet skis. According to the race organizers, the same jet ski is often used by more than one racer. The courses for the different races are shown on the attached maps and these were used to determine the placement of the sites in the race area. The other sites were placed to determine the effects of other sources including the two marinas and the state boat launch facility.

The races lasted 10 - 15 minutes each in most cases with 6 - 8 racers competing at any one time. The start location was directly off the beach (20 feet approx.), facing due south. The jet skis were lined up side by side and the sterns were held out of the water by pit crews until all competitors were ready and at high RPM before the flag was lowered and the sterns were dropped into the lake. The same area was used for the start during my observation period on both days. It should be noted that this was in the middle of where the swimming area is ordinarily. I did observe several racers refueling on the beach and in all cases, precautions were taken to avoid spills such as the use of absorbent collars around the fuel tank nozzle. In one instance a racer attempted to refuel while in the water and he was very quickly sent back to the beach before he could do so. The event appeared to be very well organized overall.

LABORATORY RESULTS

The results of Lozier's analysis are available in their entirety upon request. The results from the USGS will not be distributed since these are not certified and the USGS has stipulated that it does not want the results to be publicly distributed.

FOR FURTHER INFORMATION

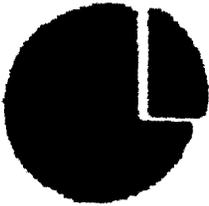
For general information on the results and sampling protocol, contact:

Scott D. Sherwood
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ssherwood@cgr.org

CANANDAIGUA LAKE HYDROCARBON SAMPLING

Site #	Date/Time	Date/Time	Date/Time	Date/Time	Location
1	5/21 5:08		5/23 3:40	5/26 10:25	Holiday Harbor
2	5/21 5:15		5/23 3:45	5/26 10:31	State Boat Launch
3	5/21 5:25		5/23 3:50	5/26 10:40	Suttler's Marina between slips
4	5/21 5:32		5/23 3:55	5/26 10:45	City Pier Boat House
5	5/21 5:45		5/23 5:35	5/26 10:50	Boeger Marina near pump
6	5/21 5:50	5/22 4:05	5/23 5:45	5/26 11:00	Feeder Canal @ Lakeshore Dr
7	5/21 6:05		5/23 5:25	5/26 11:10	Kershaw Park Middle of Race Area
8	5/21 6:15		5/23 5:20	5/26 11:15	Kershaw Park East End of Race Area
9	5/21 4:45		5/23 3:25	5/26 10:10	Open Water (Site 2) Opp. Yacht Club
10	5/21 6:20		5/23 5:30	5/26 11:15	Kershaw Park Race Area 200 Yds offshore
11	5/21 4:20		5/23 6:10	5/26 9:30	Water Treatment Plant Raw Water
12	5/21 4:45		5/23 3:15	5/26 10:00	Open Water near Intake Pipe
13	5/21 6:25		5/23 5:20	5/26 11:05	Kershaw Park West End of Race Area
14		5/22 3:55	5/23 4:00*		Kershaw Park West End - Race Area (Pump)
15			5/24 9:45		Gas & Oil Mixture for control
Sites in BOLD are sent to Lozier (L), all samples will be sent to USGS					
Race Coding Schema L = Lozier U=USGS A=After Race B=Before Race S=Saturday C=Control W=Wed.					
Example, LB1 = Lozier, Before Race, Site 1					
Weather on 5/21 & 5/23 was ~ 80 Deg. F, no wind, water clarity was excellent on both days					
Significant Rainfall on 5/24-25 (1.0 - 1.5") and cooler temperatures 50-60 Deg. F					
43 samples taken & delivered to USGS in Ithaca (1 bottle at each site)					
48 samples taken & delivered to Lozier Lab in Middletown (2 bottles at each of 8 sites on 3 days)					
91 Total samples collected, Lozier reports 2 unus. filter sample bottles broken in Lab, LWB & LWB					
* This sample was taken immediately behind the start line after three restarts. Sent to USGS.					

5/31/99 SDS



Lozier Analytical Group

 Lozier Laboratories, Inc. #10390

888 - 841 - 5227

 EXPRESSLAB, Inc. #11369

800 - 843 - 5227

 Environmental Testing Facilities. #10312

800 - 843 - 5220

June 2, 1999

CANANDAIGUA LAKE PURE WATERS
P O Box 323
Canandaigua NY 14424

Attn: Mr. Scott Sherwood

Laboratory Results for Canandaigua Lake Hydrocarbon Study May 21, 23, 26th, 1999

Dear Mr. Sherwood:

Please find enclosed copies of the laboratory analysis on three sets of samples taken on May 21, May 23 and May 26th. At the time the samples were received, each sample was assigned a unique laboratory number, e.g. 3597-1, 2, 3, etc. These numbers refer to the lab test shown on the lab report. Please refer to the summary sheet to determine which site the test refers to.

There were three sets of test run: 8020, TPHgas, and 310.13 as follows:

8020: EPA 8020 tests for MTBE, Benzene, Toluene, Ethylbenzene, M & P Xylene, and O Xylene. The detection limits shown on the spread sheet as d/l are 2.0 ppb except for M & P Xylene for which the detection limit is 4.0 ppb.

TPHgas: EPA TPHgas refers to Total Petroleum Hydrocarbons for the gasoline group. The test results are indicated for TPHgas in ppb, with a detection limit of 100 ppb.

310.13: EPA 310.13 for Kerosene, Fuel Oil #2, Lube Oil, Gasoline and Unknown Hydrocarbons. All Detection Limits for this test were 0.1 ppm.

You will want to have your experts analyze the results against the water quality control standards.

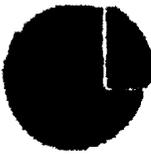
Very Truly Yours,

Eric G. Lundquist, President
Lozier Analytical Group

Lozier Analytical Group
909 Culver Road
Rochester, NY 14607
716 - 454 - 6380
FAX 716 - 454 - 6384

EXPRESSLAB, Inc.
5611 Water Street
Middlesex, NY 14807
716 - 854 - 4347
FAX 716 - 854 - 4114

Environmental Testing Facilities, Inc.
40 East Doughty Street
Dunkirk, NY 14048
716 - 366 - 0429
FAX 716 - 366 - 3591



Lozier Analytical Group

Lozier Laboratories, Inc.
 EXPRESSLAB, Inc.

888-841-5227
 800-843-5227

NYSELAP
 #10390
 #11369

June 23, 1999

Scott Sherwood
 Camaniquan Lake Park Waters
 P.O. Box 323
 Camaniquan, NY 14424

Dear Mr. Sherwood:

I am writing in response to your request for information regarding methodology, certification, and quality control. I will address each of these individually.

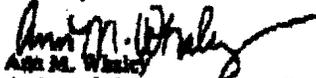
- 1.) **METHODOLOGY:** The following analysis was run on your samples:
 - a) **EPA Method 8020 plus MTBE:** This tests for MTBE, Benzene, Toluene, Ethyl Benzene, and Xylenes by Gas Chromatography with a FID detector. Some of your samples fell into our overflow category. Because we sometimes get more samples than we can analyze for the GC/FID, the overflow goes to the Mass Spectrometer for analysis. This is an upgraded test which is more precise and accurate.
 - b) **TPH - Gas by EPA Method 8015M:** This analysis refers to "Total Petroleum Hydrocarbon" found in the gasoline range of the chromatogram. This test is run at the same time as the 8020 test above under the same set of instrument requirements.
 - c) **EPA Method 310.12:** This analysis tests for the presence of heavier petroleum products including kerosene, diesel, and heavy oil. EPA Method 3510 Liquid/Liquid Extraction is used to concentrate the sample in the preparation stage. The analysis can be done on the GC/FID. However, your samples were analyzed using the GC/MS for semi-volatiles. This gave us more options for identification.

- 2.) **CERTIFICATION:** Attached is our certificate of approval from New York State Licensing Expresslab, Inc. to run petroleum hydrocarbons (please note the ventilation letter). This category covers Method 8020. Neither EPA Method 8015M nor EPA Method 310.12 is covered under New York State licensure. Therefore, any lab can run these tests.

- 3.) **QUALITY CONTROL:** For each analysis, daily calibration verifications are run prior to sample analysis. This determines whether the calibration curve, which is used for quantitation, is still accurate. In addition, a blank sample is run to rule out laboratory contamination. These QC measures are performed for all the methods used for your samples. Additional QC is required for EPA Method 8020. A spiked blank is used to determine the efficiency of the extraction phase for the sample batch. In addition, internal standards and surrogates are used to determine whether the analysis is acceptable or not. The internal standards are deuterated compounds that are added to each sample. This balances the instrument to account for things such as matrix interferences, electrical fluctuation, or pump performance. Surrogates are compounds added to each sample which test the efficiency of the extraction. If the sample was run using GC/FID, only surrogates are used. If the GC/MS was used for analysis, both internal standards and surrogates are used.

If you have any further questions, please call me at 1-800-843-5227.

Sincerely,


 Ann M. Whaley
 Assistant Laboratory Director, Expresslab, Inc.

Lozier Laboratories, Inc.
 890 North Winton Road
 Rochester, NY 14609
 888-841-5227
 Fax 716-464-4114

Lozier Laboratories, Inc.
 8611 Water Street
 Middlesex, NY 14807
 888-841-5227
 Fax 716-464-4114

EXPRESSLAB, INC.
 8611 Water Street
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 Fax 716-884-4114
 TOTAL P. 01

Canandaigua Lake
hydrocarbon Study May 1999

LOZIER ANALYTICAL GROUP

Canandaigua Lake Pure Waters

MTBE d/l 2.0 ppb

Site #	05/21	05/23	05/26
3	2.8	2.7	<
5	<	2.8	<
6	<	2.3	<
7	<	20.6	<
8	6.2	11.5	<
9	<	<	<
10	<	220.4	<
11	<	<	<
17		1883	

Benzene d/l 2.0 ppb

Site #	05/21	05/23	05/26
3	<	<	<
5	<	<	<
6	<	<	<
7	<	3.8	<
8	<	<	<
9	<	<	<
10	<	32.4	<
11	<	<	<
17		614	

Toluene d/l 2.0 ppb

Site #	05/21	05/23	05/26
3	3.9	4.2	<
5	<	3.6	7
6	3.1	6.3	<
7	<	35.2	<
8	6.4	22.1	<
9	3.8	2.2	<
10	6.4	83.1	16.6
11	<	2.7	<
17		2204.3	

Ethylbenzene d/l 2.0 ppb

Site #	05/21	05/23	05/26
3	<	<	<
5	<	<	<
6	<	<	<
7	<	6.4	<
8	<	2.9	<
9	4.7	<	<
10	15.3	10.8	22.8
11	<	<	<
17		1024.9	

M & P Xylene d/l 4.0 ppb

Site #	05/21	05/23	05/26
3	4.3	<	<
5	<	<	<
6	<	6.8	<

Canandaigua Lake
Hydrocarbon Study May 1999

LOZIER ANALYTICAL GROUP

Canandaigua Lake Pure Waters

7	8.3	24	<
8	14.4	12.9	<
9	12.9	<	<
10	88	76.4	102.7
11	8.8	<	<
17		2835.5	

O Xylene d/l 2.0 ppb

Site #	08/21	08/23	08/28
3	<	<	<
6	<	<	<
8	<	<	<
7	<	7.0	<
8	3.1	4.5	<
9	3.9	<	<
10	10.9	18.1	47
11	<	<	<
17		1017.5	<

TPHgas d/l 100 ppb

Site #			
3	101	407	<
6	<	100	222
8	<	105	<
7	236	201	<
8	878	139	<
9	143	<	<
10	604	1428	6162
11	168	<	<
17		8248E	

Unknown Hydrocarbons d/l 0.1 pp

Site #	08/21	08/23	08/28
3	0.7	0.91	n/a
5	1.33	0.97	1.11
6	0.88	0.52	0.81
7	0.8	0.84	0.91
8	0.58	0.42	0.84
9	0.44	0.78	n/a
10	0.8	0.82	1.8
11	0.88	0.88	0.84
17		n/a	

Kerosene d/l 0.1 ppm

Site #	08/21	08/23	08/28
3	<	<	<
5	<	<	<
6	<	<	<
7	<	<	<
8	<	<	<
9	<	<	<
10	<	<	<

Canandaigua Lake
Hydrocarbon Study May 1999

LOZIER ANALYTICAL GROUP

Canandaigua Lake Pure Waters

11	<	<	<
17		<	

Fuel Oil #2 d/l 0.1 ppm

Site #	05/21	05/23	05/26
3	<	<	<
5	<	<	<
6	<	<	<
7	<	<	<
8	<	<	<
9	<	<	<
10	<	<	<
11	<	<	<
17		<	

Lube Oil d/l 0.1 ppm

Site #	05/21	05/23	05/26
3	<	<	<
5	<	<	<
6	<	<	<
7	<	<	<
8	<	<	<
9	<	<	<
10	<	<	<
11	<	<	<
17		<	

Gasoline d/l 0.1 ppm

Site #	05/21	05/23	05/26
3	<	<	<
5	<	<	<
6	<	<	<
7	<	<	<
8	<	<	<
9	<	<	<
10	<	<	<
11	<	<	<
17		<	

< = less than detection limit

JUN 2 11:33 1999 dsackhar Page 1

To: esherwood@ny.gov
cc: "Edward P. Buglioni, Subdistrict Chief, Ithaca, NY" <ebuglioni>
"David A Eckhardt, Hydrologist (Geol), Ithaca, NY" <dsackhar>
Subject: Canandaigua Lake samples for TVOC
Date: Thu, 03 Jun 1999 11:33:39 -0400
From: "David A Eckhardt, Hydrologist (Geol), Ithaca, NY" <dsackhar>

Scott,
I've faxed a copy of the subject results to you.
The method synopsis is as follows:

Split sample into equal halves; retain one chilled for follow-up.
Warm sample to 50 degC in waterbath.
Sample 500 uL of vaceous headspace taken by syringe through septum.
Inject gas sample into Photovac Voyager portable gas chromatograph,
(GC) in TVOC mode, where sample bypasses column and directly hits
the photo-ionization detector (PID); readout is Total Volatile
Organic Carbon (TVOC), in ppm (factory calibrated values only).

Our GC laptop crashed Tuesday, so we cannot run chromatographs on the
spikes until it's returned from service (next week?). We'll pick 5 or
6 samples on your recommendation for these follow-up runs, which
may allow semi-quantification of individual compounds, such as NTA&E.

Unfortunately, we could not run samples through our National Lab for
this work, as we originally discussed.

I'd like to discuss these results with you and, possibly, compare
them to the Losier Lab results.

*JIM -
NOT TO BE QUOTED
TO THE PUBLIC.
Scott*

Candelaqua Lake Water Quality Samples for Total Volatile Organic Compounds (TVOC ranked in descending order; Analysis date June 2, 1999)				
Analysis Time	Sample Date	Site Number	TVOC Reading (ppm)	Remarks
14:48	5/24/99	UC-16	1630	strong odor, filmy appearance
14:57	5/24/99	UW-2	1414	shale head launch
14:59	5/24/99	UA-14	864	lake - pl. - spot w/ reeds
14:52	5/24/99	UW-1	498	holiday harbor
14:01	5/23/99	UA-7	391	near site
14:18	5/23/99	UA-10	390	
14:08	5/23/99	UA-8	218	
12:20	5/22/99	US-14	183	
18:07	5/22/99	UW-4	179	
18:09	5/22/99	UW-3	172	
14:27	5/23/99	UA-13	145	
13:38	5/23/99	UA-2	142	
16:16	5/23/99	UW-8	123	
16:29	5/23/99	UW-9	102	
12:07	5/22/99	UB-4	92	
18:00	5/23/99	UW-10	88	
18:27	5/23/99	UW-12	81	
19:37	5/23/99	UA-4	71	
18:28	5/23/99	UW-11	65	
18:29	5/23/99	UA-5	61	
16:41	5/23/99	UW-13	60	
13:58	5/23/99	UA-6	58	
13:43	5/23/99	UA-9	57	
14:38	5/23/99	UA-12	56	
14:11	5/23/99	UA-9	54	
16:16	5/23/99	UW-7	44	
13:21	5/23/99	UA-1	42	
12:00	5/21/99	UB-3	42	
16:28	5/23/99	UW-4	39	
12:19	5/21/99	UB-3	36	
16:11	5/23/99	UW-5	28	
12:12	5/21/99	UB-8	22	
12:15	5/21/99	UB-11	19	
12:14	5/21/99	UB-10	18	
12:06	5/21/99	UB-9	17	
12:10	5/21/99	UB-3	14	
11:58	5/21/99	UB-1	13	
12:09	5/21/99	UB-7	12	
12:16	5/21/99	UB-12	11	
12:18	5/21/99	UB-13	9	
14:21	5/23/99	UA-11	7	
12:02	5/21/99	UB-3	4	
12:03	5/21/99	UB-4	4	



SAN DIEGO AUDUBON SOCIETY
2321 Morena Boulevard, Suite D • San Diego CA 92110 • 619/275-0557

July 21, 1999

VIA FACSIMILE

Commission Members
California Coastal Commission
3111 Camino Del Rio North, Suite 3111
San Diego, California 92108

FAX: 521-9672

Dear Commissioners:

SUBJECT: CDP Application 6-99-75, proposed International Jet Sports Boat Championships in Mission Bay

The San Diego Audubon Society requests that the Commission reject the Subject application. We are very concerned that the proposed project will have significant adverse impacts on the water quality and wildlife of Mission Bay and that the City of San Diego's NEGDEC does not adequately identify these impacts. We expect that this event will be the largest single source of pollution in the history of Mission Bay. The proposed mitigation measures offset only a tiny portion of the actual impact. This event is certain to result in a significant direct, indirect, and cumulative. The analysis prepared thus far does not adequately define those impacts and provides only token mitigation to offset them.

An Environmental Impact Report is needed to fully identify the impacts of this event under the California Environmental Quality Act. This EIR should also identify alternatives that would produce a very much smaller impact. The unmitigable impacts are certain to be very high and must be fully revealed to the public and to relevant agencies and decision makers. When these impacts are fully identified we are confident that the Commission and other relevant regulatory agencies will not allow this event to be conducted at the scale at which it is currently planned. We will discuss specific concerns under the following headings.

DIRECT WATER QUALITY IMPACTS

The Subject document must thoroughly disclose the water quality impacts on Mission Bay include:

- list the many specific contaminants that will be discharged into Mission Bay,
- realistically estimate the quantity of all these discharges,
- estimate the Bay's capacity to absorb each of these contaminants, both over a short time period, and cumulatively over a longer time period,
- estimate the quantity of each of these contaminants that are already contained in the Bay's water, sediments and organisms, and

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- identify the likely cumulative impacts of the pollution from the planned event with the historic and ongoing levels on the invertebrates in the water and in the sediments, fish, eelgrass, and other wildlife.

Without such information it will not be possible for decision makers to knowledgeably decide whether to approve, substantially scale down, or reject this event.

We have been told by City staff that they were told that the promoter estimates that the competitors will spend about 2576 vehicle hours in event warm-up and competition. The event promoters insist that the racers will not do any practice or recreational riding. Realistically we anticipate that a much larger amount of time will be spent by competitors in informal event related practice before and during the event. For a very rough approximation, we assume that each of the 750 competition watercraft will also operate at performance speeds for at least ten hours over a period of a few days, including recreation, tuning and testing, getting used to the water conditions, and informal practice. This activity will be clearly event related. So we anticipate about 15,000 + 2,576 or over 17,500 hours of high performance operation. It is estimated that personal watercraft discharge about 30% of their fuel into the water through their wet exhaust/cooling system, due to the inefficiency of two-cycle engines.

We have been told that a competitive Jet Skis consumes about ten gallons of fuel per hour during high performance operation. We also understand that one part oil is added to 50 parts of fuel for lubrication, and that oil is also discharged after combustion. This suggests that approximately 87,500 gallons of fuel will be consumed, of which 26,250 gallons of unburned fuel and combustion products and 7000 quarts of oil, or the byproducts of its combustion, will be discharged into the bay through the Jet Skis' wet exhaust systems. Any relevant analysis should provide this type of background information and contaminant load estimates. Some of the fuel will evaporate into the atmosphere, much of the unburned fuel, oil, and combustion products will remain in the water, and much of that will settle to contaminate the sediments of the Bay.

These high performance engines have high compression ratios and operate at high speeds. They require very high octane fuels and exotic lubricants. The event sponsors state that they are going to provide the race fuel, approximately 7500 gallons. They have not identified the specific additives that will be used in this fuel. It is common for personal watercraft race fuel to include lead as an octane booster. We have asked, but have not been told if the race fuel will contain lead. Combustion byproducts will include benzene, toluene, and ethylbenzene.

Similarly an estimate must be made of the constituents and additives of the fuels that will be used in the activity that is indirectly related such as practice and participant recreation, and that is not specifically provided by the event sponsors.

MITIGATION MEASURES

The mitigation offered to control the direct water quality impacts, placing the boats in pans on the beach to work on them is good practice, but will probably collect only a few thousandths of the water pollution that will be produced by the event. The only way to really mitigate the water quality impacts would be to confine the water in the area and isolate it from the bottom sediments and run many powerful mechanical/chemical separators to extract the discharged fuel, additives, and oils before allowing the contaminated water to mix with the rest of the Bay. We do not suggest that this is feasible. No mitigation would reduce the air quality impacts much.

We anticipate that the watercraft will be run on the beach to rinse out salt water from the engines to prevent corrosion and that they will be rinsed off to prevent surface corrosion. If so what measure will be taken to keep this rinse water from causing erosion of the shoreline, thereby causing turbidity in the water and the resulting biological impacts.

CONSEQUENCES OF THE DIRECT WATER QUALITY IMPACTS

The fuel, oil, performance additives, and combustion products contain many hazardous chemicals as mentioned before. Many of these are toxic to the plankton and fish in the water, the marine vegetation (such as algae and eelgrass), and the invertebrates in the sediments. These are the basis of the marine food chain. These animals will bioaccumulate these contaminants in their fat and tissue. The birds and larger fish that forage on them will consume these concentrated levels of contaminants. These bioaccumulated contaminants could especially impact the birds that eat fish such as cormorants, pelicans, and terns. They may also heavily impact the birds that forage through the sediments on the bottom of the bay and eat the invertebrates such as the grebes and buffleheads, and the shorebirds that forage on the invertebrates along the shoreline. Many of these birds will be in the Mission Bay area during October. A much larger number will arrive in November and December during their migrations. The later birds will also be impacted heavily since the contamination may well remain in the sediments and the tissues of the surviving invertebrates for long periods of time.

The City's NEGDEC states that the water quality impacts will not be high if averaged over a period of time. However, for an analysis to be sufficient it must identify the concentration in the water of the bay of the most important pollutants during the race period, considering the discharge levels, dissipation rates, and the decay rates. A similar analysis should be made for accumulation of contaminants in the sediments, for which all of these parameters will be different.

The worst concentration of contamination may be the sediments at the waterline on the west facing shoreline of Fiesta Island adjacent to the event area. The prevailing wind from the west will push the floating fuel on the water's surface onto the beach where it will interact with those sediment. As mentioned above the invertebrates that live in and on those sediments are heavily foraged by birds at lower tides and fish at higher tides. Some of the constituents of these fuels are thought to impact marine invertebrates in concentrations as low as hundredths of parts per billion.

POTENTIAL HEALTH CONSEQUENCES

The contamination will impact the people that enjoy or depend on catching and eating the fish of the Bay. Again, many of these fish feed on the plankton, algae, and invertebrates that will bioaccumulate these contaminants. The children who play in the water of the bay will also be directly exposed to these contaminants. Many riders avoid the heavily used personal watercraft areas of the bay to avoid the eye irritation and odors that result from the contaminated water. The intensity of this event will spread that problem to much more of the Bay.

EVENT SAFETY AND SPILL MANAGEMENT

This event will require the transport, handling, mixing, and pouring of roughly 7500 gallons of race fuel and about ten times as much fuel that is indirectly related to the event. There is a high likelihood that many small spills will occur. There is a significant risk of large spills, fires and explosions. These events would cause severe damage to the soils of Fiesta Island, the air quality, the water quality of the bay, the sediments on the bay bottom, and all of the Bay's wildlife. They would also risk the health, and even lives, of participants and workers.

A very coherent, professionally managed, and diligent prevention and remediation program must be implemented that would include thorough education of all participants, careful distribution of the fuel and oil, rigorous enforcement of safety procedures, continuous monitoring of the crews, pit areas, launch area, race course, and practice area, quick containment of spills, immediate cleanup and remediation where possible, and effective long term cleanup and remediation where required. This program should be thoroughly described to the public, decision makers, environmental agencies, and public safety agencies in the EIR and amplifying documents for this event. The funds for this effort and for public agency oversight should be identified to allow informed decisions. There is no mention of such a safety and spills management program in the subject document.

INDIRECT WATER QUALITY IMPACTS

A major role of this event is to promote Jet-Ski sales. The promoters are investing their resources in this event so that more people in our region will want to buy and operate these vehicles. Over the years the pollution impacts of these new converts could dwarf the immense pollution due to the event itself. In a time when other areas are prohibiting personal watercraft activity due to its pollution impacts, San Diego should not be participating in promoting it in our already crowded and polluted recreational waters.

The personal watercraft industry very actively opposes efforts to require riders to learn about safe boating before operating these extremely fast and dangerous vehicles. Partly as a result of all these factors, personal watercraft are involved in a disproportionate number of accidents. Some of these accidents will result in the spilling of fuel and oil from the damaged vehicles into the bay's waters.

BAY USE IMPACTS

Personal watercraft operators, because of their wake action and collision risk, due in part to their very high speed close approaches to other boats, discourage non-motorized boating such as kayaking and small boat sailing. Recreation in kayaks, rowboats, small sailboats, sailboards, etc. allows large numbers of people to recreate in far less water area, with no pollution and human health costs, and with far less disturbance to wildlife. Exactly the opposite is true of personal watercraft recreation. With increasing population and limited recreational waters the City should avoid promoting bay uses that will promote inefficient and environmentally damaging forms of recreation on Mission Bay, such as personal watercraft, especially at a cost to more benign forms of boating.

CUMULATIVE IMPACTS

The promoter anticipates running this event at Mission Bay for three successive years. The cumulative impacts resulting from the ongoing, non-event use of personal watercraft and other two stroke marine engines, plus the impacts related to this event during this and the two future years, plus the impacts due to the additional sales and rentals resulting from the promotional effects of this event into future years must be assessed as part of the environmental analysis for this event. The cumulative physical accumulation and the resulting bioaccumulation of contaminants in the bay's sediments, invertebrates, fish, and birds should be a major focus. The cumulative impacts on safety and recreational efficiency should also be addressed. These will constitute a very significant cumulative impact, and need to be identified and considered before a decision is made by the Commission.

EELGRASS IMPACTS

The subject document has measures to reduce the direct trampling impact on eelgrass. However, this event will produce a continuous level of wave activity during practice and competition. This will result in continuous agitation of sediments along the shoreline and therefore in increased turbidity that will reduce sunlight to vegetation. It will also increase the volume of sediments that will be deposited on the leaves of bay vegetation such as eelgrass. The document does not identify this impact, nor does it define mitigation for it.

WETLAND IMPACTS

This event will increase the wave energy arriving at the marsh areas along the northern edge of this portion of Mission Bay. These marshes are being lost to shoreline erosion of about one meter per year. The increased personal watercraft activity that results from this event directly, indirectly, and cumulatively will substantially increase this erosion and should also be considered as an impact of this event.

BIRD DISTURBANCE

Mission Bay is very heavily used by a large variety of water dependent bird species. Mid October is a relatively good time of the year to avoid such impacts, but the impacts will still be significant. The activity level of the events will deny forage area to birds like terns, pelicans, cormorants, and many types of grebes, ducks, and

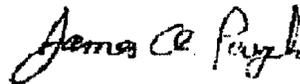
shorebirds. This impact is in addition to the contamination impacts on birds that was mentioned previously.

CONCLUSION

No agency or elected official would approve the direct discharge of many gallons of fuel or motor oil into the Bay. It is not reasonable to facilitate an event that would directly result in the discharge of many tens of thousands of gallons of fuel directly into Mission Bay. While the short term economic benefit of this event appears attractive, the long term environmental costs will be immense. The environmental analysis to date does not adequately identify these impacts. We strongly urge the Commission deny this permit.

Due to regulatory pressure, two cycle personal watercraft are being replaced by personal watercraft that will use much cleaner four cycle engines. If this event is to be held in Mission Bay, only four cycle engines with emission levels comparable to automobiles should be allowed to participate.

Respectfully,



James A. Peugh
Coastal and Wetlands Conservation Chair

cc:

US Fish and Wildlife Service, Martin Kenney
US EPA, Paul Michel
California Coastal Commissioner, Christine Kehoe
California Fish and Game Department, Bill Tippets
California Regional Water Quality Control Board, Greig Peters

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7/20/99

Pg 1 of 9

TO: Diana LillyFrom: Donna Frye - S.T.O.P.
(858) 270-3886

Dear Diana,

I am laying over some documents from the California Air Resources Board, dated Dec 10, 1998. These pages are from the "Notice of Public Hearing to Consider Adoption of Emission Standards and Test Procedures for New 2001 and Later Spark-Ignition Marine Engines." These standards were adopted for marine engine pollution. The News Release from CARB is at the end of the FAX.

I will fax my comments first thing in the morning tomorrow.

Thank you,

Donna

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lists the emission inventory for pleasurecraft and the subcategories of outboard engines and personal watercraft in 1997, with estimated values for 2010 under the implementation of the U.S. EPA program.

Year	Category	ROG	NOx	ROG+NOx
1997	Personal Watercraft	66	0.5	66.5
	Outboard Engines	63	1	64
	Total	129	1.5	130.5
2010	Personal Watercraft	45	8	53
	Outboard Engines	38	2	40
	Total	83	10	93

Source: OFF-ROAD Inventory Computer Model, October 1998

The emissions levels listed in Table 2 are in tons per day averaged over 365 days. The emissions inventory attributed to marine engine use on a typical summer weekend day when their emissions are of greatest concern, was 777 tons per day of ROG+NOx statewide in 1997 (Six times greater than the annual average). In the South Coast Air Basin these typical summer weekend emissions were 168 tons per day of ROG+NOx³.

In addition to providing needed emission reductions in the South Coast Air Basin, the proposed marine engine regulations will also help achieve and maintain: the federal 1-hour ozone standard in regions such as the San Joaquin Valley and the Sacramento area, the federal 8-hour ozone and particulate matter standards in a number of areas, and the State ozone and particulate matter standards throughout California.

B. Water

The impacts of outboard and personal watercraft two-stroke engine operation on California water bodies have not been quantified because the extensive use of personal watercraft has occurred recently. Ongoing studies such as the Lake Tahoe Watercraft Study are not completed but will provide more

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definitive information on the aquatic environment. Although the actual impact has yet to be determined, a threat to water quality certainly exists. The threat can be qualitatively assessed by reviewing ARB statistics regarding watercraft operation on California water bodies. A qualitative threat of this magnitude is a sufficient basis for regulatory actions by state agencies other than the State Water Resources Control Board (SWRCB), provided that such actions do not infringe on SWRCB's primary role in reducing such threats.

The number of two-stroke engine powered personal watercraft has increased by 240 percent since 1990 and is expected to double again by 2010. Current estimates show 162,000 personal watercraft are being used on an average of 41 hours per craft per year on California's lakes and rivers. Fuel consumption is estimated at 5 to 10 gallons per hour. Unlike automobile emissions, which are exhausted to air, all marine engines exhaust directly into the water. All exhaust pollutants, therefore, are brought into intimate contact with the water body thereby enhancing pollutant transfer. In addition, ARB information indicates that two-stroke carbureted engines discharge an unburned fuel/oil mixture at levels approaching 20 to 30 percent of the fuel/oil mixture consumed. Such unburned fuel includes oil required for lubricating all two-stroke engines.

Based on current and future outboard usage and the expanding use of personal watercraft and the potential per vessel discharge of unburned fuel from both marine engine types, millions of gallons of gasoline could be discharged to water bodies of the State. This unregulated discharge of fuel and oil threatens degradation of high quality waters and pollution affecting the beneficial uses of the State's waters. The proposal to control emissions from spark-ignition marine engines is of considerable interest to the SWRCB since implementation of these regulations will effect significant reductions in the discharge of gasoline and oil.

The discharge of gasoline to waters of the State is generally addressed by State and federal law and adopted Policy as outlined below:

1. Federal and State Mandates for the Protection of Water Quality

The Porter-Cologne Water Quality Control Act (Porter-Cologne) is the principal law governing water quality regulation in California. The SWRCB and nine Regional Water Quality Control Boards (RWQCBs) are charged with implementing its

provisions. Porter-Cologne establishes a comprehensive program for the protection of water quality and the beneficial uses of water.

The U.S. EPA has approved California's Water Quality Control Program authorized by Porter-Cologne as a satisfactory way to ensure implementation of the Federal Clean Water Act in California. The SWRCB and RWQCBs are specifically required to implement the Clean Water Act provisions through their planning and regulatory actions (Section 13370 of the California Water Code [CWC]).

It is the policy of the State of California, as set forth by the Legislature in Porter-Cologne (Section 13000 of the CWC) that the quality of all the waters of the State shall be protected, that all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and that the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation. In fact, State agencies in carrying out activities that affect water quality are required to comply with State policy for water quality control as promulgated by the SWRCB (Sections 13146 and 13247, CWC).

The SWRCB is mandated by federal and State requirements to protect and enhance water quality. Important to this issue is the Federal Antidegradation Policy (40 CFR 131.12) and the SWRCB's adoption of that policy in SWRCB Resolution No. 68-16, a component of the State's policy for water quality.

The current Federal Antidegradation Policy states that existing stream water uses and the water quality necessary to protect them must be maintained. In addition, where high quality waters constitute an outstanding national resource, such as waters of national and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. In California, Lake Tahoe and Mono Lake have been designated as Outstanding National Resource Waters.

The SWRCB policy enunciated in Resolution No. 68-16 is broader than the federal policy because it covers both surface and ground water and protects potential as well as actual uses. The SWRCB has interpreted Resolution No. 68-16 to incorporate federal policy where applicable. In addition to the preservation of existing water quality, Resolution No. 68-16 also states that discharges to existing high quality waters will be controlled as necessary to assure that pollution or a nuisance will not occur,

and that the highest water quality consistent with maximum benefit will be maintained.

Porter-Cologne requires adoption of Water Quality Plans which contain the guiding policies of water pollution management in California. There are a number of statewide water quality control plans adopted by the SWRCB. Regional water quality control plans, commonly referred to as Basin Plans, have also been adopted by each of the RWQCBs.

All water quality control plans identify the existing and potential beneficial uses of waters of the State and establish water quality objectives to protect these uses. For example, most surface and ground waters of the State are presumed to be suitable for beneficial use as drinking water. (SWRCB Resolution 88-63.) The water quality control plans also contain an implementation, surveillance, and monitoring plan. Water Quality Control Plans include enforceable prohibitions against certain types of discharges.

Statewide plans and all nine RWQCBs also have narrative and numeric objectives in their Basin Plans to protect water quality, including numeric objectives for gasoline components. The latter are based on the Department of Health Services' primary and secondary Maximum Contaminate Levels for drinking water. Other numeric objectives are intended to protect beneficial uses (fish and wildlife habitat, recreational uses, etc.). Narrative objectives are used where the data needed to establish numeric objectives are unavailable. Examples of the narrative objectives for the San Diego RWQCB Basin Plan are described below. This narrative language is typical of, if not identical to, that found in Basin Plans of the other eight RWQCBs.

Water Quality Objective for Oils, Grease, Waxes, or other Materials:

Waters shall not contain oils, greases, waxes, or other materials in concentrations which result in a visible film or coating on the surface of the water or on objects in the water or which cause nuisance or which otherwise adversely affect beneficial uses.

Water Quality Objectives for Taste and Odor:

Waters shall not contain taste or odor producing substances at concentrations which cause a nuisance or adversely affect beneficial uses.

The natural taste and odor of fish, shellfish, or other regional water resources used for human consumption shall not be impaired in inland surface waters and bays and estuaries.

Water Quality Objectives for Toxicity:

All waters shall be maintained free of toxic substances in concentrations that are toxic to or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analysis of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the RWQCB.

The ARB's proposed regulations of marine engines and equipment could affect water quality of the State and are therefore required to promote attainment of water quality objectives (Sections 13146 and 13247, CWC).

As mentioned above, the numerical objectives based on Maximum Contaminant Levels are intended to protect public health. Additional numeric objectives are being developed for this purpose. Presently, however, little is known of the environmental fate of many exhaust, gasoline, and lubricating oil components. An analysis of the impacts of marine engine exhaust, including unburned gasoline, on the aquatic environment is difficult due to the highly variable physical and chemical natures of the exhaust components and the variety of gasoline formulations and additives. Evaporation, deposition, and degradation rates of each of these components, as well as other environmental conditions, all would influence each compound's fate, transport, and toxicity. Both in-situ and in-tank studies have been conducted on marine engine exhausts while the degree of impact on the aquatic environment is still under investigation.

However, public health and other beneficial uses (e.g. aquatic) are also protected by narrative standards with respect to pollutants for which numeric objectives have not been developed. There is no doubt that the chemicals being discussed are detrimental to the water quality needed to sustain beneficial uses of water and that occurrence of these chemicals is expected to increase dramatically absent adequate controls. With few exceptions, surface and ground waters of the State are considered to be suitable, or potentially suitable, for beneficial use as a municipal or domestic water supply (SWRCB Resolution No. 88-63, as implemented by RWQCBs). Marine engines are now discharging

significant quantities of pollutants into such waters with further significant increases anticipated. ARB's proposed regulations will significantly reduce the discharge of pollutants to waters of the State.

Discharges to water from marine engines and equipment are therefore threatening to pollute or otherwise adversely affect water quality for one or more beneficial uses and are threatening to violate State and regional water quality narrative objectives for Oils, Grease, Waxes or other Materials. Such discharges are also threatening to pollute waters or otherwise adversely affect water quality for one or more beneficial uses and are threatening to violate State and regional water quality narrative objectives for Tastes and Odors. Such discharges are also threatening to violate State and regional Toxicity narrative objectives because such waters may not be maintained free of toxic substances in concentrations producing detrimental physiological responses in human, plant, animal, or aquatic life. Finally, such discharges are threatening to adversely impact water quality for one or more beneficial uses of Lake Tahoe, an outstanding National resource water, in violation of SWRCB Resolution 68-16.

Given the adverse effects of the constituents in question on water quality, the best approach is to limit, as best as possible, the total amount of material exhausted. This is especially true of the unburned gasoline and lubricating oil component generated by two-stroke engines.



California Environmental Protection Agency

NEWS RELEASE

Air Resources Board

Release 98-75

FOR IMMEDIATE RELEASE
December 10, 1998**CONTACT:** Joe Irvin
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www.arb.ca.gov**Air Board Acts to Reduce Marine Engine Pollution**

SACRAMENTO - Regulations to greatly reduce smog-forming emissions and water pollution from outboard engines and personal watercraft starting in 2001 were approved today by the California Environmental Protection Agency's Air Resources Board (ARB).

"These new standards will deliver significant reductions in air and water pollution while still allowing Californians the full range of fishing, boating and other water sports experiences they now enjoy," said ARB Chairman Barbara Riordan. The ARB regulations apply only to new engines and watercraft sold in 2001 and thereafter. There are no requirements to modify or retrofit engines or watercraft sold prior to 2001.

California's new regulations greatly advance marine engine emission reductions beyond those set by the U.S. Environmental Protection Agency, which began this year. California implements the most stringent federal standard in 2001, five years ahead of the 2006 target date for the rest of the country. This delivers a 70 percent reduction in smog-forming emissions over unregulated marine engines.

California then makes two more reductions below the maximum federal level; a 20 percent reduction in 2004 and a 65 percent reduction in 2008. Phasing in new, cleaner engines will mean reductions in smog-forming emissions of 110 tons per day (TPD) by 2010 and 161 TPD by 2020. Reductions will be greatest on summer days, when California's smog problem is at its worst and boating activity is most prevalent.

"Many marine engines already available in today's market meet the ARB's first two regulatory levels and some even meet the most stringent third level," Riordan said.

Marine engines were the focus of new standards because many are conventional "two-stroke" design that burn fuel inefficiently and discharge up to 30 percent unburned fuel into the environment. A 100-horsepower personal watercraft operated for seven hours emits more smog-forming emissions than a new car driven more than 100,000 miles. They have become increasingly popular, with more than 50,000 engines and personal watercraft being sold in California each year, and thus are a growing source of air pollution in the state.

Reduced air and water pollution from these standards will accelerate the use of advanced technology engines that will burn up to 30 percent less fuel and oil, according to ARB staff analyses. This means considerable savings for consumers who pay as much as \$2 to \$2.50 per gallon for fuel and up to \$20 per gallon for two-stroke engine oil that is mixed with gasoline in marine engines.

Simply switching from a two-stroke to a more efficient four-stroke 90 horsepower outboard engine

would save the user more than \$2000 in fuel and oil costs over the average 16 year "life" of the engine. A four-stroke personal watercraft would save the user about \$1200 dollars over a two-stroke engine during the watercraft's nine-year "life."

The Board also adopted a labeling requirement that will identify engines and watercraft that meet, exceed and greatly exceed the new regulations. This will allow consumers to factor environmental considerations into their purchasing decisions and also give local water agencies a way to identify watercraft and engines that meet or exceed California standards. This may preserve water sport activities in areas where local water agencies have banned or are considering bans on boating activity because marine engines are polluting lakes and reservoirs.

The Air Resources Board is a department of the California Environmental Protection Agency. ARB's mission is to promote and protect public health, welfare, and ecological resources through effective reduction of air pollutants while recognizing and considering effects on the economy. The ARB oversees all air pollution control efforts in California to attain and maintain health based air quality standards.

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