

CALIFORNIA COASTAL COMMISSION

SAN DIEGO AREA

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REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-00-68

Applicant: Thunderboats Unlimited, Inc./San
Diego Bayfair

Agent: Jim Kidrick

Description: Construction of temporary structures, including fencing, tenting, portable toilets, cranes, race course markers (buoys), inflatables, etc. to accommodate a special event (powerboat races) at four Mission Bay Park venues on September 15-17, 2000. Set-up begins at 6:00 p.m. Monday, September 11th and take-down is completed by 8:00 p.m. Tuesday, September 19th. Public access restrictions begin at 6:00 p.m. Wednesday, the 13th, at Fiesta Island and East Vacation Isle and at 8:00 a.m. Friday, the 15th, at West Vacation Isle and Crown Point Shores. The event charges an admission fee to 100% of the spectators and an additional fee for parking.

Site: Crown Point Shores (staging, viewing and parking), East Vacation Isle (staging, viewing and parking), West Vacation Isle (parking only) and Fiesta Island (staging, viewing and parking), Mission Bay Park, San Diego, San Diego County.

STAFF NOTES:Summary of Staff's Preliminary Recommendation:

Proposed are powerboat races on Mission Bay, in the form of the Thunderboats special event that has taken place annually for more than thirty years at this location. Although the event has been exempted most years, including in 1999, permits have been required twice previously (1992 and 1998) when new elements were added to the event. A permit is being required this year because of recent concerns over potential water quality impacts associated with motorized boating activities. Significant issues raised by the proposal include restrictions on public access within a public park, impacts on traffic circulation, impacts on visual resources and potential biological impacts to water quality

and nearby sensitive habitats. The issues are all addressed through special conditions. Condition #1 establishes parameters for the drag boat races to avoid impacts to the Northern Wildlife Preserve. Condition #2 requires the applicant to monitor event attendance and the use of public parking areas to assure that public access through Mission Bay Park is maintained and maximized; the report must address the necessity and efficiency of historic parking and access arrangements and determine whether off-site parking and a shuttle service are needed to accommodate ever-increasing attendance. Condition #3 requires water quality monitoring similar to what the applicant conducted last year on his own, and Special Condition #4 requires submittal of the traffic and water quality monitoring data and an analysis of the results in a timely manner. Condition #5 limits the event to a single year to afford an opportunity to review the results of the 2000 event before permitting or exempting future events.

Substantive File Documents: Certified Mission Bay Park Master Plan (LUP); 1999 Park Use and Marine Event Permit; Proposed Mitigated Negative Declaration No. 40-0177; CCC Files #6-92-178; #6-98-80; #6-99-75

PRELIMINARY STAFF RECOMMENDATION:

The staff recommends the Commission adopt the following resolution:

- I. **MOTION:** *I move that the Commission approve Coastal Development Permit No. 6-00-68 pursuant to the staff recommendation.*

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a YES vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. Standard Conditions.

See attached page.

III. Special Conditions.

The permit is subject to the following conditions:

1. Operating Parameters for Drag Boats. No vessels, persons or equipment associated with the subject special event (powerboat races) shall enter, or be placed within, the Northern Wildlife Preserve. To assure compliance with this mandate, the applicant shall align/configure the drag boat race course as required by the City of San Diego for the 1998 and 1999 events. There will be an immediate cessation of drag boat activities should any drag boat enter the Preserve in the course of the race, and any damage to the Preserve resulting from such occurrence will be appropriately mitigated in consultation with the appropriate resource agencies.

2. Parking Monitoring Program. The applicant shall monitor use of on- and off-site parking during the 2000 event, and any shuttle service employed. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director, for review and written approval, a detailed monitoring program designed to achieve the above requirements. At a minimum, the monitoring program shall include the following components:

- a. A map delineating all public parking areas designated for the exclusive use of event participants and attendees;
- b. Documentation of existing parking facilities as follows:
 1. the number of parking spaces in each parking area
 2. the number of spaces in each lot usurped by structures or barriers other than vehicles
 3. the number utilized for overnight RV camping;
- c. Documentation of the number of tickets sold for each day of the event, counting a three-day pass as three tickets, one for each day.
- d. A description of any shuttle system employed by the applicant, including a map delineating the shuttle route and all pick-up and drop-off points, and indicating the number and type of shuttle vehicles and frequency of operation.
- e. A map showing the locations of any signage posted on Interstate 5 or City streets offering directions to or around the event venues, and examples of all sign copy.
- f. Provisions for monitoring the on-site parking adequacy at the Crown Point Shores venue only, which shall include parking counts in each lot, or parking area, at least

once mid-morning (between 10:00 and 11:00) and once mid-afternoon (between 2:00 and 4:00) for each day of the three-day event; data may present the number of spaces full compared to the number of spaces available, or express the data as a percentage full or empty.

The applicant shall undertake the development in accordance with the approved parking monitoring program. Any proposed changes to the approved program shall be reported to the Executive Director. No change to the program 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. The applicant shall monitor water quality in Mission Bay during the 2000 event to determine if the event results in adverse impacts on water quality. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director, for review and written approval, a detailed monitoring program designed to achieve the above requirement. The monitoring program shall be generally modeled after the protocol of the 1999 monitoring plan, and shall, at a minimum, include the following specific components:

- a. A map delineating the locations and depths of all proposed water testing stations, which shall include surface, water column and bottom locations at various points in Mission Bay;
- b. A schedule depicting the proposed times, dates and tide levels of each test, documenting that testing shall occur prior to, during and after the three-day race event; and
- c. A list of all constituents being tested for and standards/thresholds set by the Regional Water Quality Control Board for each named constituent, where such standards have been determined; at a minimum, constituents tested for shall include TPH gasoline, MTBE, benzene, toluene, ethylbenzene and total xylenes.

The applicant shall undertake monitoring in accordance with the approved water quality monitoring program. Any proposed changes to the approved program shall be reported to the Executive Director. No change to the program shall occur without a Commission-approved amendment to the permit unless the Executive Director determines that no such amendment is required.

4. Submittal of Monitoring Reports. On or before December 31, 2000, the applicant shall submit to the Executive Director for review and written acceptance, detailed reports which analyze the results of all parking and water quality monitoring conducted pursuant to the approved monitoring programs required under Special Conditions #2 and #3. The reports shall include raw data gathered as well as analyses of the adequacy of parking and water quality protections and all information required by the approved monitoring programs.

5. Term of Permitted Activity. This permit authorizes the 2000 Thunderboat Races only. All future events require a separate coastal development permit, unless they are determined to be exempt from permit requirements. The permittee shall contact the San Diego District Office to determine whether any future event is exempt from permit requirements.

6. Removal of Temporary Improvements/Restoration of Site. All temporary improvements shall be removed from the three site venues by 8:00 p.m. on Tuesday, September 19, 2000, and the sites restored fully to pre-event conditions.

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description. The applicant is proposing powerboat racing on Mission Bay in mid-September, 2000. Except for a four-year hiatus in the early 70's, these races have been an annual event since 1964. The hydroplane race course has been in the same location since the beginning, but additional viewing areas and activities have been added over the years. Fees are charged for both admission and parking at all three venues through a variety of one- to three-day packages. Proposed temporary improvements to stage the event include perimeter fencing with admission gates at the three viewing venues (Crown Point Shores, East Vacation Isle, and Fiesta Island) and directional signage within and approaching the three sites. A fee for parking will also be required at West Vacation Isle, which is within walking distance of the East Vacation Isle site, and shuttle service is provided to move ticketed spectators between the three venues.

Other proposed temporary improvements include, but are not limited to, vendor booths, advertising inflatables, corporate hospitality areas, a concert stage and awards areas, mobile office trailers, chemical toilets and dumpsters. These are the same types of portable structures which have been used throughout the history of the event, although a greater number of the public amenity items are required as event attendance has grown to approximately 150,000 a year for the three-day event. The proposed event itself will run from September 15th through the 17th, but set-up will begin at 6:00 p.m. Monday, September 11th and take-down is completed by 8:00 p.m. Tuesday, September 19th. Public access restrictions begin at 6:00 p.m. Wednesday, the 13th, at Fiesta Island and East Vacation Isle and at 8:00 a.m. Friday, the 15th, at West Vacation Isle and Crown Point Shores. The City will conduct a pre-event walkthrough before setup begins on Monday the 11th, and a post-event walkthrough on Wednesday, the 20th to determine if any site damages have occurred requiring restoration by the applicant. Restrictions on public access to the various venues will begin on Wednesday evening of the event week at Fiesta Island and East Vacation Isle and on Friday morning at West Vacation Isle and Crown Point Shores; said restrictions will continue round-the-clock for the duration of the event.

Although the proposed activity does not occur during the regular summer beach season (i.e., between Memorial Day and Labor Day), September is generally one of the hottest

months in San Diego, and thus beach attendance remains high. The event results in exclusive use of public sandy beach at several popular visitor destinations within Mission Bay Park, encompassing approximately five miles of shoreline altogether. It also requires the public to pay to park in otherwise free public parking lots, and charges admission to all of the races and associated events. The overall event has changed and grown over the years and now includes many "extras" not contemplated when the event began thirty-six years ago. The Crown Point Shores site was added as a viewing venue in 1988 and became a staging venue as well in 1995 when drag boat races were added to the event. In 1997, the Navy staged demonstrations of some of its vessels and lifeguard operations and water-skiing events became part of the program. Concerts were added to the entertainment several years ago and a fireworks display is also a regular feature of the three-day event.

2. Past Commission Actions. The Commission has formally reviewed permits for the thunderboats in 1998, 1992, and prior to that in 1981. The Commission's 1981 action determined that the event, as it was staged in 1981, could be exempted from permit requirements. The exemption addressed a number of special aquatic events, including the subject powerboat races, and was intended as a means to expeditiously process events which were not identified as raising significant impacts regarding consistency with the Coastal Act. The exemption was not intended to accommodate changes or additions to the events in the future. Although several changes, and significant increases in both attendance and admission fees, occurred during the following eleven years, the applicant did not apply to the Commission for a permit to address those changes and the Commission, which perhaps was not aware that significant changes had occurred, did not object. In 1992, the Commission became aware that Crown Point Shores had been added as a spectator venue (actually starting in 1988), and required that the event be reviewed under a coastal development permit. The Commission's concern centered on the exclusion of the general public from the Crown Point shoreline and adjacent public recreational areas.

The Commission approved a permit for the 1992 event but included a number of special conditions. The applicant complied with all conditions except the one requiring documentation of use of parking areas within thirty days of the event as required. The applicant submitted the information in 1997. During the interim years, the event had been determined exempt pursuant to the Guidelines for the Exclusion of Temporary Events, under the assumption that the event remained essentially the same as in 1992. In 1997, the applicants did not approach the Commission for an exemption until past time for a permit application to be processed, and again maintained that the event was the same as before. After the initial letter of exemption was transmitted to the applicant, the applicant informed staff that a demonstration by the U.S. Navy was also planned as part of the 1997 event. This information was received the week of the event, and, on assurances that the "demonstration" was not a race and did not change the overall context of the event, an adjusted letter of exemption was issued. However, that letter advised the applicant that such exemptions were always discretionary, that the powerboat races (and associated temporary improvements and public access restrictions) are development under the Coastal Act, and that, in the future, application for an exemption or permit

should be made well in advance (three months minimum), to accommodate regular processing time in case it is determined that an exemption could not be granted.

A copy of the 1997 City-issued Park Use and Marine Event Permit, which included a complete schedule of activities for the 1997 event, clearly demonstrated that the event had grown considerably since the Commission's formal review in 1992. Attendance alone increased by 50%, from an estimated 100,000 people over three days in 1992 to 150,000 people in 1997. The applicant, however, continued to utilize the same location and amount of parking areas and had not implemented any form of off-site parking/shuttle operation. In addition, the applicant acknowledged that concerts, drag boat races, and fireworks, in addition to the Naval craft demonstrations, were all new additions since 1992. Moreover, the drag boats resulted in adverse, though accidental, biological impacts on two occasions. Therefore, it was determined that the 1998 event was not exempt from coastal development permit requirements. The Commission approved CDP #6-98-80, authorizing the 1998 event, and attached special conditions addressing drag boat operations, requiring parking monitoring, limiting the permit to a single year and requiring removal of all temporary improvements and full restoration of all venues.

In 1999, the applicant submitted plans and documentation verifying that the 1999 event would be identical to the 1998 event. A letter of exemption was issued to the applicant. At about that same time, the Commission was reviewing an application for jet ski races, which were proposed for October, 1999, the month following the thunderboat event. The potential for adverse water quality impacts was raised as an issue by a number of interested parties, and, due to a lack of consistent information, the Commission ultimately denied the permit (CDP #6-99-75). As will be discussed in later findings, most of the vessels used in the various powerboat races associated with the thunderboat event have different types of engines than jet skis, and are not expected to have the same type or level of potential impacts on the water quality of Mission Bay. However, since the whole matter of improving water quality is such a critical issue, staff determined that the 2000 thunderboat event would not be given an exemption and the applicant has submitted the subject application for Commission review.

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.

3. Environmentally Sensitive Habitats/Marine Resources. 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 through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

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.

The Northern Wildlife Preserve (also referred to as the Kendall-Frost Marsh) is an existing environmentally-sensitive habitat located along the north shore of Mission Bay, immediately northeast of Crown Point Shores. The Preserve hosts several sensitive and endangered species, and has been recently expanded by the City of San Diego, both as mitigation for past projects and to operate as a mitigation bank for future proposals. Existing habitats consist of a number of salt marsh and upland communities, as well as eelgrass resources. The regular hydroplane course is located south/southeast of the Preserve and there is no indication that the original, and continuing, thunderboat races have had any significant adverse impact on the habitat. The races occur after the end of normal bird breeding seasons, so nesting and fledging activities are not ongoing at the time of the races. Moreover, wildlife agencies have not indicated that noise generated by the event has adversely impacted normal marsh activities, so it would appear that the original thunderboat races are a compatible activity to date.

However, the drag boat race course is located east of, and parallel to, the shoreline of Crown Point Shores, and, when the boats travel in a northeasterly direction, the boats aim toward the Preserve. The drag boats run in a straight line and do not have brakes; they stop when they run out of fuel and/or a parachute deploys. In 1995, the first year the

event was held, a parachute failed to deploy, and a drag boat entered the Preserve, cutting a long, narrow swath through sensitive vegetation. The incident was well documented and the applicant was required to restore the damaged areas, although mitigation at a greater than 1:1 ratio was not required. Although not so publicly reported, the same type of accident occurred the following year; there was apparently less damage than in the first incident. To prevent the same thing from occurring again, the applicant reversed the race course in 1997, such that the boats were running southwesterly, away from the Preserve. However, this resulted in the boats engine noise being directed towards residential areas on Crown Point, and a significant number of complaints were received by the City and/or applicant. Thus, in 1998 the applicant proposed reversing the course to its 1995 and 1996 orientation, again putting the Preserve at risk.

The applicant then suggested to staff, but did not formally propose, to shorten the race course and move it further south, putting more distance between the boats and the Preserve, thus lessening the likelihood that future Preserve encroachments would occur. The Commission adopted a longer version of Special Condition #1 in its 1998 permit approval which gave the applicant specific options if they wished to continue drag boat racing. Subsequent to the Commission action, the City issued its (non-discretionary) Park Use Permit establishing a specific alignment for the drag boats consistent with one of the options the Commission had offered the applicant. That alignment is even further south than what the applicant had suggested and is also oriented such that the boats are not racing directly towards the Preserve but will instead run up on the beach if they are unable to stop. There have been no further incidents of resource damage.

The Commission continues to find the potential risks to salt marsh and eelgrass habitats in the Preserve inconsistent with the above-cited Coastal Act policies. Accidents have occurred on two occasions when the race course was oriented towards the Preserve. Both accidents caused significant harm to this environmentally sensitive habitat area. Therefore, Special Condition #1 has been revised but continues to be part of the Commission's approval. It requires the applicant to continue using the racecourse configuration devised by the City, that avoids the Preserve and any potential impact to the Preserve. The condition also calls for appropriate mitigation should damages occur, and an immediate cessation of racing in this instance. The applicant has successfully complied with this condition in 1998 and 1999, so it appears the situation is being appropriately addressed. However, only as conditioned can the Commission find that adequate protection is afforded the Preserve.

4. 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, or

(3) agriculture would be adversely affected. ...

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 hydroplane races is currently both improved (East and West Vacation Isle and Crown Point Shores) and unimproved (Fiesta Island) and includes off-road parking, a public boat launching ramp and dock, sandy beach normally available for general public use and upland picnic areas. The types of public activity in these areas are primarily water-oriented, such as swimming, fishing, water-skiing and other boating on Fiesta Island and East Vacation Isle, as well as picnic, shoreline and playground activities at Crown Point Shores and Vacation Isle.

Beyond the undeveloped western shoreline of Fiesta Island, where many of the spectator improvements will occur, much of the remainder of Fiesta Island has few permanent public improvements, those being 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 designated for personal watercraft activities and water-skiing. Until a few years ago, the

southwestern and south central portion of the island was occupied by the municipal sludge beds. Although these have now vacated, the site has been hydroseeded to allow some passive public use, but the park improvements identified in the certified Mission Bay Park Master Plan have not yet occurred. Finally, group camping facilities for youth and the Youth Aquatic Center occupy a portion of the Island in the Enchanted Cove area. The mostly barren central portion of Fiesta Island is used for the Over-the-Line tournament each year, but includes no permanent improvements at this time. It is immediately east of the area proposed for temporary improvements/viewing area and accommodates some of the parking associated with the powerboat races.

The Ski Beach area of East Vacation Isle is a popular water-ski take-off and landing area. There is also a public boat launch ramp, stretches of sandy beach, grassy uplands, picnic tables, a tot lot and public restrooms. This area of the park generally sees a much higher level of public use than Fiesta Island, although typically still less use than Crown Point Shores, which has more amenities for family and group outings. Crown Point Shores includes a long stretch of sandy beach, with lifeguard service, picnic tables and a group picnic ramada, a tot lot, basketball courts, a volleyball area, public restrooms and wide expanses of grass. During the fall, this area is heavily utilized for group and company picnics, since summerlike weather typically lasts well into October and local organizations tend to avoid competition with tourists during the summer season.

The proposed development will restrict public access to all four sites for more than four days, including over a weekend, when public attendance at beaches is highest. The applicant will allow persons using the Youth Aquatic Center and group camp area to enter Fiesta Island, provided such persons can identify themselves pursuant to a list provided the applicant by the City. Likewise, the applicant states that jet-skiers will be allowed on the island. Otherwise, no members of the public can enter the island from Wednesday evening of the event week until the following Monday unless an event entrance ticket is purchased. This will prohibit access to many areas of the island that are not actually usurped by temporary race improvements or that provide views of the races. Proposed fencing and admission gates at the other two venues will prevent the general public from utilizing the amenities described above from Wednesday evening at East Vacation Isle and Friday morning at West Vacation Isle and Crown Point Shores till the Monday evening following the event unless an event entrance ticket is purchased..

Staff had questioned the need to restrict such large areas for days at a time, particularly blocking off the three large public parking lots at Crown Point Shores. The applicant maintains that 24-hour restrictions (i.e., including times when no racing activities are occurring) are necessary to keep unticketed people from entering the venues and to keep the powerboats and temporary improvements secure. Fiesta Island is served by a single, one-way road which circles the island, making the venue somewhat difficult to avoid for persons wishing to use other portions of the island. The submitted site plans (sketches) do, however, indicate a temporary fence all along the western perimeter of the access road, separating the road from the venue such that it appears possible that entrance gates could be installed along that fence rather than at the island's only point of entry.

An additional feature of the event is that the City and the event promoters allow overnight RV camping in some parking lots. Generally, the parking lots at all City parks are closed between 2:00 and 4:00 a.m. to prevent overnight camping. In recent years, the Commission has approved additional restrictions at some parking lots during nighttime hours. Vehicular access to Fiesta Island, for example, is currently prohibited between 10:00 p.m. and 4:00 a.m. on weekends all year long and on weekdays during the summer season, including through September. Thus, with event functions lasting until past 9:00 p.m. (according to the 1997 City permit) on Friday and Saturday nights, the public is really only excluded during non-event hours between 4:00 a.m. and 7:00 a.m. when the admission gates open for the next days events. However, the public parking lots at Crown Point Shores and on Vacation Isle are not currently restricted at all, except for the City-wide 2:00-4:00 a.m. closure.

The applicant maintains that adequate parking for the powerboat event is still available at the four venues, although the event has grown significantly with regard to the number of attendees; thus, no off-site parking for spectators is proposed. The only shuttle service provided is to transport ticketed spectators from one event venue to another. In 1992, there was talk that the City might require the applicant to use off-site parking and a shuttle service for all spectators. However, this did not occur at that time, or since, and is not proposed herein. The applicant provided documentation of the use of the on-site parking areas to demonstrate that use of all the lots was necessary both for the 1992 and 1998 events.

It would appear that the surrounding street system and on-site parking areas might be inadequate to address both event-related traffic/parking and recreational demand as a whole. However, with respect to parking, the applicant advised that not only is the parking area on the west side of Fiesta Island Road available to the event, as depicted on the submitted plans, but also the entire 65-acre site of the Over-the-Line (OTL) Tournament on the east side of the road, which can accommodate approximately 18,000 vehicles, if parking is maximized. The applicant has indicated that in previous years the event has only utilized approximately 20-25% of the OTL parking area, such that a significant parking reservoir remains available. The Commission therefore finds that parking at the Fiesta Island venue is not an issue at this time. Also, since nearly all of Vacation Isle is utilized by either the event, event parking, or the existing resort hotel, parking at this venue is not a current concern either. Crown Point Shores is a different matter, since, if the venue parking areas are not adequate to address event attendees, overflow of event parking onto adjacent City streets could adversely impact public access to nearby active and passive public recreational areas such as Riviera Shores and the Northern Wildlife Preserve.

Although over the years, the Commission's San Diego office, as well as the City and applicant, have received some complaints about the thunderboat event, for the most part, these have been related to noise only. There has not been, to date, significant concerns from the public regarding parking or traffic inconveniences. This may be because the event has been going on for so many years that San Diegans just avoid Mission Bay Park on the third weekend of September, unless they intend to go to the event. In the past, the

applicant and City of San Diego have submitted statements from the City's Park and Recreation Department, Police Department, CalTrans and the Highway Patrol, all supporting the applicant's contention that traffic and parking have not been problems in the past. Moreover, the applicant submitted results from the parking monitoring required in the 1998 CDP demonstrating that parking provisions remain adequate.

However, the Commission is concerned that the impacts of the event, at its current magnitude and with an apparent trend towards increased attendance, on traffic, public access and recreational opportunities needs to be continually analyzed to assure that impacts are minimized to the extent possible. However, due to the fact that the demand for park and recreational land has also increased, commensurate with attendance of the event, the Commission finds it is appropriate to again analyze the specific impacts of this year's event on public use of Mission Bay Park and the adjacent communities to assure that any significant impacts are mitigated in subsequent years. It is not possible to gather this information without allowing the event to go forward; however, any impacts that do occur are not permanent. The Commission finds it can approve the event this year with conditions requiring monitoring of impacts to be used in analysis of subsequent events.

Therefore, Special Condition #2 requires the applicant to prepare and implement a monitoring plan to document the extent of the event's parking facilities and record use of the lots on Crown Point, where the greatest potential for impacts to public recreational park use exists. Special Condition #4 requires the applicant to submit the results of the monitoring in the form of a report on or before December 31, 2000. The information contained in the report is needed to verify that the number and distribution of parking lots is adequate and will be used to evaluate the applicant's future proposals for this event. The intent is to thoroughly address all impacts to access associated with the event and help identify appropriate mitigation measures for any future events. Possible mitigation measures could include the provision of off-site parking with a shuttle service for event attendees, the provision of off-site parking with shuttle service to relocate displaced beachgoers during the event to other recreational venues in Mission Bay Park, or holding the event at a different time of year when the park is less heavily utilized.

Aside from the issue of adequate parking for event attendees, the Commission is also concerned with the number of public beachgoers displaced by the event. Based on the City's 1992 estimates of normal park use at the three venues during September, approximately 1,200 families will be displaced over the course of the event. These families will either avoid Mission Bay Park altogether or seek other beaches within the park for recreational pursuits, thus potentially overcrowding other areas and contributing to traffic congestion. However, 1,200 families would probably translate into 6,000 or 7,000 people. If that many members of the public inconvenienced by the event are compared to the 150,000 members of the public enjoying the special event, this level of displacement seems less significant from a recreational opportunity standpoint.

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 recent cases, some events

have only been 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 the subject thunderboat event in the 1992 and 1998 Commission approvals (CDP #6-92-178 and #6-98-80). According to a financial report for the 1996 event, most of the monies received in parking and admission fees are spent in holding the event itself and providing a base for the following year's event. However, approximately \$5,000 is deposited to the Mission Bay Park Endowment Fund each year out of the profits (the City's agreement with the applicant requires 2/3 of the net income for this purpose, but allows retention of some monies for the next event before calculating the 2/3). Out of total income of \$553,614.54, the 1996 event, after expenses, realized a net income of slightly over \$11,000, and \$5,000 went to the Fund. Expenditures from this fund are limited to improvements within Mission Bay Park.

In summary, the Commission is concerned over the loss of public access to approximately five miles of shoreline, turf and picnic areas, boat launching facilities, etc. However, the Commission also recognizes that the event is temporary, and the public access restrictions occur for approximately five days. Moreover, the powerboat races do provide an alternative form of public recreation. The event is open to anyone willing to pay the price of admission, and a portion of the net income each year goes to fund improvements in Mission Bay Park. Therefore, the Commission finds that, as conditioned to protect the Northern Wildlife Preserve and monitor the adequacy of parking arrangements, the proposed special event is consistent with the cited access and recreation policies of the Coastal Act.

5. Water Quality/Marine Resources. Coastal Act Sections 30230, 30231 and 30240 are most applicable to the issue of water quality. These sections have been cited previously in Finding #3, addressing biological resources.

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 Mission Bay, including least tern nesting sites, eelgrass meadows and coastal salt marsh habitat. Thus, maintaining optimum water quality in Mission Bay is critical from both wildlife resource and public recreation standpoints.

In recent years, there have been growing concerns regarding the contribution boating activities make to air and water pollution. The thunderboat event has not been analyzed for potential impacts on water quality in the past. However, the Commission did review a personal watercraft event in 1999 (CDP application #6-99-75), and ultimately denied a permit for the event based primarily on a lack of scientific data supporting the applicant's

contention that adverse impacts on water quality would not occur, or at least not to any greater degree than happens with everyday, unregulated jet ski activities in Mission Bay.

Because of this Commission decision, the subject applicant undertook water quality monitoring during the 1999 thunderboat event, in expectation that this type of information would be necessary to obtain a permit or exemption for the 2000 event. Eight test sites were selected, four at surface level and four in the same locations but at the bottom of the bay. Constituents tested for were TPH gasoline, MTBE, benzene, toluene, ethylbenzene and total xylenes. Testing occurred the day before the races began, the first and third racing days and both one and five days after the races. The test results are summarized in Exhibit #4, attached; the numbers all represent parts per billion (ppb). Most of the measurements remained constant throughout the testing period, indicating that the particular constituent was not impacted in any way by the racing activities. In addition to demonstrating that the thunderboat event did not affect the levels of these constituents present at the test sites, the actual numbers for each constituent were well below the standards set by the Regional Water Quality Control Board (RWQCB).

The exception was MTBE, which increased, either incrementally or dramatically, at six out of eight testing stations during the races, then, at all eight stations, dropped well below the pre-race numbers by the final day of testing (five days after the races ended). Unfortunately, no numeric standard has been established by the RWQCB for this constituent so it is difficult to know if the numbers given on the table represent a danger to humans or wildlife. However, it is known that anything over 30 ppb of MTBE makes drinking water unpalatable; the recorded numbers are all well below that threshold.

A further consideration in finding that the proposed event would not have significant adverse impacts on water quality is made through an analysis of the types of vessels used in the races. The thunderboats themselves have turbine engines; these discharge into the air and burn jet fuel which does not contain MTBE. Moreover, research indicates these engines are 99% fuel efficient and are not anticipated to produce any liquid discharge. These boats will use approximately 3,517 gallons of jet fuel during the three-day event. The other types of vessels used during the thunderboat event all have either 4-stroke inboard engines or 2-stroke outboard engines. The 4-stroke inboard engines will use approximately 668 gallons of automobile fuel which may contain MTBE. However, they are 97% fuel efficient and discharge into the air like the turbine engines, such that no water quality impacts are anticipated from these boats.

The 2-stroke outboard classes also burn automobile fuel which may contain MTBE. These engines are not fuel efficient and discharge approximately 30% of their fuel unburned into the water. They are estimated to use 318 gallons of gasoline during their 115 hours of racing activity, which will result in approximately 95 gallons of unburned fuel spilling into Mission Bay over the course of the three-day event. The City's Mitigated Negative Declaration (MND) identifies the discharge as representing approximately 4% of the existing, typical discharge throughout the bay over three summer days. It must be kept in mind that the thunderboat event pre-empted much of the day-to-day recreational boating activity in portions of Mission Bay, such that typical

discharges from boats not associated with the races are significantly less during the event than would occur on normal summer days. Thus, although there will be unburned fuel discharges from the 2-stroke engines, overall it is anticipated that these will be no greater than what occurs in Mission Bay all summer long.

Since the proposed jet ski (personal watercraft) races are the boating event most recently reviewed by the Commission, a comparison between the two events would be of value in reviewing the thunderboat proposal. Nearly all jet skis are of a conventional "two-stroke" 100-horsepower design that burn fuel inefficiently and discharge up to 30 percent unburned fuel into the air and water environment, although models sold in 2001 and thereafter are required to meet more stringent emission reduction standards. There are no requirements to modify or retrofit engines or watercraft sold prior to 2001. 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, some National Parks, and San Juan County (Washington State) are among areas where personal watercraft use has been banned or restricted, at least temporarily, because of environmental concerns.

In comparing the jet ski races proposed (and denied) in 1999 with the current proposal to stage the annual thunderboat event, a number of significant differences are immediately apparent: 1) the jet ski event was to have occurred for eight days, the thunderboats for only three; 2) estimated hours of vessel operation for the 2-stroke jet skis was 2,576 hours and for 2-stroke vessels in the thunderboat event, the estimate is 115 hours; 3) of the estimated hours of operation, all jet skis use 100-horsepower engines, whereas 90 hours of the subject 2-stroke engine use will be by 25-horsepower engines and only 25 hours will be using 125-horsepower engines; 4) estimated discharge of unburned fuel for the jet ski event was 9,275 gallons, and for the thunderboat event the estimate is 95 gallons. Thus, anticipated discharges resulting from the thunderboat event come to approximately 1% of those anticipated for the jet ski event.

In the findings for the jet ski denial, disagreement between the City and applicant regarding the estimates of hours of operation and gallons of discharge was noted, with the applicant estimating much lower numbers than the City. Ultimately, the applicant conceded that there was no way to predict the exact amount of hours of use and fuel consumption that would occur during the event. In reviewing these types of development, the Commission must assess a "worst-case" situation, to ensure potential impacts to coastal resources are not underestimated. This is not the case with the proposed thunderboat races, which have been conducted in the same manner for numerous years and can thus accurately identify hours, types of vessels, emissions, etc.. The MND includes two tables giving the class characteristics of the various racing vessels and a schedule of all proposed hours of operation both for actual races and for test runs. These support the facts stated previously and are attached as Exhibits #5 and #6.

In addition, the applicant has an ongoing BMP program that is utilized during the event. It includes providing drip pans under all outboard engines in the fueling area, and maintaining emergency oil spill contingency materials such as absorbent pads.

In summary, the Commission can be assured that the project will not have adverse impact on water quality based both on a comparison of this event to the jet ski event and on the water quality monitoring conducted during the 1999 races. The test methodology and data have been reviewed by the Commission's Water Quality Unit, which found the monitoring protocol and constituents tested for appropriate. The applicant maintains that this monitoring is conclusive, and does not need to be repeated this year. However, the Commission still finds it necessary to require water quality monitoring be done before, during, and after the event in 2000. From a scientific basis, a single year's monitoring is inadequate to draw long-term conclusions. It is possible the 1999 tests may have been influenced by unknown sources, and not be a true representation of typical water quality conditions. If a second year of testing produces identical results, it is possible that additional testing during future events may not be required. Special Condition #3 provides the parameters for conducting monitoring of the 2000 event, with the 1999 plan providing the basis to design an acceptable monitoring program; specific details to be included in the program are stated in the condition. With this requirement, the proposed BMPs, and the other special conditions attached to address other Coastal Act concerns, the Commission finds that approval of the proposed project will not adversely impact the water quality of Mission Bay Park and is consistent with the cited Coastal Act policies.

6. Visual Resources. Section 30251 of the Act provides for the protection of scenic coastal areas and for the compatibility of new and existing development. The subject proposal consists of a number of temporary structural improvements to stage a three-day special event in the highly scenic area of Mission Bay Park. Although the proposed improvements are not compatible with surrounding permanent development, they will only be in place for one week. The applicant is required by the park use permit and City agreement to restore the sites to pre-event conditions at the end of the races. Therefore, although the temporary facilities (especially the inflatables) will be highly visible from several areas of the park, including a number of coastal access routes, the Commission finds any adverse impacts acceptable because of their very limited duration. Thus, the Commission finds the development, as a temporary feature, consistent with Section 30251 of the Act.

7. Local Coastal Planning. Section 30604 (a) 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 for the proposed temporary development, as conditioned.

The proposed improvements are located on existing public parklands which are designated in the certified Mission Bay Park Master Plan as parkland (the upland areas) and open beach (the sand areas). The Master Plan addresses special events in general, and the thunderboat races in particular, identifying the three venues currently in use for

staging and viewing the event. Although the Master Plan recognizes "support facilities" for such events, 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 applied for a Park Use and Marine Event Permit from the City's Parks and Recreation Department.

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 raised a number of concerns under Chapter 3 policies; 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.

8. Consistency with the California Environmental Quality Act (CEQA). Section 13096 of the Commission's administrative regulations requires Commission approval of a coastal development permit application to be supported by a finding showing the application, 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 water quality, biological resources, public access and recreation policies of the Coastal Act. The applicant must conduct the drag boat races in a manner protecting the existing Northern Wildlife Preserve and must monitor parking and water quality throughout the event to determine if modifications of parking, restrictions on certain types of vessels, or additional BMPs are needed in future events. 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, as conditioned to mitigate the identified impacts, 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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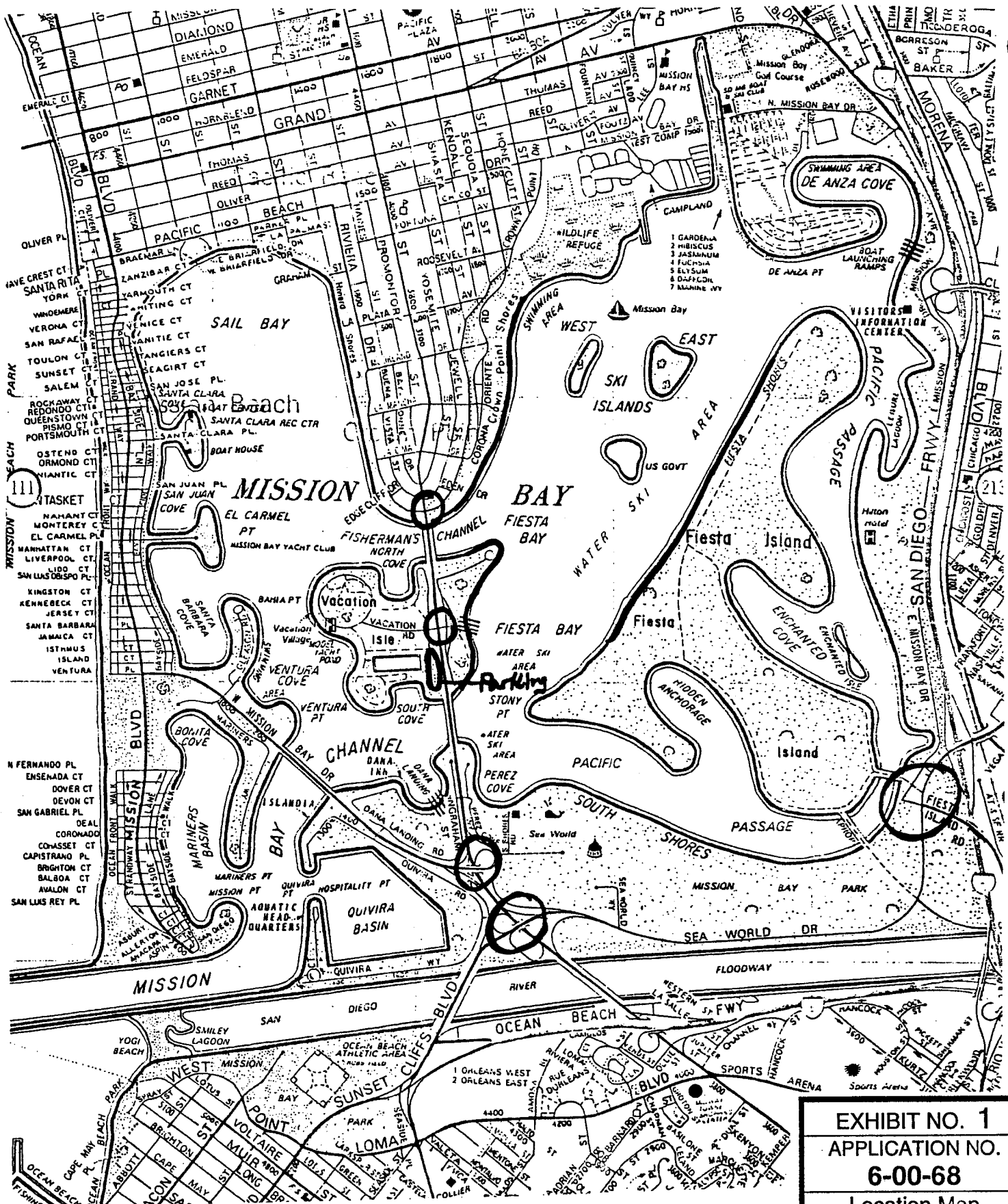
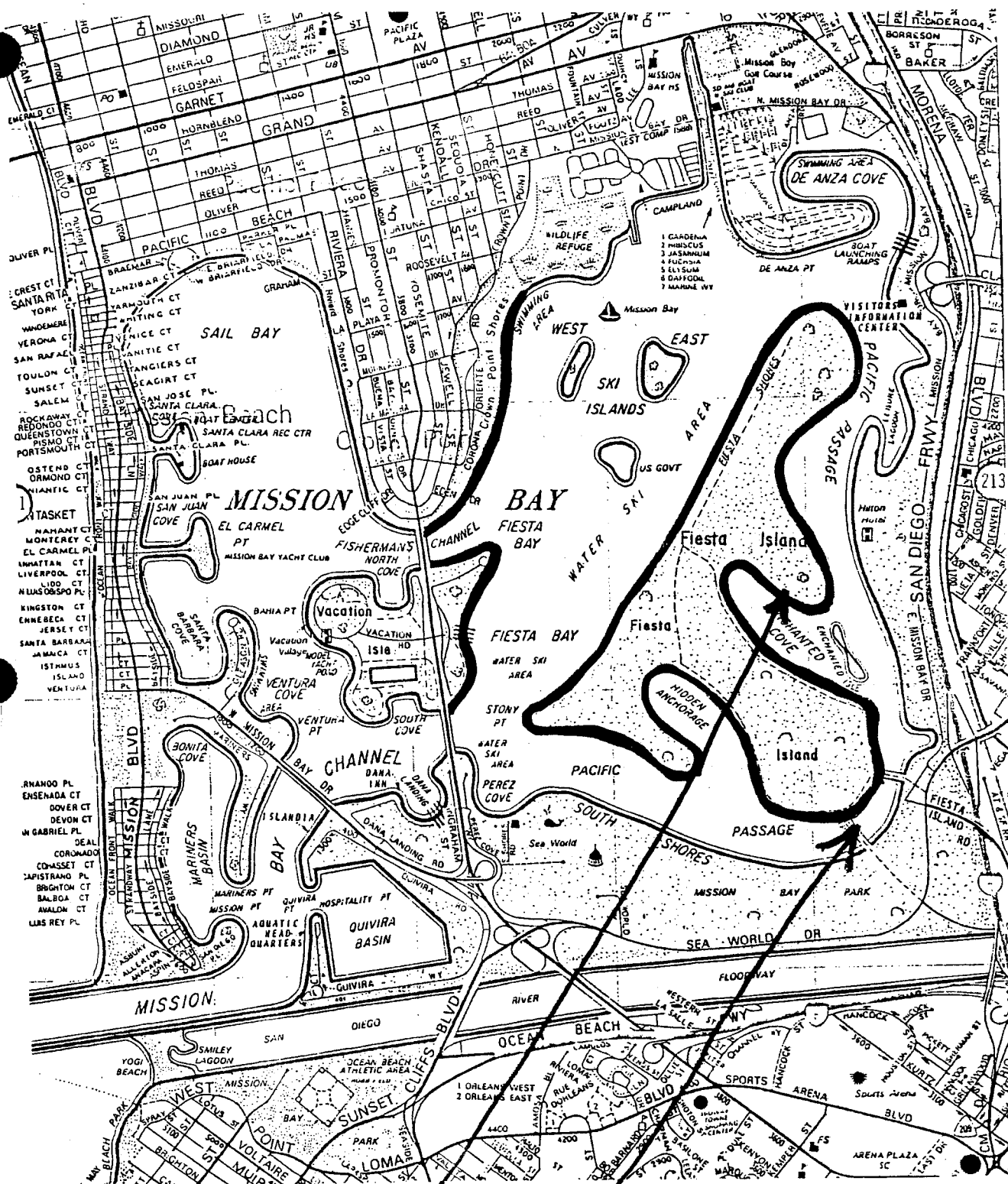


EXHIBIT NO. 1
APPLICATION NO.
6-00-68
Location Map
Key Intersections
California Coastal Commission

6-00-68



Youth Camp

Jet Ski Area

EXHIBIT NO. 2
APPLICATION NO.
6-00-68
Restricted Access
To Shoreline

6-00-68

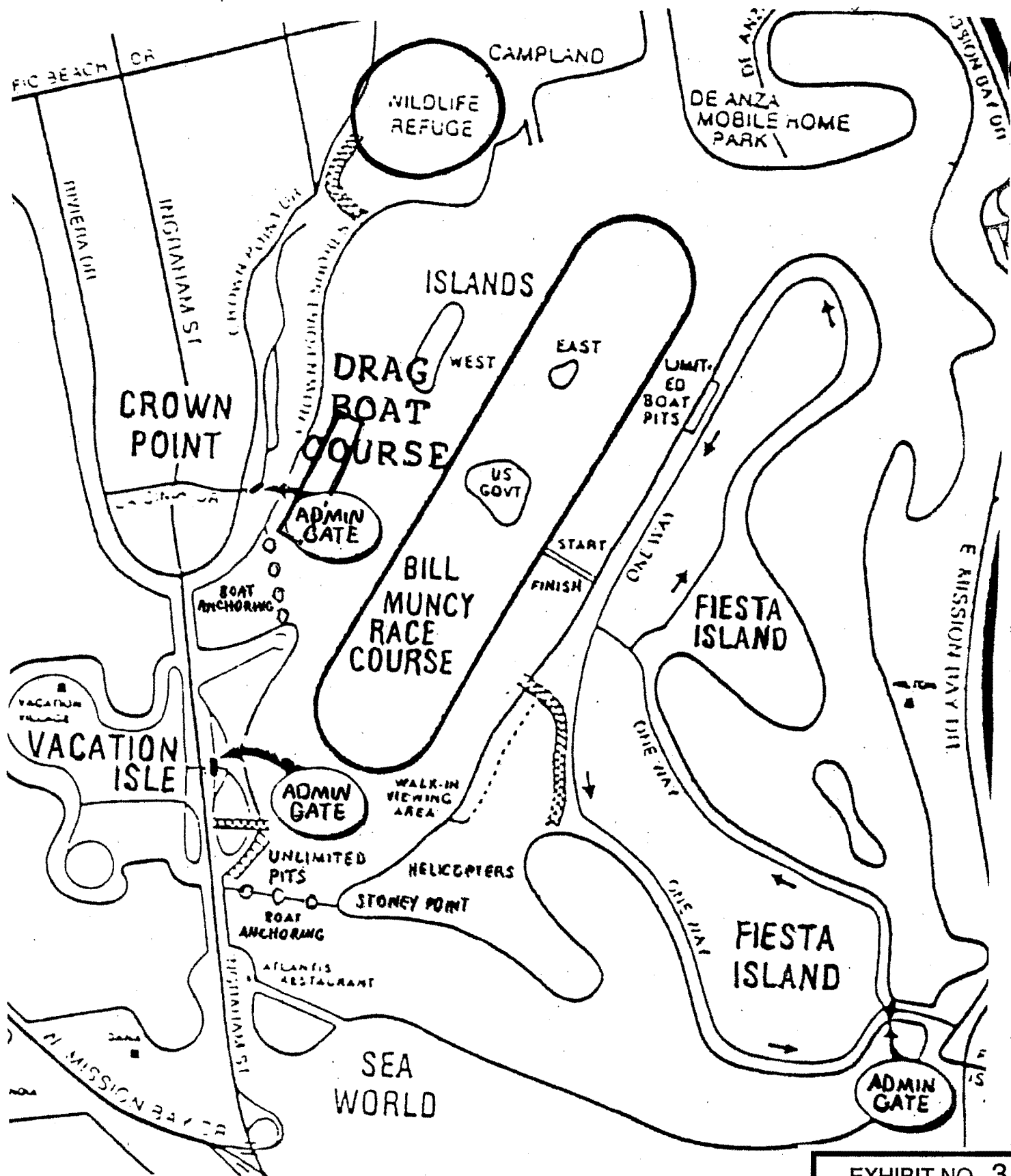


EXHIBIT NO. 3
APPLICATION NO.
6-00-68

Venues and Race

Courses

 California Coastal Commission

Table 1: Summary of Results.

Analyte	S1 Surface					S1 Bottom				
	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999
TPH gasoline	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
MTBE	7.2/6.8	7.5	5.4	6.0	3.6	4.5	3.6	5.0	1.0/1.1	<0.5
Benzene	<0.5/<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5/<0.5	<0.5
Toluene	<0.5/<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5/<0.5	<0.5
Ethylbenzene	<0.5/<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5/<0.5	<0.5
Total Xylenes	<1.0/<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0/<1.0	<1.0

Analyte	S2 Surface					S2 Bottom				
	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999
TPH gasoline	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
MTBE	8.1	7.9	6.1	7.9	5.3	6.7	7.7	5.2	6.1	<0.5
Benzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Analyte	S3 Surface					S3 Bottom				
	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999
TPH gasoline	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
MTBE	11.0	15.3	11.6	13.4	7.4	16.0	15.2	11.0	13.4	3.9/4.4
Benzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5/<0.5
Toluene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5/<0.5
Ethylbenzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5/<0.5
Total Xylenes	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0/<1.0

Analyte	S4 Surface					S4 Bottom				
	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999	09/16/1999	09/17/1999	09/19/1999	09/20/1999	09/24/1999
TPH gasoline	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
MTBE	7.6	16.5	6.1	6.7	2.8	6.5	15.8	5.6	7.3	2.6
Benzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Total Xylenes	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

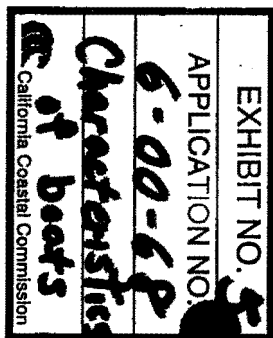
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Table 1

Mission Bay Thunderboat Class Characteristics

Vessel Type	Engine	Fuel*	Exhaust	Max Sound (@ 50 feet)	Max # Racers at One Time	Max Noise Generation
Super Stock	Auto	Gas	Air	80 dB	6	87.8
Crackerbox	Auto	Gas	Air	80 dB	6	87.8
Kboat	Auto	Gas	Air	80 dB	6	87.8
GN	Auto	Gas	Air	80 dB	6	87.8
Drag	Auto	Gas	Air	90 dB	2	93
Unlimited-Light	Auto	Gas	Air	85 dB	8	94.2****
Tunnel Series	120 hp O/B	Gas	Water	**	16	**
Stock Outboards	25 hp O/B	Gas	Water	**	20	**
Offshore****	Auto	Gas	Air	85 dB	6	93.1
Unlimited	Turbine	Jet Fuel	Air	72 dB	7	81

- No boat classes use any type of fuel additives; however, MTBE is not prohibited.
- ** Outboard engines exhaust under the water surface and are therefore much quieter than air-exhausted engines.
- *** Theoretical Maximum - boats are not all operating at full speed at the same time and are spread out over the race course. Actual noise at any given receptor is likely to be lower.
- **** Boats do not re-fuel during the weekend.



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Table 2 - Mission Bay Thunderboat Race Schedule and Fuel Consumption

	# Races	Race Duration	# Racers	Fuel Consumption	Total Engine Time	Total # Runs/Tests	Fuel Consumed	30% of Two- Stroke Exhaust
Friday								
Unlimited Light	2 tests	10 minutes each	8 boats	3 gal per test	160 min	16	48 gal	
Tunnel Series	2 tests	12 minutes each	16 boats	2 gal per test	384 min	32	64 gal	19.2 gal
Stock Outboards	3 races	30 minutes each	20 boats	1/2 gal per run	1800 min	60	30 gal	9 gal
Offshore	3 tests	5 minutes each	6 boats	2 gal per test	90 min	18	36 gal	
Unlimited	2 tests	10 minutes each	10 boats	4.3 gal per min	200 min	20	860 gal	
Subtotal	9 tests/3 races				2634 min (44 hrs)		178 gas/860 jet fuel	
Saturday								
Super stock	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
Crackerbox	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
Kboat	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
GN	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
Drag	50 races	12 seconds each	2 boats	3/4 gal per run	20 min	100	75 gal	
Unlimited Light	2 races	12 minutes each	8 boats	3 gal per run	192 min	16	48 gal	
Tunnel Series	2 races	12 minutes each	16 boats	2 gal per run	384 min	32	64 gal	19.2 gal
Stock Outboards	3 races	30 minutes each	20 boats	1/2 gal per run	1800 min	60	30 gal	9 gal
Offshore	3 races	5 minutes each	6 boats	2 gal per run	90 min	18	36 gal	
Unlimited	2 races	12 minutes each	5 boats	4.3 gal per min	120 min	10	516 gal	
Unlimited	1 test	10 minutes each	10 boats	4.3 gal per min	100 min	10	430 gal	
Subtotal	71 races/1 test				3426 min (57 hrs)		397 gas/946 jet fuel	
Sunday								
Super stock	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
Crackerbox	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
Kboat	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
GN	2 races	15 minutes each	6 boats	1 gal per 5 min	180 min	12	36 gal	
Drag	30 races	12 seconds each	2 boats	3/4 gal per run	12 min	60	45 gal	
Unlimited Light	2 races	12 minutes each	12 boats	3 gal per run	288 min	24	72 gal	
Tunnel Series	2 races	12 minutes each	16 boats	2 gal per run	384 min	32	64 gal	19.2 gal
Tunnel Series	1 race	20 minutes	16 boats	2 gal per run	320 min	16	32 gal	9.6 gal
Stock Outboards	3 races	30 minutes each	20 boats	1/2 gal per run	1800 min	60	30 gal	9 gal
Offshore	2 races	5 minutes each	6 boats	2 gal per run	60 min	12	24 gal	
Unlimited	5 races	12 minutes each	5 boats	4.3 gal per min	300 min	25	1290 gal	
Unlimited	1 race	14 minutes	7 boats	4.3 gal per min	98 min	7	421 gal	
Subtotal	55 races				3982 (66 hrs)		411 gas/1711 jet fuel	
Total					167 hours*		986 gas/3517 jet fuel	94.2 gallons

* Total time on water is equal to worst-case total race time. Boats other than the unlimited, unlimited-light, offshore and tunnel series classes do not practice in the water; however, engines may be run on-shore. For these three classes, practice time is included above.



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