CALIFORNIA COASTAL COMMISSION
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Hearing Date:	September 11, 1996
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: **1-94-49**

APPLICANT: **CALIFORNIA DEPT. OF FISH & GAME and DEL NORTE COUNTY, DEPT. OF PUBLIC WORKS**

AGENTS: Herb Pierce for the California Dept. of Fish & Game and John Wilson for Del Norte County.

PROJECT LOCATION: Lake Earl and Lake Talawa sand bar, two miles north of Crescent City, Del Norte County. APN 106-010-05.

PROJECT DESCRIPTION: Periodically breach the Lake Earl and Lake Talawa sand bar for flood control purposes for a two-year period during the 1996-1997 and the 1997-1998 rainy seasons. Breaching will occur between September 1 and February 15, whenever the lake elevation reaches 8 feet above mean sea level, and on February 15 if the lake elevation is 5 feet or more above mean sea level.

Zoning: RCA-1 (General Resource Conservation Area)
Plan designation: same as above

LOCAL APPROVALS RECEIVED: No local approvals necessary. Neither the Department of Fish & Game nor the County has filed anything under CEQA specifically for this project.

OTHER APPROVALS RECEIVED: State Lands Commission lease and U.S. Army Corps of Engineers permit.

SUBSTANTIVE FILE DOCUMENTS: Coastal Commission Permits Nos. 1-87-216 and 1-91-63 (both permits for the California Dept. of Fish & Game and the Del Norte County, Dept. of Public Works), Emergency Permits Nos. 1-87-04G, 1-88-06G, 1-91-01G, 1-92-04G, 1-93-01G, 1-94-03G,

1-94-04G, 1-95-01G, and 1-95-12G, a 1975 report by the California Dept. of Fish & Game on the Natural Resources of Lake Earl and the Smith River Delta, a 1988 Draft Management Plan by the California Dept. of Fish & Game on the Lake Earl Wildlife Area, and the U.S. Army Corps of Engineers public hearing transcript in Crescent City dated August 16, 1995 for the project.

EXECUTIVE SUMMARY

1. Jurisdiction and Standard of Review.

The breaching site at the sand bar between Lake Talawa and the Pacific Ocean, along with all of the land and water area of Lakes Earl and Talawa approximately up to the ten-foot contour, is located within the Coastal Commission's area of original or retained permit jurisdiction. The standard of review is the applicable Chapter 3 policies of the Coastal Act.

2. Previous Commission Consideration.

Up until 1987, the sand bar at Lakes Earl and Talawa had been breached for a period of 75 years or more whenever the elevation of the lakes was around 4 feet mean sea level (MSL). The primary reason for breaching at 4 feet MSL was to create additional summer grazing lands next to the lakes for area farmers. The practice of breaching at 4 feet MSL stopped in November of 1986 upon the expiration of a ten-year permit from the U.S. Army Corps of Engineers which had allowed breaching at 4 feet MSL. The Coastal Commission became involved in 1987 when it received a notice from the Corps that the County had applied for a new five year permit to continue to breach the sand bar. In response to that notice, the Commission informed the County that the breaching activity required a coastal development permit from the Commission because the activity constituted "development" under the Coastal Act and because the breaching site is located within the Commission's original permit jurisdiction.

Beginning in 1987, and continuing to 1995, the Executive Director has approved a series of emergency permits to breach the sand bar for flood control purposes whenever the elevation of the lakes is 8 feet MSL or higher. In December of 1991, the Coastal Commission approved Permit No. 1-91-63 to allow periodic breaching of the sand bar at Lakes Earl and Talawa by Del Norte County for flood control purposes. Except for the two-year period requested, the project that was approved for Del Norte County under Permit No. 1-91-63 had the same project description that is now being proposed by Del Norte County and the California Department of Fish & Game under this permit (Application No. 1-94-49). In approving Permit No. 1-91-63, the Commission added a special condition to the permit which required the applicant (the Del Norte County Public Works Department) to "breach the sand bar whenever the lake elevation reaches 4 feet above mean sea level." The Commission found that, in the absence of specific hydrological and biological studies to fully

assess the project's impacts upon the surrounding agricultural and other lands that would be subject to flooding if the sand bar were regularly breached at 8 feet MSL, it would be better to maintain the status quo by requiring breaching at 4 feet MSL until such time that the required studies were completed and all of the outstanding environmental issues had been formally analyzed.

The sand bar is owned by the State of California and leased by the California Department of Fish and Game. Breaching the sand bar whenever the lake elevation is at 4 feet MSL was not acceptable to the California Department of Fish and Game because of concerns about how resulting reduced lake levels would adversely affect wildlife habitat. Therefore, the Department withdrew their permission to allow the County to enter the land to breach the sand bar at 4 feet MSL. In a November 20, 1991 letter to the Coastal Commission from Banky E. Curtis, Region 1 Manager of the California Department of Fish & Game, Mr. Curtis stated:

> It should be understood that the Department of Fish and Game agreed to the specific plan contained in Application No. 1-91-63. We would oppose any changes in the plan which would reduce lake levels below those proposed by Del Norte County in Application No. 1-91-63. Is should also be understood that our permission to allow Del Norte County to enter our property to breach the sand bar is predicated on the conditions included in the original permit applicaiton. This permission would be withdrawn if changes were made which we determined would adversely affect fish and wildlife resources.

If a permittee accepts the benefits of a coastal development permit and commences a project that has been approved by the Coastal Commission, then the permittee is required to adhere to all of the terms and conditions of permit approval. However, a permittee is under no legal obligation to actually perform or undertake a project that has been granted a coastal development permit by the Coastal Commission. If the conditions of permit approval are not acceptable, the permittee can simply choose not to exercise the permit and this is what occurred in Permit No. 1-91-63.

The Commission has never received a permit request from any party to breach the sand bar for flood control purposes whenever the lakes are at 4 feet MSL. In fact, since 1987 until now, the Executive Director has received and approved a series of emergency permits from the Del Norte County Department of Public Works to regularly breach the sand bar for flood control purposes whenever the water elevation of the lakes is at 8 feet MSL or higher.

The California Department of Fish and Game has not opposed these emergency permits, and in fact, is often a co-applicant.

3. <u>What has Changed Since 1991?</u>

Since the Commission will be reviewing the same project it considered in 1991, it is important to consider what changed circumstances have occurred since

1991. As stated above, no one has ever applied to the Commission to breach the sand bar at 4 feet MSL for flood control purposes. Since 1991, the Department of Fish and Game has continued to purchase property from willing sellers who own land around the lakes that is below 10 feet MSL. At the 1991 public hearing under Permit No. 1-91-63, the Commission heard testimony from the Brian Ferguson, a local dairy farmer, whose land was being flooded. The Department has since purchased 112 acres of land below the ten-foot contour from the Ferguson family. The Department estimates that about 42 acres of privately held land below the ten-foot contour is still subject to periodic flooding. This 42-acre area is spread among portions of six private ownerships and does not include land within the Pacific Shores Subdivision, which is an area where the Department has incomplete information as to flooding impacts.

In addition, the Department of Fish & Game strongly believes that breaching the sand bar under the proposed project description (at 8 feet MSL) minimizes risks to life and property more so than breaching the sand bar under a continuing series of emergency permits. This is because lake elevations can rise quite rapidly after a request for an emergency permit is made, particularly if the request is made during a winter storm. It can be extremely dangerous to attempt to breach a sand bar during a winter storm. By the time that the storm subsides, the water level in the lakes can easily exceed 10 feet MSL. The difference in the surface area of the lakes between 8 feet MSL and 10 feet MSL is approximately 692 acres. County roads begin to flood when the elevation of the lakes is between 8 and 9 feet MSL. See Exhibits No. 16 and 28. Private wells are overtopped at 10 feet MSL, and an unknown number of low lying septic systems begin to malfunction at 10 feet MSL.

4. Summary of Staff Recommendation

Several alternatives regarding the breaching exist for the Commission at this time. They are:

1. Deny the application and subsequent emergency permit requests and allow lake levels to rise and fall under natural conditions with breaching at 12 to 14 feet MSL.

2. Deny the application but continue to allow the County and the Department of Fish & Game to breach the sand bar under emergency permits when high water levels between 8 and 10 feet MSL threaten to flood public roads, septic systems, wells, etc.

3. Approve the application to allow breaching on an interim basis as proposed under this permit; namely, between September 1 and February 15, whenever the lake elevation reaches 8 feet MSL, and on February 15 if the lake elevation is 5 feet or more above mean sea level.

4. Approve the application to allow breaching on an interim basis between September 1 and February 15 at a lake level lower than 8 feet MSL.

Staff recommends moving away from the emergency permit mode outlined in alternative 2 above toward an interim two-year permit as outlined under alternative 3 because: (1) it would allow the breaching to continue under more defined conditions than an emergency permit and at lower lake elevations than an emergency permit, and (2) an interim permit could allow breaching to occur at lower levels than flood hazard level in the late winter, which would have important benefits for protecting wildlife habitat as discussed in the findings below.

Staff therefore recommends approval of the project with four special conditions. Special Condition No. 1 limits breaching of the sand bar to the middle of the open sandy area of the sandbar, midway between the existing vegetation on either side of the breaching site. Special Condition No. 2 limits the breaching activity to the rainy seasons of 1996-1997 and 1997-1998 only, with the permit to expire on February 16, 1998. Special Condition No. 3 is a special condition regarding assumption of risk, waiver of liability, and an indemnification agreement. Special Condition No. 4 requires the applicants to submit a breach site closure plan for the review and approval of the Executive Director, prior to issuance of the permit. The closure plan must be designed to restrict public access to the breaching site during the times of breaching.

STAFF RECOMMENDATION:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and public recreation policies 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.

III. Special Conditions.

1. Location of the Breaching Site.

The sandbar shall be breached in the middle of the open sandy area and midway between the existing vegetated areas on either side of the breaching site.

2. Duration of the Permit.

This authorization is for breaching activity between September 1 and February 15 of the years 1996-1997 and 1997-1998 only, and expires on

February 16, 1998. The applicants must apply for a new permit for any proposed breaching activity on or beyond that date.

3. Assumption of Risk, Waiver of Liability and Indemnification Agreement

PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, each applicant shall submit a signed agreement in a form and content acceptable to the Executive Director, which shall provide that: (a) each applicant understands that the site may be subject to extraordinary hazard including flooding, wave action, and erosion and the applicants hereby assume the liability from such hazards; (b) each applicant unconditionally waives any future claims of liability against the California Coastal Commission, its successors in interest, advisors, officers, agents, and employees for any damage from such hazards or arising out of any work performed in connection with the permitted project; (c) each applicant agrees to indemnify and hold harmless the California Coastal Commission, its successors in interest, advisors, officers, agents and employees against any and all claims, demands, damages, costs, and expenses of liability (including without limitation attorneys' fees and costs of suit) arising out of the design, construction, operation, maintenance, existence or failure of the permitted project, including without limitation any and all claims made by any individual or entity or arising out of any work performed in connection with the permitted project; and (d) each applicant agrees that any adverse impacts to property caused by the permitted project shall be fully the responsibility of the applicant.

4. Plan for Restricting Access to Breach Site.

PRIOR TO ISSUANCE OF THE PERMIT, the applicants shall submit for the review and approval of the Executive Director a breach site closure plan designed to restrict public access to the breaching site during the times of breaching. The plan shall restrict access for the general public to all areas within 500 feet of the breaching location during the breaching operation and for 24 hours afterwards. The plan shall not close any beach area significantly greater than the area within 500 feet of the breach site nor close the breach site for any period of time significantly in excess of 24 hours. Any temporary signs and/or barriers used to close off the breach site must be removed within 36 hours of the breaching. The submitted plan shall identify the method of closure, describe the procedures to be followed to close and reopen the breach area to public access, indicate the duration of closure, and contain a site plan or other exhibits as necessary to adequately describe the closure proposal.

IV. FINDINGS AND DECLARATIONS.

The Commission hereby finds and declares as follows:

1. PROJECT PURPOSE AND DESCRIPTION.

a. Purpose of the project.

The proposed project consists of the periodic breaching of the Lake Earl and Lake Talawa sand bar over the rainy seasons of 1996-1997 and 1997-1998 between September 1 and February 15. Although the Lake Earl and Lake Talawa sand bar has been breached in the past for a variety of purposes, the purpose of this project is limited to flood control. Breaching for flood control purposes can, however, coincide with certain resource management objectives for the lakes.

This project is not intended to establish the ultimate management level of the lakes. The ultimate management level of lakes will be determined after studies have been completed by the California Department of Fish & Game with assistance from the Lake Earl Working Group, local property owners, and other interested parties. At that time, the applicants anticipate submitting a coastal development permit application for a long-term breaching program.

b. Project and Site Description.

The project site is located about 2 miles north of Crescent City in Del Norte County. The breaching will be performed at the sand bar's outlet channel to the Pacific Ocean over lands owned by the State of California and leased by the California Department of Fish and Game. See locational Exhibits No. 1, 2, 3, 4 and 5.

Access to the breaching site is via a road in the Pacific Shores subdivision which leads to the beach about 500 feet north of the breaching site. The breaching site consists of an unvegetated, sand dune area. The breaching site has remained barren of vegetation due to a history of repeated breachings at this location.

The breaching activity involves pushing sand to either side on the sand bar with a caterpillar tractor to form a channel. Once the sand bar is breached, the draining water quickly deepens and widens the outlet channel. Within a day or two, the level of the lake is quickly lowered to about mean sea level, depending on the tides and winter storms. The breaching allows salt water from the ocean to mix with the fresh waters of the lakes for a period of about two to six weeks until the outlet channel is naturally closed again by sediments deposited by longshore currents. Once the outlet channel is closed, the lake elevation rises again. The rate of lake elevation rise is a function of the rate of recharge by surrounding groundwaters, surface water runoff, and precipitation.

The sand bar would naturally breach itself when the lake elevation reaches 12 to 13 feet MSL, depending on the height of the sand bar at the time and the presence of winter storm surge tides. However, residential development has occurred at lower elevations on the east side of the lakes and around Lower Lake Road. This development, and particularly Lower Lake Road and Kellog Road (both maintained by the County) would flood without the proposed breaching.

The road bed becomes saturated when lake elevation reaches 8 to 9 feet above mean sea level (MSL). The surface elevation of the roads begin to flood when the lake reaches 9 feet or more above MSL.

The applicants propose to periodically breach the bar between September 1 and February 15 when the lake elevation is 8 feet above MSL, and again on February 15 if the lake elevation is 5 feet or more above MSL.

Based on the best available hydrological, runoff, and rainfall data available, the County estimates that spring and summer lake elevations would be in the following ranges as a result of the proposed breaching practice.

Average rainfall years:	Elevation 5.5 to 7.0 feet (6 out of 10 years)
Extremely wet years:	Elevation 7.0 to 9.0 feet (2 out of 10 years)
Extremely dry years:	Elevation 4.0 to 5.5 feet (2 out of 10 years)

The County indicates that breaching at 8 feet MSL allows for some margin of safety (i.e. some additional storage capacity of the lakes) before serious flooding of County roads occurs. In addition, breaching on February 15, when the lake elevation is at least 5 feet or more above MSL, is a pre-emptive measure to avoid having to breach the lakes during the spring and summer months in the event of a wet summer. Both the County and the Department of Fish & Game prefer to avoid having to breach the lakes during the spring and summer months as breaching during this time of the year is more environmentally disruptive. Longshore currents may not be strong enough during the spring and summer to close the sand bar and allow the lake level to rise. If the sand bar is not closed, the lakes remain very shallow, small, and open to the ocean. The shallow waters may allow water temperatures to rise above optimum levels necessary to maintain salmonids; a smaller lake size reduces fishing opportunities for the public; and a prolonged exposure to salt waters can adversely affect the existing aquatic vegetation in the lakes. The County estimates even with an unusually wet summer that there is a zero probability that the lakes will need to be breached for flood control purposes during the spring and summer months if it is allowed to breach the sand bar on Februrary 15 if the lake elevation is 5 feet or more above MSL.

2. BACKGROUND.

a. Lake Earl Wildlife Area.

The California Department of Fish and Game is a major manager of State-owned property in the Lake Earl and Lake Talawa area, which is known as the Lake Earl Wildlife Area. The State of California has a fee interest at the breaching site and in the lakes and surrounding lands. See Exhibit No. 29. Because of the extremely high fish and wildlife values of the lakes and its adjacent wetlands, the Department identified Lake Earl as one of the 19 coastal wetlands in a 1970's report entitled, "Acquisition Priorities for Coastal Wetlands of California." The decision to acquire certain lands to protect and to enhance the natural resources of Lakes Earl and Talawa was

approved by the Wildlife Conservation Board in 1979 and in coordination with the California Department of Parks and Recreation and the State Lands Commission.

To better manage the wildlife and fisheries resources in and around the lakes, the Department has continued to expand its ownership in the area via an ongoing acquisition program to purchase from willing sellers all private lands around the lakes up to the 10 foot contour. The Department has acquired more than 2,500± acres of land within or adjacent to Lake Earl and Lake Talawa. Only a relatively small amount of land below the 10 foot contour remains in private hands. An additional 2,600± acres of land has been leased from the State Lands Commission, placing a total of over 5,090 acres of land and water area under management by the California Department of Fish and Game. In November of 1994, the State Lands Commission amended its lease agreement (No. PRC 5879.9) with the California Department of Fish & Game to expand the lease area and conduct the interim annual breaching that is requested herein. See Exhibit No. 29, pages 4 through 9.

In 1987, the California Department of Water Resources began what was originally planned as a two-year water level management study of Lake Earl and Lake Talawa in cooperation with the California Department of Fish and Game. The objective of the study is to determine the most beneficial water level for the lakes throughout the year for fish and wildlife use, considering the factors of surrounding septic tank problems and the flooding of adjacent land. As proposed, the first year of the study was intended to monitor the lake and nearby groundwater levels. Water quality and lake water level control alternatives were also to be evaluated. The second year of the study was intended to address possible solutions to any water quality problems discovered during the first year and to formulate a recommended management plan for the lakes in concert with the California Department of Fish and Game and Del Norte County.

Unfortunately, the completion of the study was delayed due to State funding problems. However, preliminary information from the study is slowly becomming available. For example, the Department estimates that the lakes would have the following surface areas at different elevations: 4,826 acres at 10 feet MSL; 4,134 acres at 8 feet MSL; 3,573 acres at 6 feet MSL; 2,828 acres at 4 feet MSL; and 2,191 acres at 2 feet MSL. The size of the lakes when they are at 0 feet MSL is not yet available. The Department estimates that the difference in the size between the lakes at 4 feet MSL 4 and 8 feet MSL is 1,306 acres, or a 46 percent increase in the size of the lakes.

b. <u>The Pacific Shores Subdivision</u>.

The Pacific Shores Subdivision is the largest private landowner next to the lakes. The subdivision is located north of Lake Talawa, south of Kellog Road, and generally between Lake Earl and the Pacific Ocean. See Exhibits Nos. 5 & 6 and Nos 9 & 10. The Pacific Shores Subdivision was approved and recorded in 1963 with 1535 lots on 1486 acres. Approximately 27 miles of paved roads were

constructed shortly after the subdivision was approved. The majority of the land area within the subdivision can be characterized as a coastal dune system.

In 1971, the California Regional Water Quality Control Board adopted requirements for separation between septic systems and the highest anticipated groundwater. Due to sandy soils and high groundwater conditions, development within Pacific Shores could not comply with these standards. Consequently, except for two existing mobile homes, Pacific Shores was never further developed.

In 1981, the Coastal Commission approved the Coastal Element of the County's General Land Use Plan, but denied certification of the Pacific Shores Subdivision area. The Pacific Shores Subdivision then became an area of deferred certification. It is noted on the County's LUP map as a "Special Study Area".

In 1985, the Coastal Commission approved Permit No. 1-85-38 which allowed the creation of the Pacific Shores Subdivision California Water District (PSSCWD) for purposes of assessing its property owners to have special studies prepared regarding the project's environmental impacts. PSSCWD commissioned Winzler and Kelly, consulting engineers, in Eureka to conduct such studies for a period of time. More recently, the task has been taken over by the Chambers Group. In July of 1992, the PSSCWD submitted an application to Del Norte County for a coastal general land use plan and rezone. The County has recommended that an EIR be prepared and the studies are on-going.

In 1993, the Commission received a request from the PSSCWD to intall and test a 10-inch exploratory test well within the subdivision (Permit Application No. 1-93-23). The test well was located within a portion of a road right of way that required permission from the Del Norte County Board of Supervisors. The Board declined to grant its permission to site a test well in the proposed location. The PSSCWD did not propose any other location for the test well. Consequently, the application was returned on the basis that the applicant did not have a legal interest in the location where the test well was proposed.

In February of 1994, the Commission also received a request from Tom Resch, President of the Pacific Shores Property Association, for an emergency permit (Application 1-94-04G) to breach the sand bar because the elevation of the lakes were over 8.5 feet MSL. The application was returned to the applicant after a similar emergency permit was issued to Del Norte County and after the applicant failed to show he had a legal interest in the breaching site. Otherwise, except for Permit No. 1-85-38, and two permit applications which were returned, the Coastal Commission has never received a permit application to build a house from Pacific Shores or from any other its lot holders.

3. PERMIT HISTORY.

According to long-time property owners in the Lake Earl area, the sand bar at Lakes Earl and Talawa has been periodically breached over the past 75 to 100,

first by area farmers and in more recent years by the County Dept. of Public Works. (In fact, there is significant oral history to suggest that the local Native Americans also breached the lakes for a very long time prior to white settlement in the area. See public testimony of Audree Bowen, Janice Bowen, and others on pages 28 through 34 of the Wednesday, August 16, 1995 transcript of the public hearing on the proposed project as reviewed by the U.S. Army Corps of Engineers in Del Norte County.) See also the Tolowa Nation comment letter in Exhibit No. 26.

The sand bar was breached by area farmers to gain additional summer grazing lands around the lakes. The breaching would typically occur about three times a year and whenever the lake was around 4 feet MSL. The breaching was later done by the County, when requested to do so by the area's farmers.

In 1976, the U.S. Army Corps of Engineers granted the Del Norte County Flood Control District a ten-year permit to perform periodic maintenance opening of the outlet channel for flood control purposes whenever the lake elevation rose above 4 feet MSL. The practice of breaching the lakes at about 4 feet MSL continued under this permit. The Corps permit began in November of 1977 and expired in November of 1986.

In January of 1987, the Commission received a notice from the Corps that the County had applied for a new 5-year permit to continue breaching the sand bar. In response to that notice, the Commission informed the County that the breaching activity required a coastal development permit as the breaching site is located within the Commission's area of retained permit jurisdiction and as the breaching activity fell within the meaning of the word "development" under Section 30106 of the Coastal Act. The County complied and applied to the Commission for a coastal development permit to breach the sand bar for flood control purposes.

The practice of breaching the sand bar whenever the lakes were around 4 feet MSL stopped under Permit No. 1-87-216. Under Permit No. 1-87-216, the Commission allowed the sand bar to be breached when the lake elevation was at 6 feet MSL to prevent seasonal flooding of the Aleutian Canada Goose habitat area, as the habitat area existed at that time. Permit No. 1-87-216 was limited to a short, two-year time period so that the anticipated results of California Department of Water Resource's study could be subsequently incorporated into a new permit.

Beginning in 1987, and continuing to 1995, the Executive Director has approved a series of emergency permits to breach the sand bar for flood control purposes whenever the elevation of the lakes has been at 8 feet MSL or above. A chronology of each permit application for breaching submitted to the Commission is as follows:

1. Emergency permit 1-87-04G (December 17, 1987) and emergency permit 1-88-01G (February 1, 1988) were granted to the Del Norte County Department of Public Works to breach the lakes at 8 feet MSL to avoid flooding of Kellog Road and Lower Lake Road;

2. Permit No. 1-87-216 was granted to the Del Norte County Department of Public Works and the California Department of Fish and Game as co-applicants. The breaching was scheduled to occur between October 15 and April 15 when the lake elevation reached 6 feet MSL, primarily for wildlife management purposes (i.e. to avoid flooding of the seasonal grazing areas for the federally endangered Aleutian Canada Goose). Special conditions of the permit established: bench elevation markers for lake levels, required notice of breaching to other agencies, review by both the State Lands Commission and the U.S. Army Corps of Engineers, and limited the duration of the permit for two years, with a June 1, 1990 expiration date. Among other things, the permit ended the practice of breaching the lakes in the late spring and summer months for the benefit of gaining additional summer grazing lands in low lying areas. The Commission resolved the conflict between agricultural and natural resource interests in favor of protecting the wildlife and fisheries resources under Coastal Act Section 30007.5. At the same time, the California Department of Fish and Game developed a draft management plan for the Lake Earl and Lake Talawa area and the California Department of Water Resources began a study of the hydrology of Lake Earl and Lake Talawa;

3. Emergency Permit 1-88-06G (August 29, 1988) was granted to the California Department of Fish and Game to abate a mosquito problem, which is believed to have been caused by a combination of factors, such as a higher summer lake level than years past and an unusually warm and wet summer. The Department informally agreed to work more closely with local health department officials in monitoring mosquito populations in the lake and in seeking ways to avoid a similar situation from occurring in the future;

4. Permit Application No. 1-90-196 was submitted by the California Department of Fish and Game for a 5-year permit to continue the breaching operations approved under Permit No. 1-87-216. The Department withdrew its permit application in May of 1991 on the basis of comments from the U.S. Fish and Wildlife Service that breaching to protect the seasonal grazing lands of the federally endangered Aleutian Canada Goose was no longer necessary as the goose had shifted its grazing areas to higher ground and to new areas in the Smith River area. The Service also recommended that additional studies be conducted before a long-term breaching program is approved;

5. Emergency Permit 1-91-1G (January 3, 1991) was granted to the Del Norte County Department of Public Works to breach the lake at 8.6 feet MSL for flood control purposes;

6. Permit Application No. 1-91-63 was submitted by the Del Norte County Public Works Department for a 2-year permit to breach the sand bar as proposed under the permit application herein. The Commission approved the permit on December 11, 1991, with a special condition that the sand

bar be breached whenever the lake elevation reached 4 feet above MSL. Since breaching at 4 feet MSL was not acceptable to the California Dept. of Fish and Game, the Department withdrew its permission to allow the County to enter its land to breach under those conditions;

7. Emergency Permit 1-92-04G (February 4, 1992) was granted to the Del Norte County Department of Public Works to breach the lake at 8.9 feet MSL for flood control purposes;

8. Emergency Permit 1-93-01G (January 13, 1993) was granted to the Del Norte County Department of Public Works to breach the lake at 9.8 feet MSL for flood control purposes;

9. Emergency Permit 1-94-03G (February 3, 1994) was granted to the Del Norte County Department of Public Works and the California Dept. of Fish and Game to breach the lake at over 8.5 feet MSL for flood control purposes;

10. Emergency Permit Application No. 1-94-04G was received on February 7, 1994 from Tom Resch of the Pacific Shores Property Owners Association when the lakes were over 8.5 feet MSL. The application was returned to the applicant on February 11, 1994 due to the inability of the applicant to get written permission to breach from the California Dept. of Fish and Game;

11. Emergency Permit 1-95-01G (January 10, 1995) was granted to the Del Norte County Department of Public Works and the California Dept. of Fish & Game to breach the lake at 10.5 feet MSL for flood control purposes; and

12. Emergency Permit 1-95-12G (December 29, 1995) was granted to the Del Norte County Department of Public Works and the California Dept. of Fish & Game to breach the lake at over 8 feet MSL for flood control purposes.

4. IMPACTS AT THE BREACHING SITE.

Coastal Act Section 30240 requires in applicable part that environmentally sensitive habitat areas be protected against any significant disruption of habitat values.

Environmentally sensitive, vegetated sand dune and wetland habitat areas are located on both sides of the breaching site. However, the project's access route, the actual breaching site, and the equipment staging area are located in non-vegetated areas, which are much less environmentally sensitive. To protect the adjacent environmentally sensitive habitat area against any significant disruption of habitat values in a manner consistent with Section 30240, the Commission attaches Special Condition No. 1, which requires the County to breach the sand bar in the middle of the open sandy area and midway between the existing vegetated areas on either side of the breaching site.

Coastal Act Section 30233 allows the diking, filling, or dredging of open coastal waters and wetlands under certain specified conditions. However, the act of breaching the sand bar under the proposed project does not trigger an analysis under Section 30233 for the following reasons. First, the proposed breaching does not involve the placement of any pipeline or other constructed device into a wetland or open coastal water area. Second, the proposed breaching involves the parting of dry sand to form a channel to a depth that is approximately at the level of the lakes and does not involve any diking or dredging of any wetlands or open coastal waters. Finally, the proposed breaching does not involve any filling of any wetlands or open coastal waters since the definition of "fill" per Section 30108.4 of the Coastal Act means in applicable part: "Earth or any other substance or material...placed in a submerged area."

5. IMPACTS OF BREACHING ON THE LAKES.

Coastal Act Sections 30230 and 30231 require in applicable part that the biological productivity of coastal waters, wetlands, and estuaries be maintained, enhanced, and where feasible, restored.

a. Necessity for periodic breaching.

The whole ecology of the two lakes is dependent on the periodic breaching of the sand bar, whether by man or by natural forces. The salinity levels, the aquatic vegetation, and the breeding and migratory patterns of the lakes' wildlife and fisheries resources are dependent on the periodic mixing of salt water with the mostly fresh water of the lakes. The periodic breaching of the sand bar allows the seasonal entry of ocean water into the lakes and allows migratory fish to enter and leave the lakes. The periodic breaching flushes out accumulated sediments and prevents the lakes from eventually becoming a freshwater marsh. The periodic breaching also results in the temporary exposure of larger sandflats and mudflats, which in turn, exerts a profound favorable influence on the extent and variety of habitat and food types used by migrating birds according to a recent study. (See "Wetland Bird Seasonal Abundance and Habitat Use at Lake Earl and Lake Talawa, California" by Funderbuck and Springer, Humboldt State University, Arcata, CA. 1989.) The study recommends that the introduction of seawater be allowed to continue when winter flooding conditions exist so that the unique ecology of the lakes is maintained. The Commission therefore finds that project is consistent with Sections 30230 and 30231 to the extent that it allows for the periodic mixing of fresh and salt waters in the lakes, which is essential to maintain the biological productivity of the lakes' waters and its natural resources.

b. The timing of breaching.

The timing or seasonality of the breaching activity is important from a resource management perspective. If left to its own accord, the sand bar would naturally breach itself during the winter rainy season when lake levels rise significantly. Thus, a man-made breaching which coincides with the

natural breaching cycle of the lakes is less likely to result in adverse impacts to the natural resources of the lakes than if the breaching is done at some other time of the year.

In granting its consent to the County to perform the breaching, the California Department of Fish and Game has agreed with the proposed September 1st through February 15th breaching period and determined that this time period is acceptable from the resource management perspective. The Commission therefore finds that the project is consistent with Sections 30230 and 30231 to the extent that the time frame for the periodic breaching coincides with the natural breaching cycles of the lakes, which is essential to maintain the biological productivity of the lakes' waters and its natural resources. To ensure that the breaching is only done during these specified time periods, the Commission attaches Special Condition No. 2. Any proposed breaching outside of this specified time period will require a separate coastal development permit from the Coastal Commission.

6. IMPACTS ON THE SURROUNDING AREA BY THE BREACHING.

Coastal Act Sections 30230 and 30231 require in applicable part that the biological productivity of coastal waters, wetlands, and estuaries be maintained, enhanced, and where feasible, restored.

Coastal Act Section 30240 requires in applicable part that environmentally sensitive habitat areas be protected against any significant disruption of habitat values.

Coastal Act Sections 30241 and 30242 require in applicable part that agricultural lands be protected and the conversion of agricultural lands to nonagricultural uses be limited.

Finally, Coastal Act Section 30253 requires in applicable part that new development minimize risks to life and property is areas of high flood hazards.

Before acting on Permit Application No. 1-91-63, the Commission received evidence and heard testimony about how agricultural and environmentally sensitive lands would be flooded if the periodic breaching of the sand bar did not occur until the water elevation of the lakes reached 8 feet MSL as proposed by the applicant. Representatives of the Pacific Shores Subdivision indicated, among other things, that a portion of their property would be flooded and that an environmentally sensitive, butterfly habitat area would be lost if the water elevation of the lakes were permitted to rise from 4 feet MSL to 8 feet MSL. Brian Ferguson, a local dairy farmer, also indicated that a significant portion of his agricultural property would be lost if the water elevation of the lakes were permitted to rise from 4 feet MSL to 8 feet MSL. Since then, the California Dept. of Fish and Game acquired 112 acres of land from the Fergusons, all of which is located below the 10 foot contour.

The Department does not have reliable figures as to the size of the area that is subject to flooding in the Pacific Shore Subdivision. However, the Department estimates that 42 acres of privately held land outside the Pacific Shores Subdivision and below the ten-foot contour is still subject to flooding. The 42-acre area includes portions of land from six different ownerships.

As previously mentioned, several alternatives for Commission consideration exist at this time. They include:

(1) Deny the permit application and all subsequent emergency permit requests for breaching, which would allow lake levels to rise and fall under natural conditions. The Commission finds that this alternative to prevent breaching and let the lakes breach naturally at 12± feet MSL (the approximate height of the sand bar) is clearly not acceptable as it would result in significant health and safety problems by flooding County roads, septic systems, wells, and private property.

(2) Deny the permit application for interim breaching but continue to approve emergency permits for breaching when high water levels between 8 and 10 feet MSL threaten to flood public roads, septic systems, wells, etc. The Commission finds that this alternative is also undesirable from the standpoint that certain private property would continue to be flooded and for the reasons described below, would not be optimal for management of wildlife resources.

(3) Approve the permit application and allow the permittees to breach the sand bar under the project description that is proposed under this permit; namely, between September 1 and February 15, whenever the lake elevation reaches 8 feet MSL, and on February 15 if the lake elevation is 5 feet or more above mean sea level.

(4) Approve the application to allow breaching on an interim basis between September 1 and February 15 at a lake level lower than 8 feet MSL.

The Commission approves Alternative 3 as an interim solution because it is the least environmentally damaging alternative given the present set of circumstances and will serve to greatly reduce the flood hazard over natural breaching.

As discussed below, the Commission finds that breaching under the proposed regime at 8 feet MSL is less environmentally damaging than breaching at higher or lower water levels.

(1) Closure of the breach in the sand bar is largely a function of weather and wave conditions that are independent of lake levels when the lake is breached. However, breaching the sand bar whenever lake levels <u>are above</u> 8 feet MSL is more likely to create a wider breach site than <u>breaching at</u> 8 feet MSL, and a wider breach site takes longer to close,

all other variables being equal. Although it is important to breach the lakes so that migratory fish may enter and leave the lakes, it is more important that the breach not remain open during the summer months as this dramatically reduces the size and depth of the lakes and it results in higher than normal water temperatures that can be adverse to many fish species.

(2) Breaching above 8 feet MSL means that normal shoreline vegetation will be under water for a longer period of time than breaching at 8 feet MSL. Although this shoreline vegetation is tolerant of wet soil conditions, not all emergent vegetation is equally tolerant of submergent conditions, particularly if those conditions change the salinity of the water from a freshwater condition to a brackish or saline condition. In addition, if the vegetation dies, then there is a temporary loss of biological productivity and habitat value and the land around the vegetation is more prone to erosion since the roots of the vegetation help to hold the soil in place. The end result is a greater area of exposed mudflats after breaching. Although many shorebirds flock to such flats for feeding opportunities, the temporary trade-off in habitat values is at the expense of other habitat values.

(3) Breaching above 8 feet MSL means that groundwater elevations around the lakes will be higher than if the lakes are breached at 8 feet MSL. Higher groundwater conditions make it more difficult to install and maintain properly functioning septic systems in low lying areas. There is no public sewer system for properties around the lakes, so development relies on private, on-site septic systems. An improperly functioning septic system is more likely to create water quality problems in the lakes than properly functioning septic systems.

(4) Breaching above 8 feet MSL has a greater adverse impact to the foundations to roads and houses than breaching at 8 feet MSL. Foundations to roads and houses in low lying areas have less weight bearing capacity when the soils under and around the foundations become saturated due to high groundwater conditions. This means that roads with saturated foundations are more prone to sagging and collapse as vehicles drive over them. The end result is higher costs to maintain the roads. In addition, saturated soils are more prone to liquefaction and settling during an earthquake. This could adversely affect both roads and houses in low lying areas.

(5) Breaching above 8 feet MSL reduces the margin of safety for minimizing flooding. The lakes act as huge storage basins. However, during periods of high storm events, lake levels can rise rapidly and it may not be possible to undertake a breaching before it is too late to prevent flooding at higher elevations. Thus, breaching at 8 feet MSL is a more conservative approach to minimize risks to life and property due to flood hazards.

(6) Breaching below 8 feet MSL would result in a reduction of lake surface area. For example, breaching at 4 feet MSL would result in a reduction of about 1000 acres, as compared to breaching at 8 feet MSL. Losses in water volume and surface area reduce the total habitat for fish and aquatic wildlife. If the sand bar is breached whenever the level of the lakes rises to 4 feet MSL, the maximum size of the water surface area would be about 2,500 acres. In comparison, breaching at 8 feet MSL would result in over 3,000 acres of shallow water wetlands for at least several months each year. Spring breaching at 4 feet MSL could result in very low water levels in the summer which would increase water temperatures and reduce dissolved oxygen. These conditions would have adverse impacts on fish life, particularly trout and salmon. If salinities are high during the low water period, aquatic vegetation would also be adversely impacted.

(7) Breaching below 8 feet MSL would result in consistently low, average annual water levels. Seasonal flooding of between 500 and 1,000 acres would no longer occur, resulting in a loss of productivity for water associated birds and mammals. A reduction in lake levels could also lower water tables sufficiently to adversely impact other wetlands near the lakes.

(8) The impacts of breaching at lower lake levels on the endangered tidewater goby are not known. However, this species has survived under past practices. On balance, however, increases in salinity and higher water temperatures as a result of breaching below 8 feet MSL will have more adverse impacts on animal and plant life than breaching at higher average water levels as proposed herein. In a natural ecosystem, the lagoon would not remain at such low levels for extended periods of time as it has in the past when breaching the sand bar whenever the lakes are around 4 feet MSL.

While recognizing the need to breach the lakes for flood control purposes, the Commission also acknowledges the need to conduct additional studies on the impacts of the breaching activity and its relationship to the natural resources which surround the lakes. Such studies would be needed to evaluate a permit application for a long-term breaching permit. The Commission acknowledges that various state and federal resource agencies are developing management plans for long-term lake management and conducting special studies of the lakes. The Commission notes that the U.S. Army Corps of Engineers has issued a two year permit for the same project. See Exhibit No. 30. Special Condition No. 1 of the Corps permit (as recommended by the U.S Environmental Protection Agency) requires the California Department of Fish & Game to convene regular meetings of the Lake Earl Working Group to develop the least damaging practicable alternative for long-term lake level management during the 2 year duration of the permit. Special Condition No. 2 of the Corps permit (as recommended by the U.S. Fish and Wildlife Service) requires the California Department of Fish and Game to undertake specific resource studies during the two-year duration of the permit.

7. HAZARDS.

Section 30253 of the Coastal Act provides in applicable part that:

> New development shall:
>
> (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
>
> (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The purpose of this two-year, interim breaching project is minimize the risks of flooding in a manner that is consistent with Section 30253 of the Coastal Act. Without a permit to breach the sand bar as proposed, the risk of flooding will be increased. Natural breaching typically does not occur until lake levels rise to 12 to 14 feet MSL, at which point public roads, wells, and septic systems are threatened. Breaching the sand bar for flood control purposes at 8 feet MSL has taken place each year since 1987. This permit does not change that practice, except to allow it to occur for a limited, two-year period under more defined and reasonably foreseeable circumstances than what exists under an emergency permit. A planned breaching miminizes risks of flooding to life and property more so than an unplanned breaching under an emergency permit. A planned breaching also minimizes risks to those individuals who perform the breaching because a request for an emergency permit requires equipment and personnel to be dispatched on an expeditied basis, regardless of weather conditions.

One parcel within (or next to) the Pacific Shores Subdivision is developed with a mobile home residence. A member of that household is a caretaker for the subdivision. It is known that certain access roads within the subdivision begin to flood when the lake is at 8 feet MSL (See Exhibit No. 28). However, the Commission has never received any evidence to suggest that breaching at 8 feet MSL will result in flood damage to this residence. Except for a 1994 request for an emergency permit from the president of the Pacific Shores Homeowners Association to breach the sand bar when the elevation of the lakes were over 8.5 feet MSL, the Commission has not received any other requests for emergency permits to deal with flood impacts within the subdivision.

Given the present set of circumstances and the options that are available to the Commission, the Commission finds that the proposed project is consistent with Section 30253 of the Coastal Act as it serves to minimize risks to life and property in an area of high flood hazard.

The experience of the Commission in evaluating the consistency of proposed developments with the policies of the Coastal Act for development in areas subject to problems associated with geologic instability, flood, wave, or erosion hazard has been that development occurs despite periodic episodes of heavy storm damage, flooding, and other such occurences. Special Condition No. 3 providing for the applicants' assumption of risk, waiver of liability and indemnification of the Commission is generally imposed on applicants proposing projects in areas subject to high risks of flood, wave, and erosion hazard.

In this case, the act of breaching the sand bar (particularly during storm events) is dangerous. In addition, the failure of the applicants to provide a timely breach can cause flooding of additional property above 8 feet MSL and result in other health and safety hazards. Hazardous conditions could also occur and include storm wave, wave runup, flood and erosion hazards. Thus, the act of breaching, and the failure to provide a timely breaching, presents certain risks and hazards that cannot be completely eliminated. Therefore, though the applicants may decide that the benefits of project outweigh the risk of harm which may occur from the identified hazards, the Commission should not be held liable for the applicants' decision to breach the sand bar as approved under this permit, or the applicants' failure to breach in a timely manner. Therefore, as conditioned, the applicants agree that they are aware of and appreciate the nature of the hazards on the site which may adversely affect the stability of development and the safety of individuals, that they assume all risks of failure, and that they waive any potential claim of liability against the Commission for any damage or economic harm suffered as a result of their decision to develop.

Specifically, Special Condition No. 3 requires each applicant to submit a written agreement, prior to the issuance of the coastal development permit in a form and content acceptable to the Executive Director, which provides: (1) that each applicant understands that the site may be subject to extraordinary hazard from storm waves, wave runup, erosion and/or flooding; and (2) provides tha each applicant assume the liability from such hazards; and (3) provides that each applicant unconditionally waives any claim of liability on the part of the Commission and agree to indemnify and hold harmless the Commission, its officers, agents and employees relative to the Commission's approval of the project for any damage due to natural hazards or any damage arising out of he design, construction, operation, maintenance, existence or failure of the permitted project. Only as conditioned can the Commission find the proposed development consistent with the Coastal Act.

8. PUBLIC ACCESS.

Coastal Act Section 30211 requires in applicable part that new development not interfere with the public's right of access to the sea where acquired through use. Coastal Act Section 30212 also requires in applicable part that new development provide public access from the nearest public roadway to the shoreline except where adequate access exists nearby, or where the provision of public access would be inconsistent with public safety. In applying

Section 30212, the Commission is limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to offset a project's adverse impact on existing or potential public access.

The breaching site is located between the first public road and the sea. Therefore, the Commission must consider whether requiring public access is appropriate in this case.

The proposed breaching activity does not require the provision of any new public access under Section 30212(a)(2) as adequate public access exists nearby, to and along adjacent beaches, and to the lake waters. The project will cause some interference with public access along the beach when the lake waters are periodically released into the Pacific Ocean. The breaching creates a hazard for those who venture too near the breach site as the water from the lakes rapidly discharges through the breach with terrific force. Consequently, the Commission attaches Special Condition No. 4, which requires the applicants to submit a plan to restrict access at the breaching site. Such plan shall identify closure and reopen proceedures as specified im Special Condition No. 4.

As conditioned, temporary interference of public access from the breaching will pose no significant or lasting adverse impacts on public access or recreational beach use. Furthermore, breaching the sand bar when the lake elevation is at 8 feet MSL rather than at higher lake elevations, will result in a shorter period of time that boat launching ramps and other public access facilities scattered around the lakes are unusable due to high water conditions. The Commission therefore finds that the project, as conditioned, is consistent with the public access and recreational policies of the Coastal Act.

9. DEL NORTE COUNTY LCP.

The proposed project is located within the Commission's retained coastal development permit jurisdiction. Therefore, the standard of review that the Commission is applying in its consideration of the application is the Coastal Act. Nonetheless, the project is also consistent with Del Norte County's Local Coastal Program.

Del Norte County's certified Local Coastal Program recognizes the importance of environmentally sensitive habitat areas and seeks to conserve and manage these resources. For example, Lake Earl and Lake Talawa are recognized as an environmentally sensitive wetland and estuary area on page 49 of the County's LUP. LUP policies numbers 1, 3, 6, on pages 57 and 58 of the County's LUP require the County to maintain the existing quality of all marine and water resources; to maintain water quality; and to protect environmentally sensitive habitat areas. LUP policy number 8 on page 58 states that the County should seek funds and the cooperation of other agencies to undertake studies of the Lake Earl and Talawa ecology for purposes of systematic inventory, analysis, and the development of programs for its maintenance and enhancement. Lastly, LUP policy number 4e on page 65 of the County's LUP states that:

> "the maintenance opening of the sandbar at Lake Talawa shall be permitted consistent with agreements negotiated between the County and the California Department of Fish and Game".

The project, as conditioned, is consistent with LUP policies 1, 3, and 6 as the timing and method of the breaching activity coincides with the natural breaching cycle of lakes, which is necessary to maintain the water quality of the lakes, the existing quality of all marine and water resources in the lakes, and to protect environmentally sensitive habitat areas around the lakes. The project, as conditioned, is consistent with LUP policy 8 as the County should seek funds and the cooperation of other agencies to undertake studies of the Lake Earl and Talawa ecology for purposes of systematic inventory, analysis, and the development of programs for its maintenance and enhancement. Such studies should include the environmental impacts and consequences of breaching the sand bar at water levels which are successively higher than 4 feet MSL. Lastly, the project is consistent with LUP policy 4e as the County recognizes that it has to renegotiate the agreement with the California Department of Fish and Game before undertaking the project as conditioned. The Commission therefore finds that the project, as conditioned, is consistent with the County's LCP.

10. CEQA.

Section 13096 of the California Code of Regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) 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 impact which the activity may have on the environment.

As discussed herein, the proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act to minimize risks to life and property in an area of high flood hazard and to be protective of wildlife and aquatic resources and their habitats. Mitigation measures have been used to lessen possible environmental damage: (a) by restricting the breaching site to an unvegetated area, (b) by limiting the timing of the breaching activity to coincide with the natural breaching cycle of the lakes, and (c) by limiting the duration of the permit to two winter rainy seasons so that additional information from on-going studies may be incorporated into subsequent permits. As conditioned, there are no feasible alternatives or feasible mitigation measures available at this time, beyond those required, which would substantially lessen any significant adverse impact which the activity may have on the environment. The Commission therefore finds that the proposed project, as conditioned to mitigate the identified impacts, is consistent with the requirements of the Coastal Act to conform with CEQA.

ATTACHMENT A

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 in the application for permit, subject to any special conditions 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 of 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.

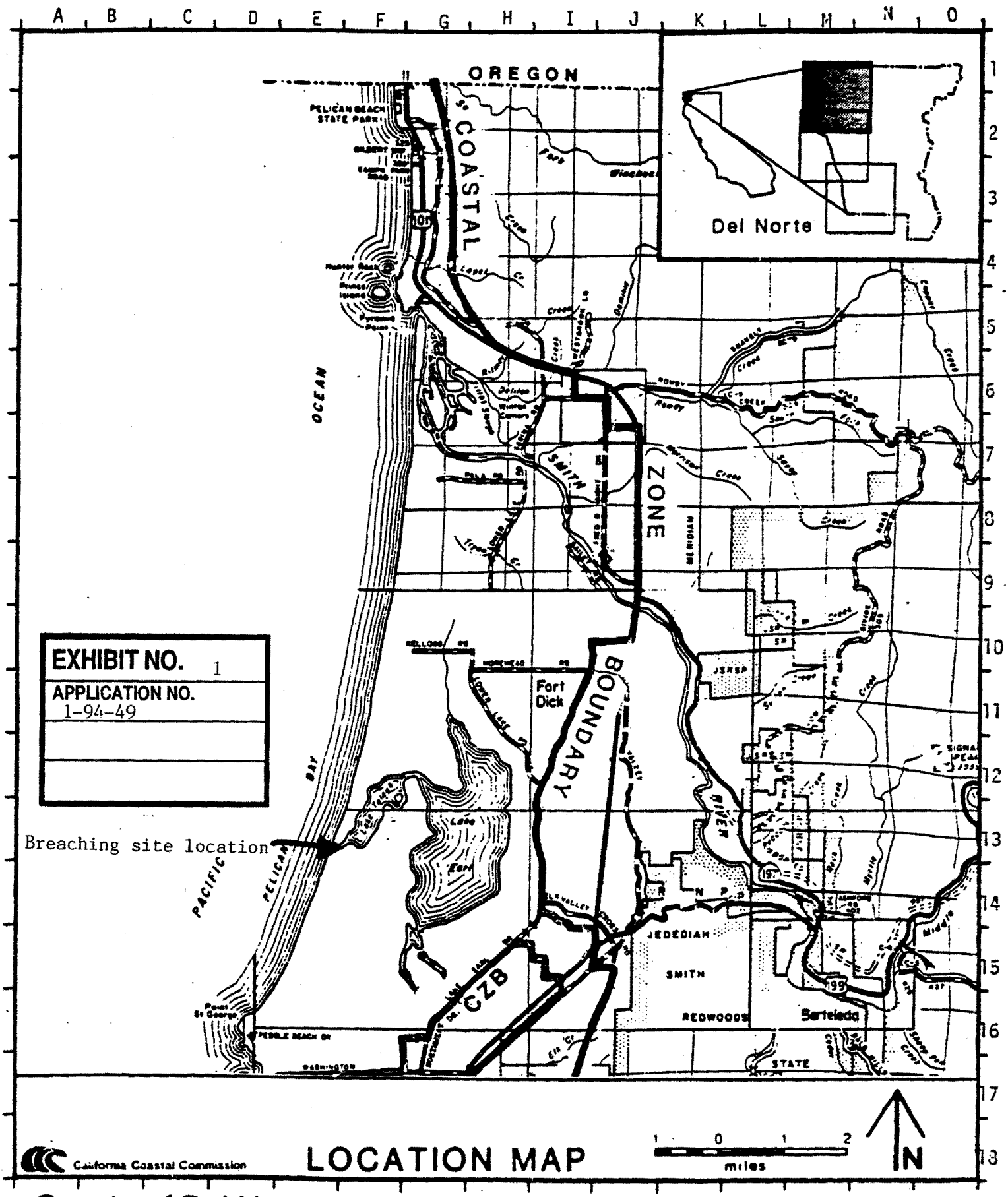
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

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.

List of Exhibits.

Exhibit No.

1. Regional Location Map
2. 1986 Air Photo of the Breaching Site
3. 1988 Contour Map of the Breaching Site
4. Plan View of the Breaching Site
5. Profile (Cross-section) of the Breaching Site Showing Various Water Elevations.
6. Map Showing U.S. Army Corps of Engineers Jurisdiction, California Dept. of Fish & Game Property Lines, the Shoreline of the Lakes at 4 feet MSL, and Public Access Locations.
7. Map Showing Water Sample Locations by the California Dept. of Water Resources
8. Contour Map of the Lake and Surrounding Area at 1 Foot Intervals
9. Map of Land Ownership in the Surrounding Area
10. Map of Adjacent Land Use
11. Map of Anadromous Fishery Streams
12. Soils Map
13. Special Habitat Map
14. Wetlands Map
15. Map of Active Wells Subject to Flooding
16. Map of Public Roads Subject to Flooding at 9 feet MSL
17. 7/19/96 Newspaper Article Regarding Proposed Federal Legislation to Require the Army Corps of Engineers to Determine Appropriate Water Levels for Lake Earl
18. 9/14/94 Meeting Notes of the Lake Earl Working Group
19. 3/6/96 Meeting Agenda for the Lake Earl Working Group
20. U.S. Fish and Wildlife Service Comment Letter
21. Comment Letter from Stover Engineering, the Engineer for the Pacific Shores Water District
22. Comment Letter from the Regional Water Quality Control Board
23. 11/13/95 Comment Letter from the California Dept. of Fish & Game
24. 7/1/96 Comment Letter from the California Dept. of Fish & Game
25. 8/9/96 Comment Letter from the Tolowa Nation Regarding Flooding of Ancestral Village Sites and Burial Grounds
26. 8/18/96 Comment Letter from the Pacific Shores Property Owners Association
27. 8/19/20 Comment Letter from the Legal Representative for the Pacific Shores Water District
28 2/6/94 photo of a road in the Pacific Shore Subdivision that is flooded at 8.5 feet MSL
29. Letter from the State Lands Commission indicating State ownership and lease agreement between State Lands and the Department of Fish & Game
30. U.S. Army Corps of Engineers permit for the project



County of Del Norte

Sheet 1 of 3

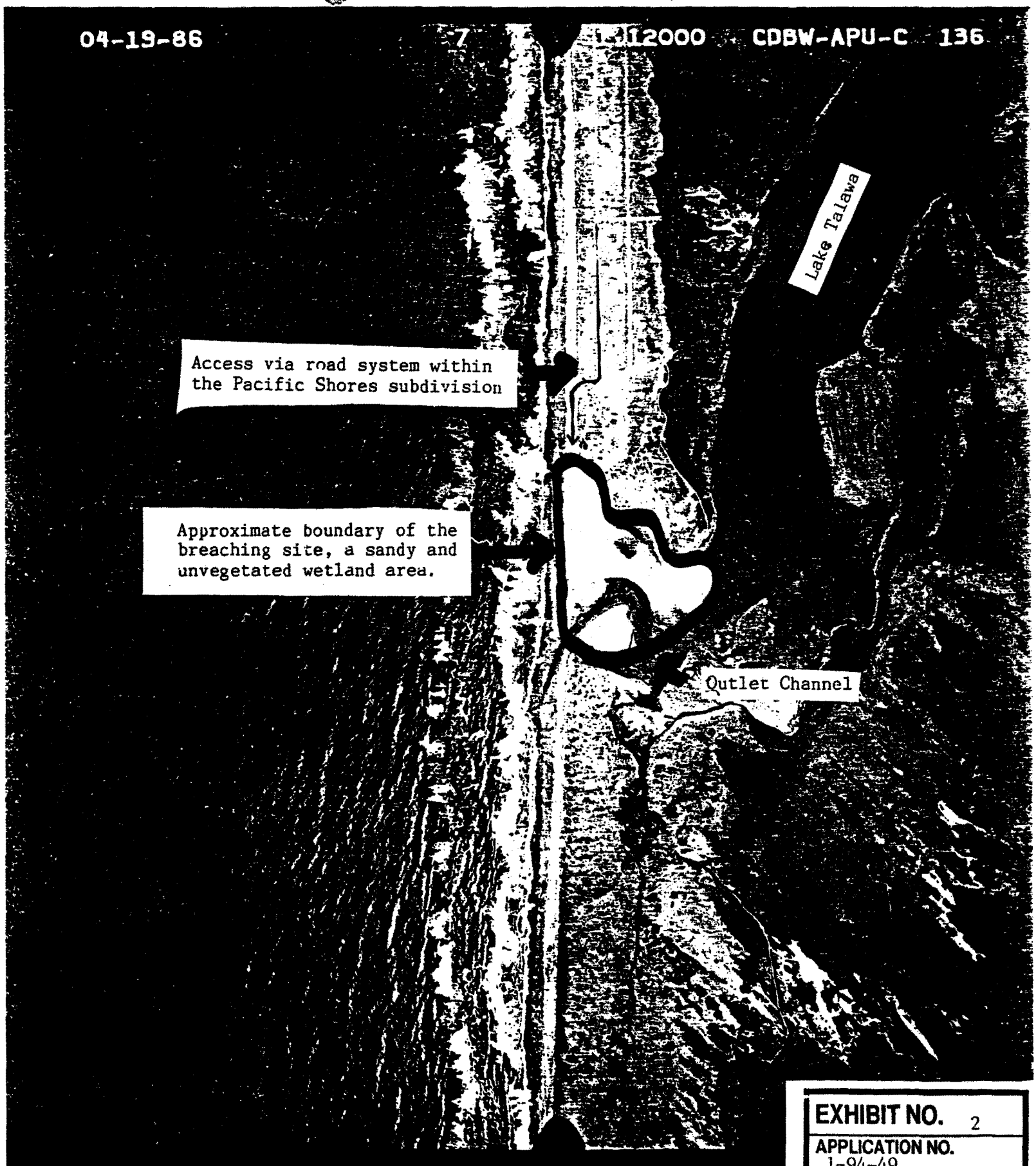
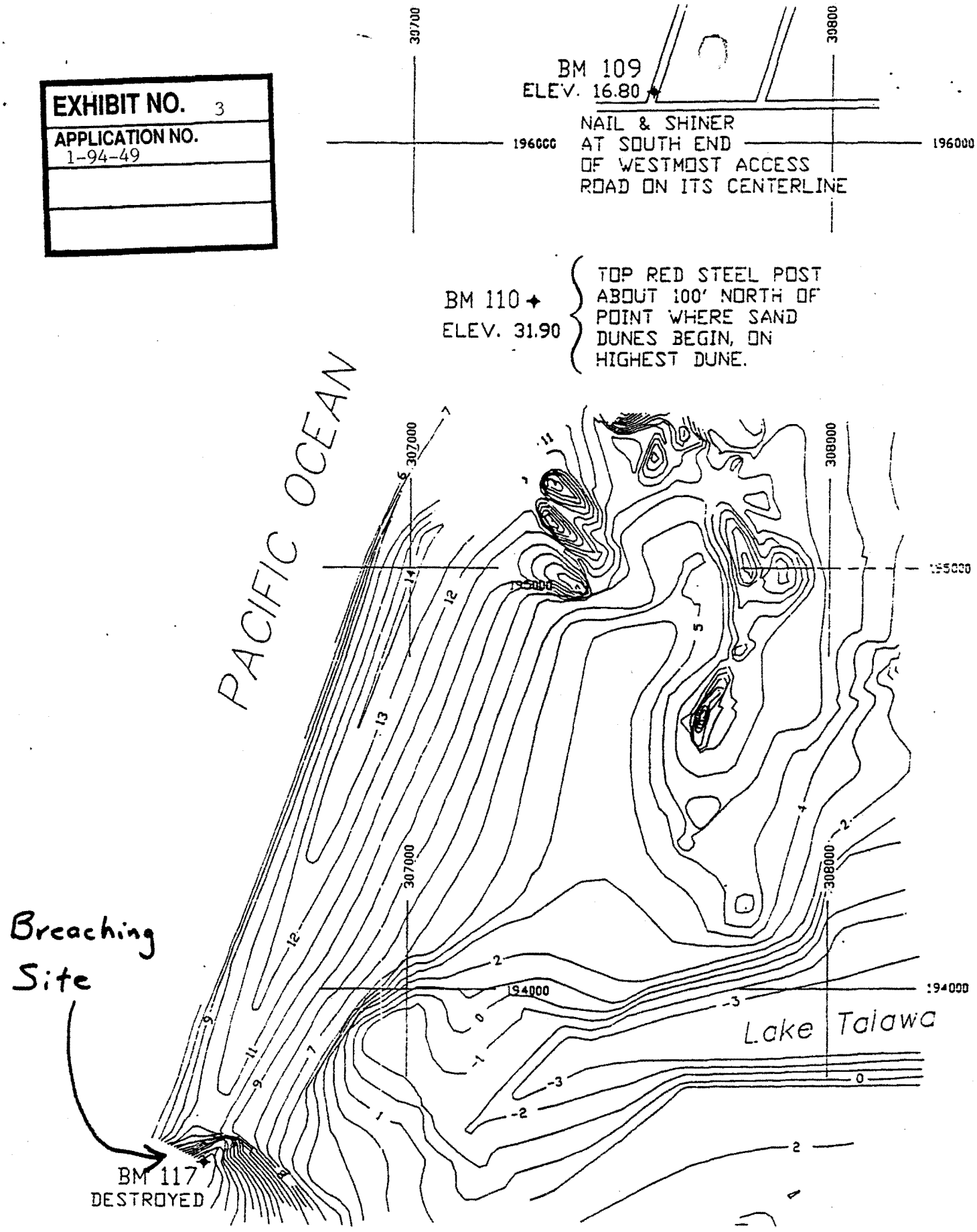


EXHIBIT NO. 2
APPLICATION NO. 1-94-49

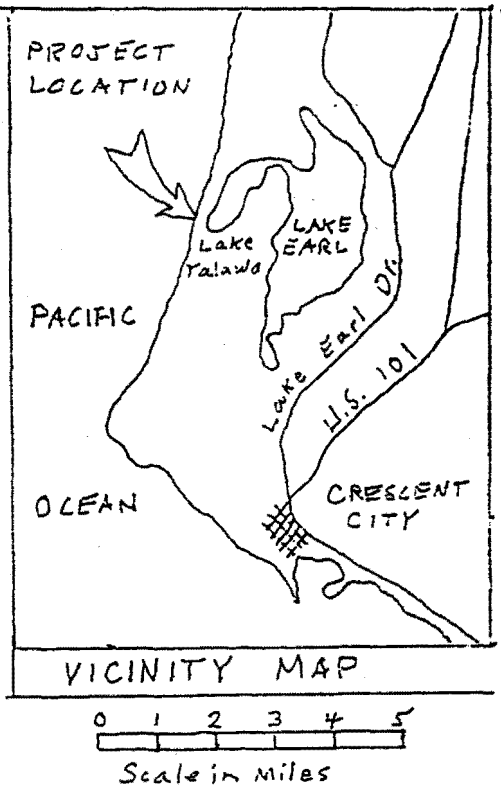
EXHIBIT NO. 3
APPLICATION NO. 1-94-49

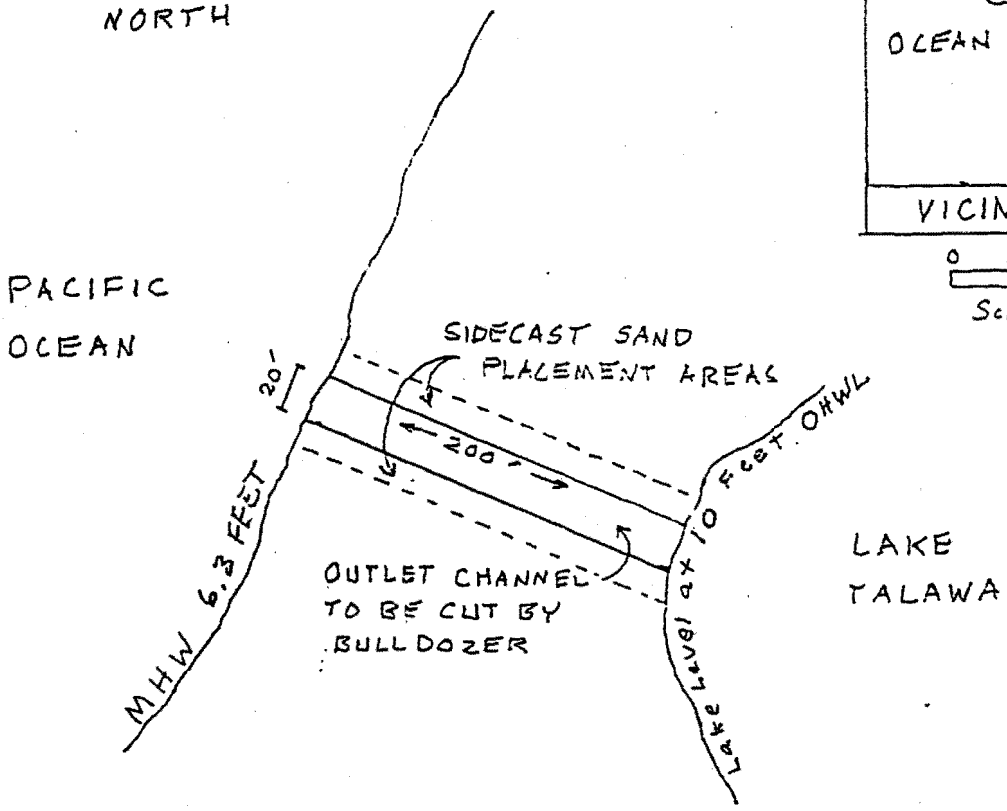


DATE OF SURVEY - AUG. 26, 1988 BY Bill Mendenhall, DWR

SPIT AREA BETWEEN LAKE TALAWA AND PACIFIC OCEAN
AT THE LAKE EARL WILDLIFE AREA, CRESCENT CITY, CA.

EXHIBIT NO. 4
APPLICATION NO. 1-94-49





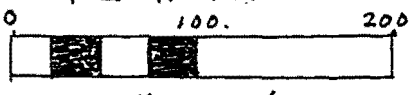
PURPOSE: PREVENT FLOODING OF WELLS AND PUBLIC ROADS.

DATUM: MHW

ADJACENT LANDOWNERS:

1. CA. STATE LANDS COMMISSION
2. CA. DEPT OF PARKS AND RECREATION
3. PACIFIC SHORES SUBDIVISION

PLAN VIEW



1" = 100'

CA. DEPT OF FISH & GAME
619 2nd STREET
EUREKA, CA. 95501
&
DEL NORTE COUNTY

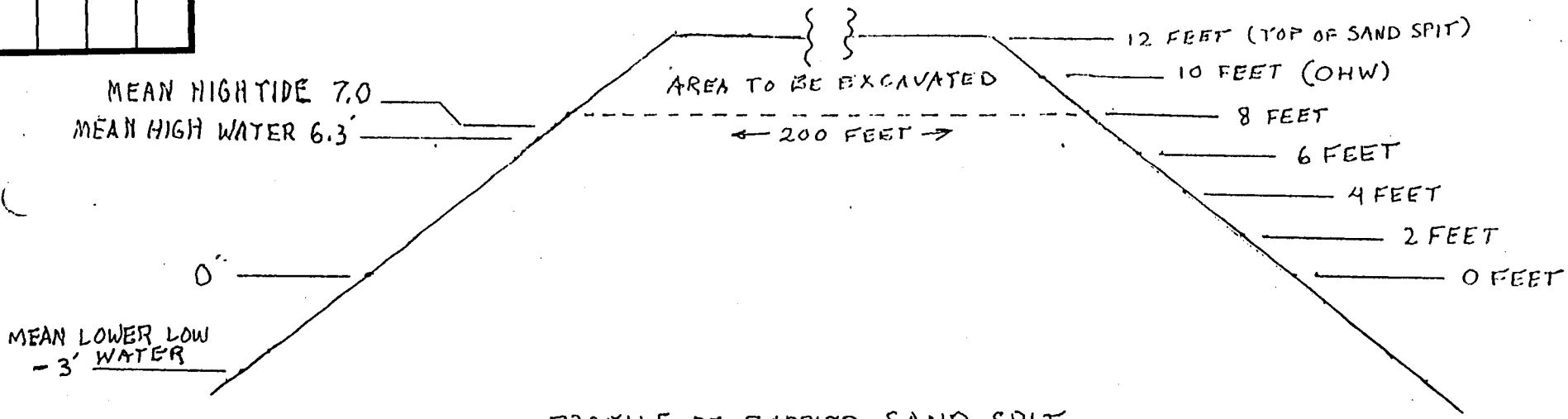
PROPOSED BREACHING OF LAKE EARL BY CUTTING A CHANNEL TO THE OCEAN.

IN: LAKE EARL
AT: 5 MILES NORTH OF CRESCENT CITY
COUNTY OF: DEL NORTE
APPLICATION BY: CA. DEPT OF FISH + GAME/DEL NORTE CO.

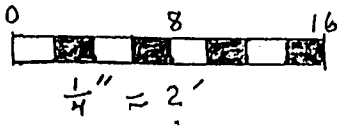
EXHIBIT NO. 5
APPLICATION NO. 1-94-49

OCEAN
TIDE LEVELS

LAKE EARL
SURFACE ELEVATION



PROFILE OF BARRIER SAND SPIT
AT SITE OF PROPOSED BREACHING



PURPOSE: PREVENT FLOODING OF WELLS AND PUBLIC ROADS BY LAKE EARL
DATUM: MHW

PROFILE VIEW

CA. DEPT. OF FISH + GAME
619 2nd STREET
EUREKA, CA. 95501
AND
DEL NORTE COUNTY

PROPOSE BREACHING OF LAKE EARL BY CUTTING A CHANNEL TO THE OCEAN.

IN: LAKE EARL
AT: 5 MILES NORTH OF CRESCENT CITY
COUNTY OF: DEL NORTE
APPLICATION BY: CA. DEPT. OF FISH & GAME / DEL NORTE COUNTY

EXHIBIT NO. 6

APPLICATION NO. 1-94-49

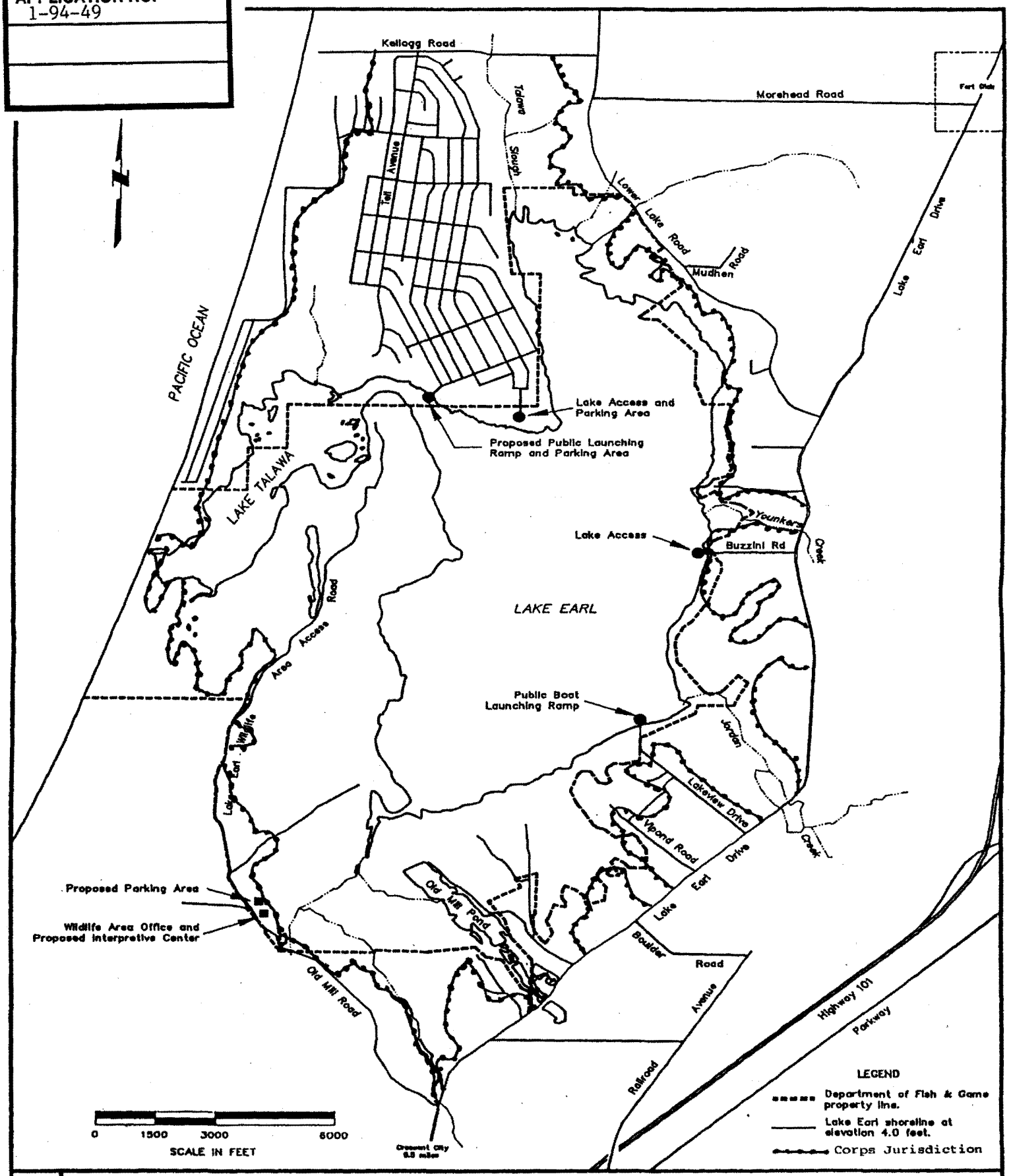


Plate 8

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

CORPS JURISDICTION

DEL NORTE COUNTY

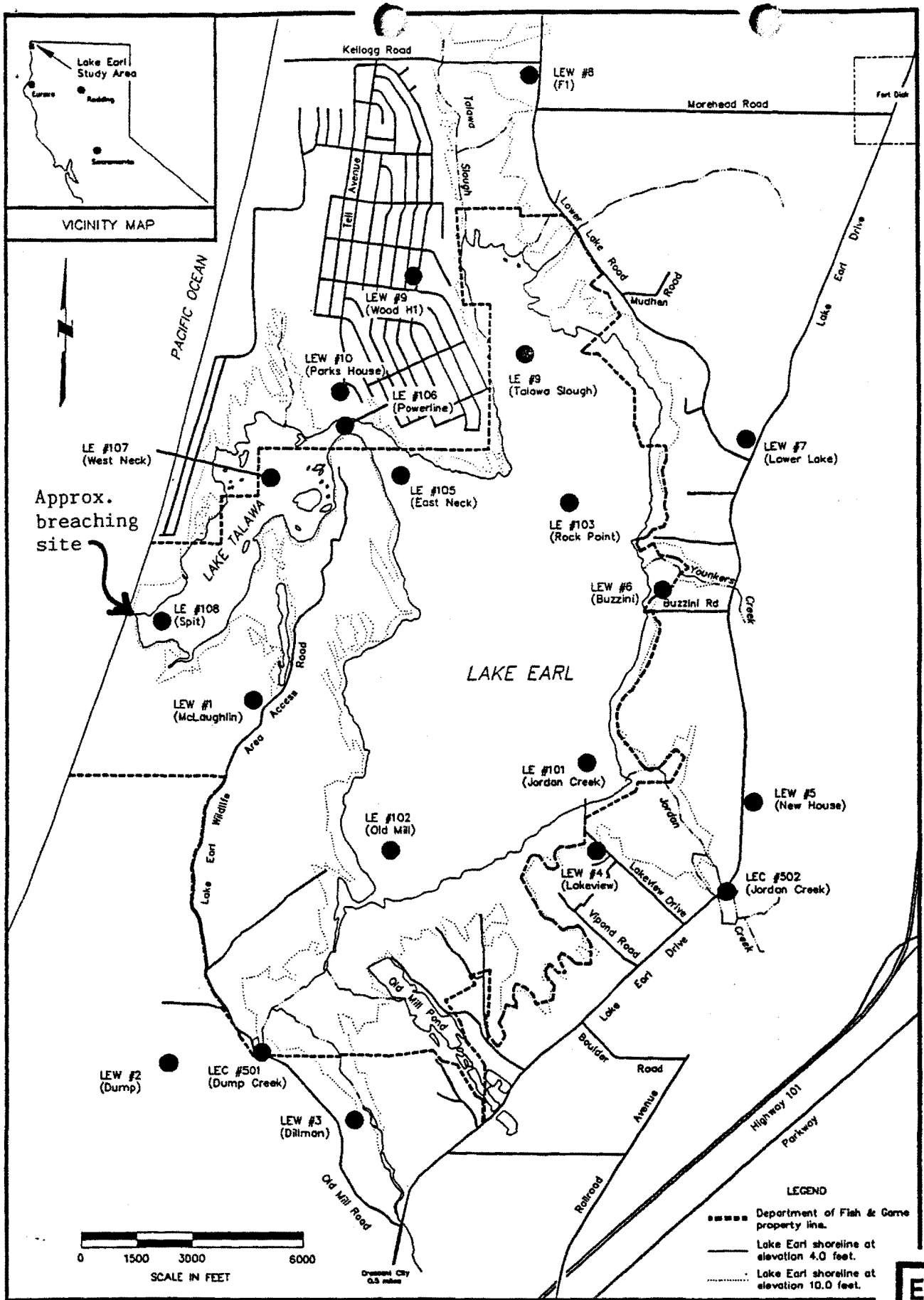


Plate 1

CALIFORNIA DEPARTMENT OF WATER RESOURCES

LAKE EARL STUDY AREA

AREA MAP WITH WATER SAMPLE LOCATIONS | DEL NORTE COUNTY

EXHIBIT NO. 7

APPLICATION NO. 1-94-49

EXHIBIT NO. 8
APPLICATION NO. 1-94-49

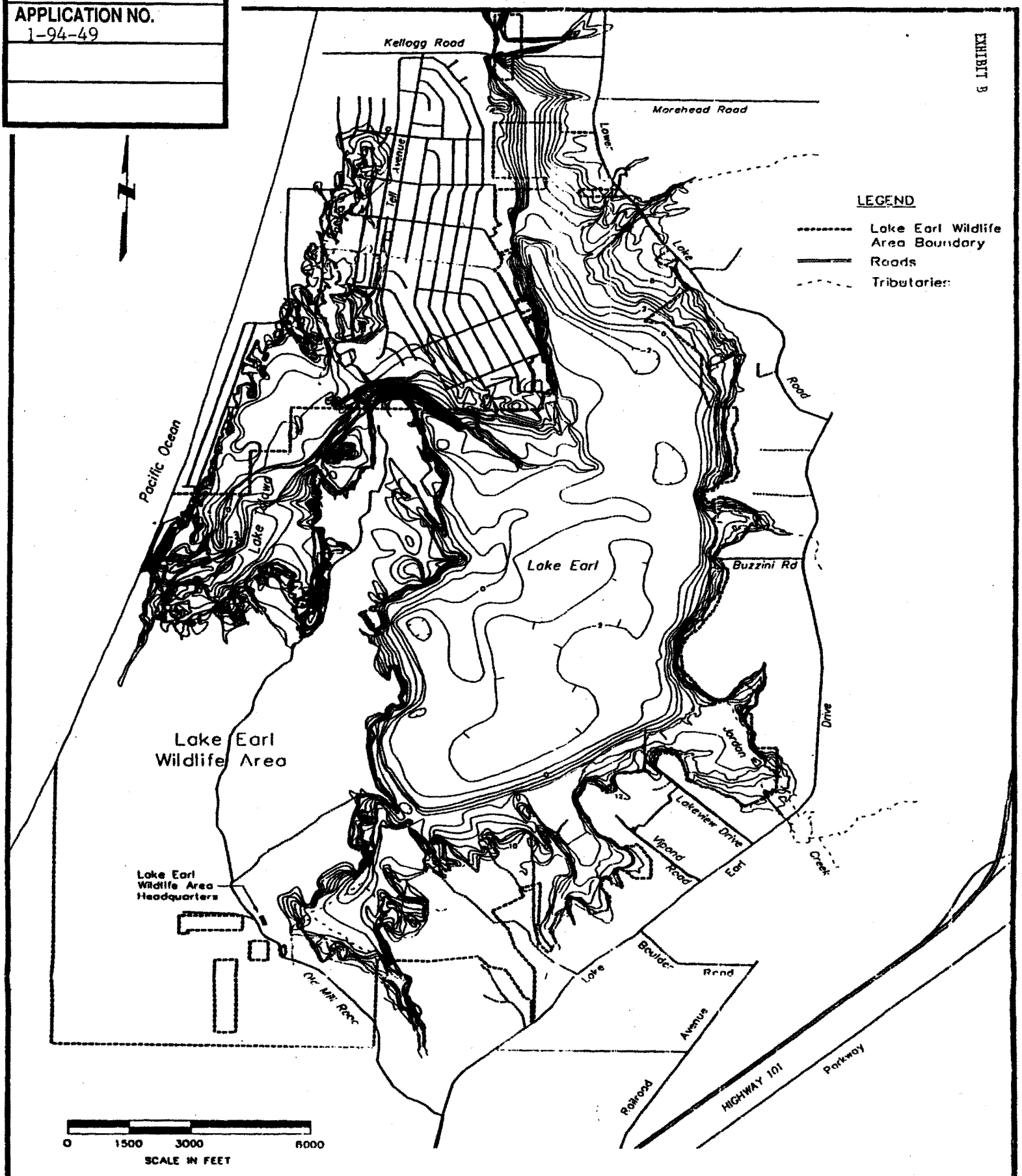


FIGURE 3

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

CONTOUR MAP

DEL NORTE COUNTY

EXHIBIT NO. 9

APPLICATION NO. 1-94-49

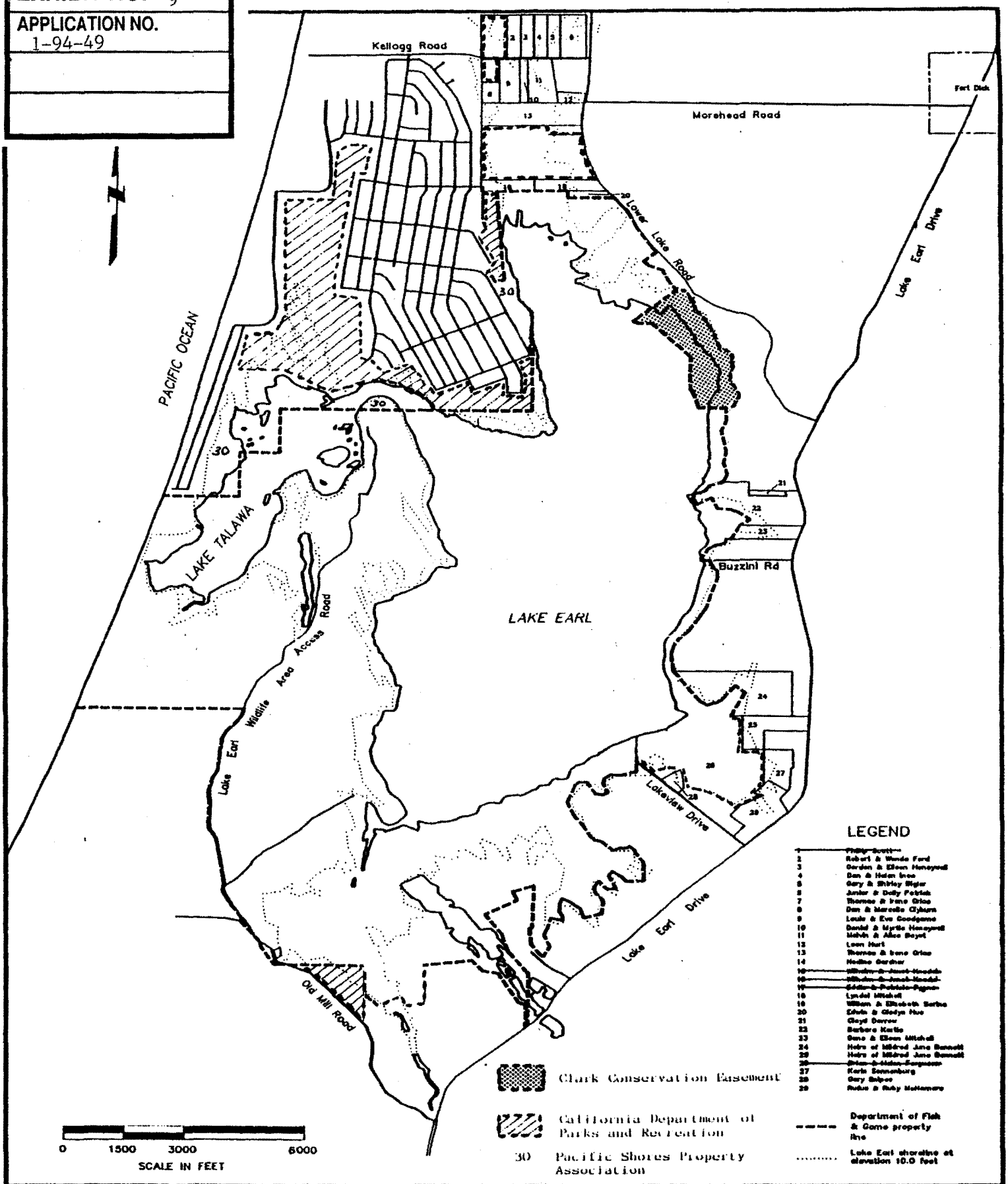


PLATE 9

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

Land Ownership

DEL NORTE COUNTY

EXHIBIT NO. 10
APPLICATION NO. 1-94-49

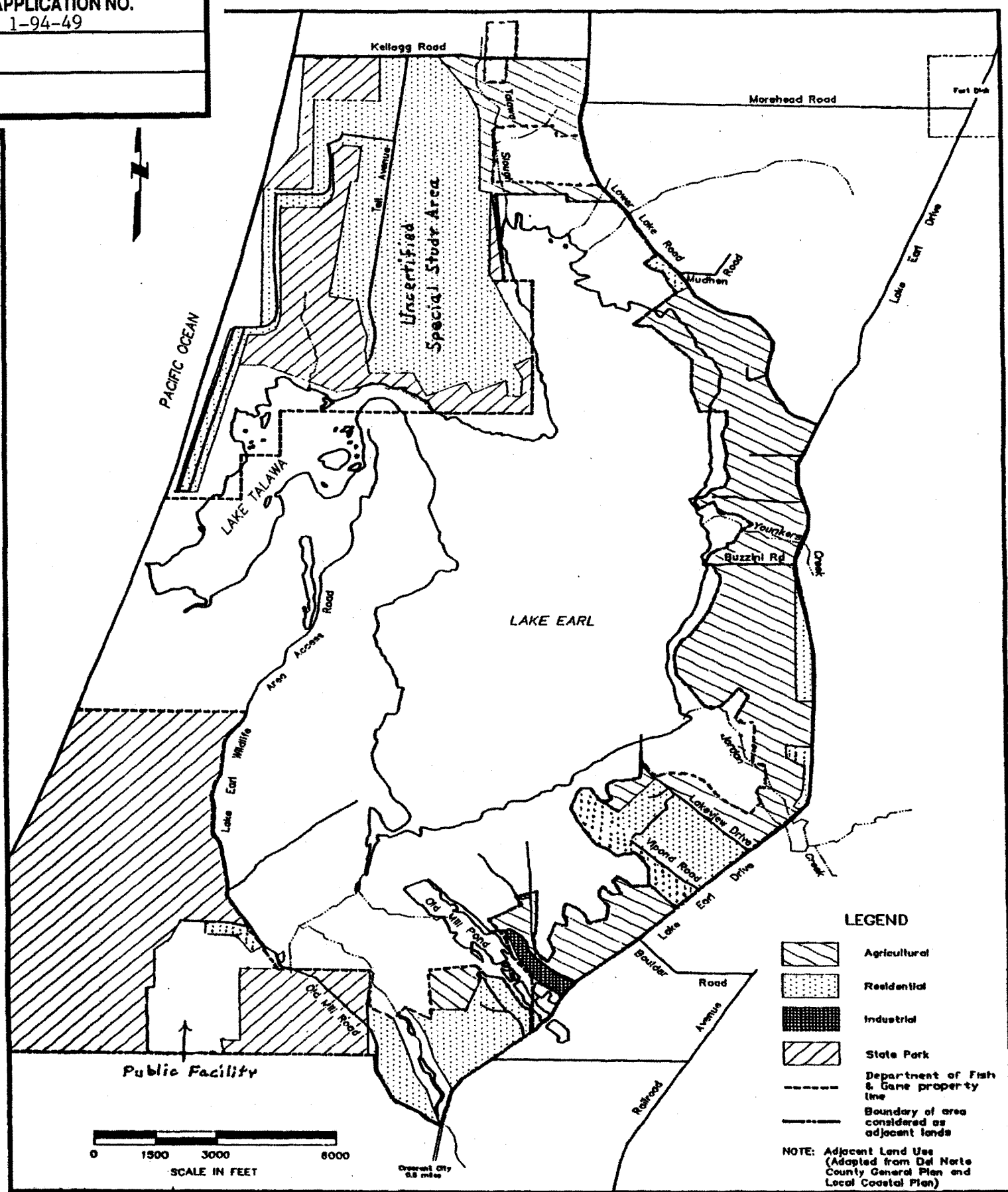


Plate 6

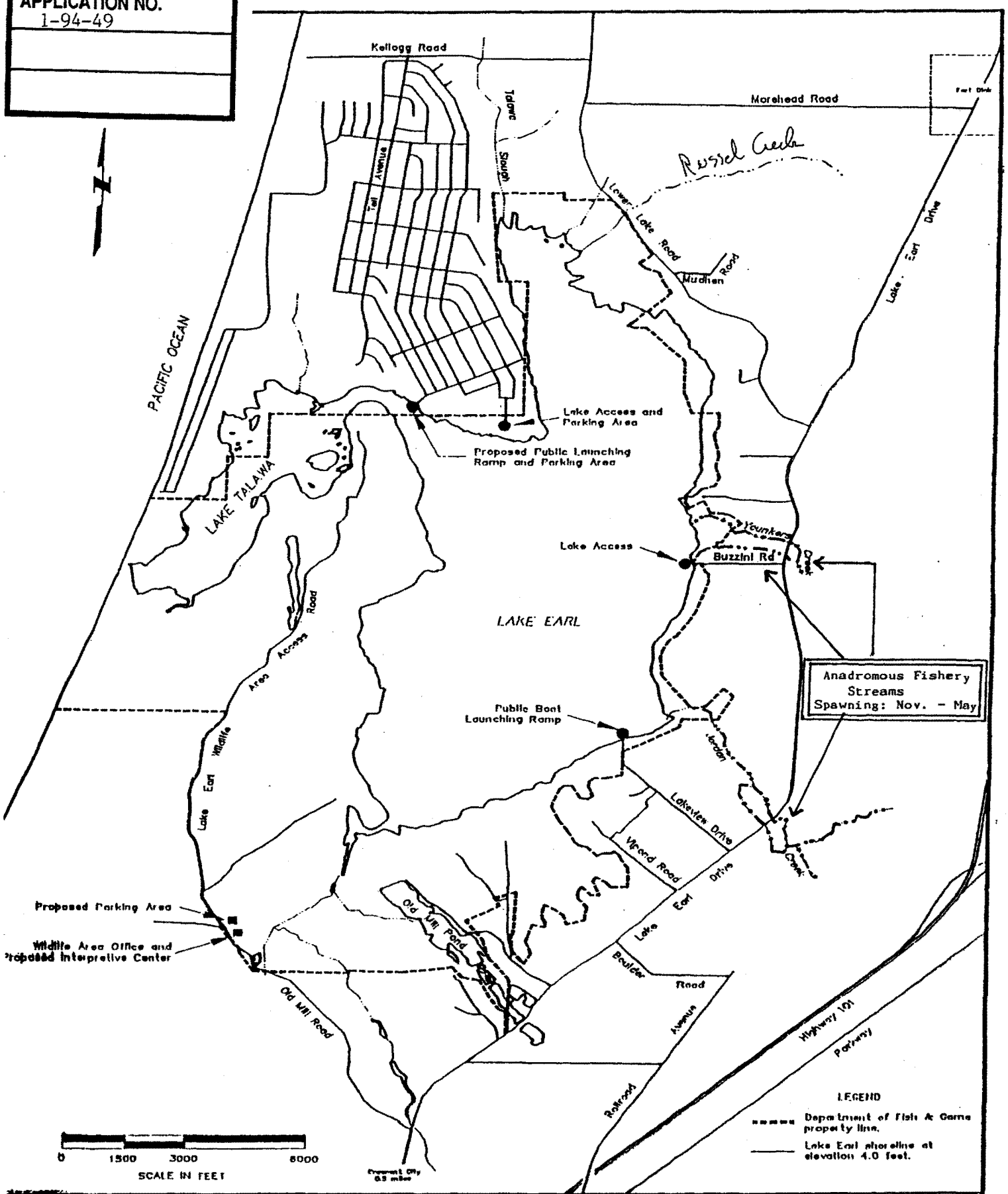
CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

ADJACENT LAND USE

DEL NORTE COUNTY

EXHIBIT NO. 11
APPLICATION NO. 1-94-49

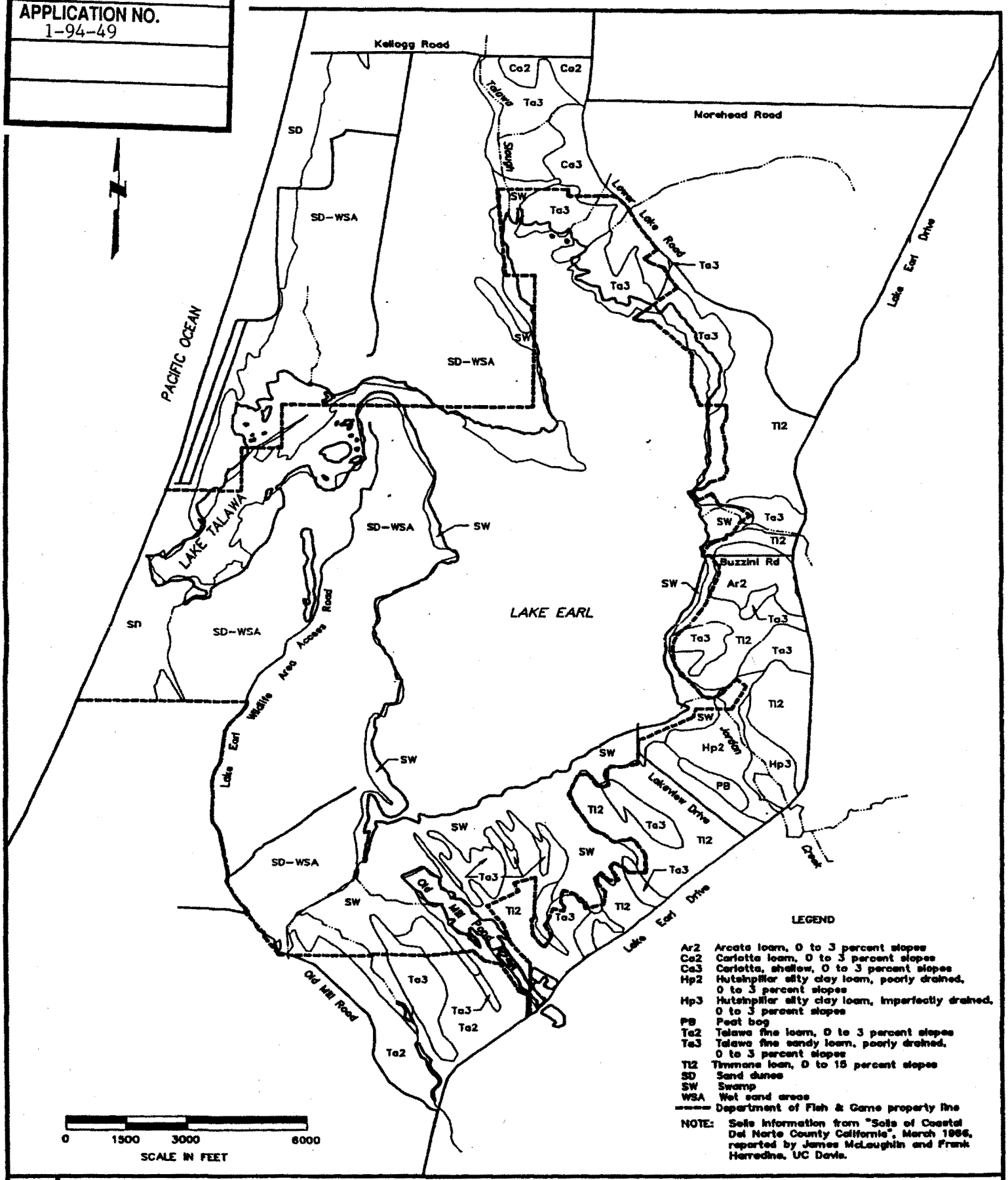


CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

ANADROMOUS FISHERY STREAMS	DEL NORTE COUNTY

EXHIBIT NO. 12
APPLICATION NO. 1-94-49



LEGEND

Ar2	Arcata loam, 0 to 3 percent slopes
Co2	Carlotta loam, 0 to 3 percent slopes
Ce3	Carlotta, shallow, 0 to 3 percent slopes
Hp2	Hutsinpillar silty clay loam, poorly drained, 0 to 3 percent slopes
Hp3	Hutsinpillar silty clay loam, imperfectly drained, 0 to 3 percent slopes
PB	Peat bog
Ta2	Talawa fine loam, 0 to 3 percent slopes
Ta3	Talawa fine sandy loam, poorly drained, 0 to 3 percent slopes
Tl2	Timmane loan, 0 to 15 percent slopes
SD	Sand dunes
SW	Swamp
WSA	Wet sand areas
------	Department of Fish & Game property line

NOTE: Soils information from "Soils of Coastal Del Norte County California", March 1966, reported by James McLaughlin and Frank Harradine, UC Davis.

Plate 4

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

SOILS | DEL NORTE COUNTY

EXHIBIT NO. 13

APPLICATION NO. 1-94-49

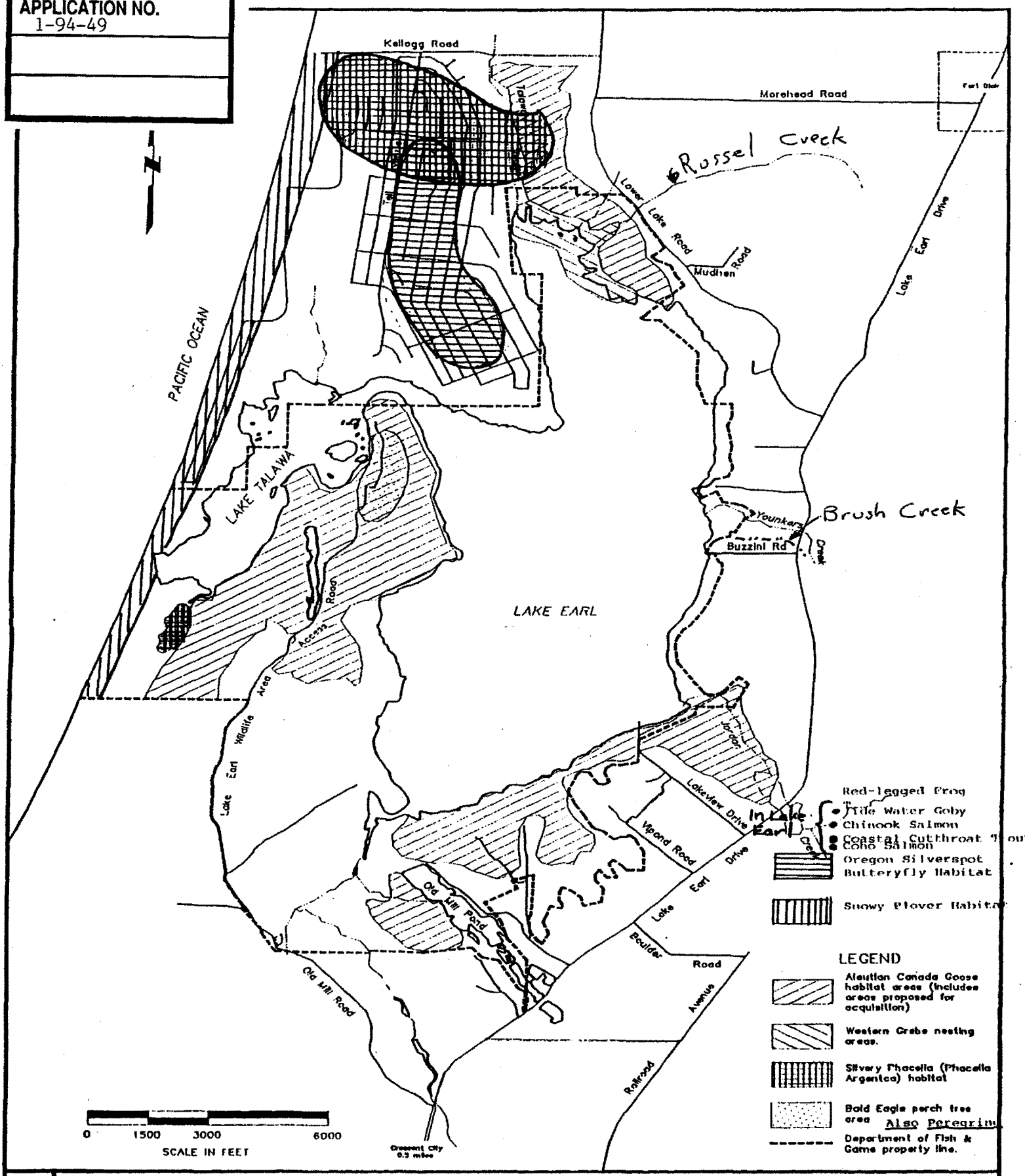


Plate 3

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

SPECIAL HABITAT | DEL NORTE COUNTY

EXHIBIT NO. 14
APPLICATION NO. 1-94-49

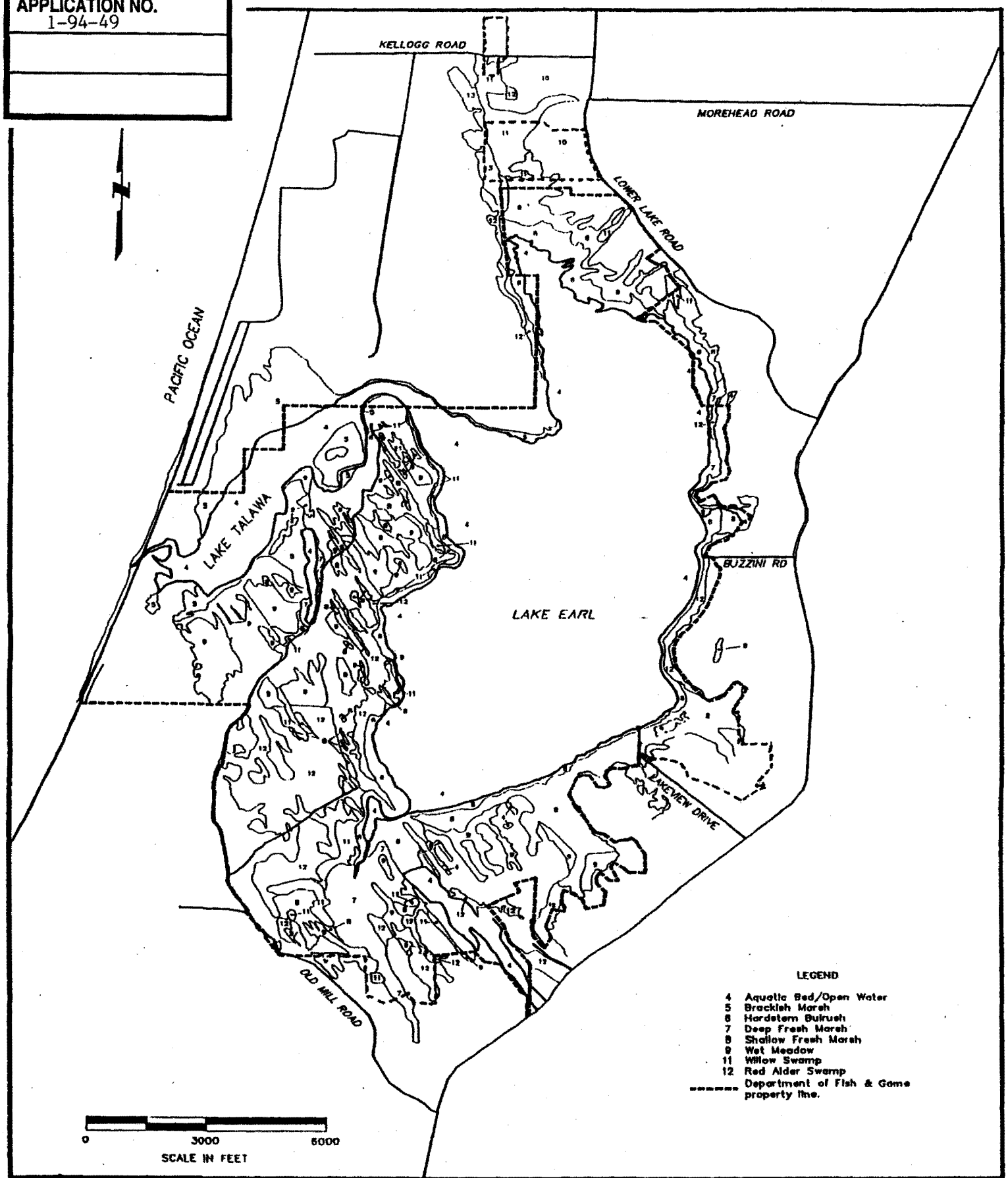


Plate 7

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

WETLANDS

DEL NORTE COUNTY

EXHIBIT NO. 15
APPLICATION NO. 1-94-49

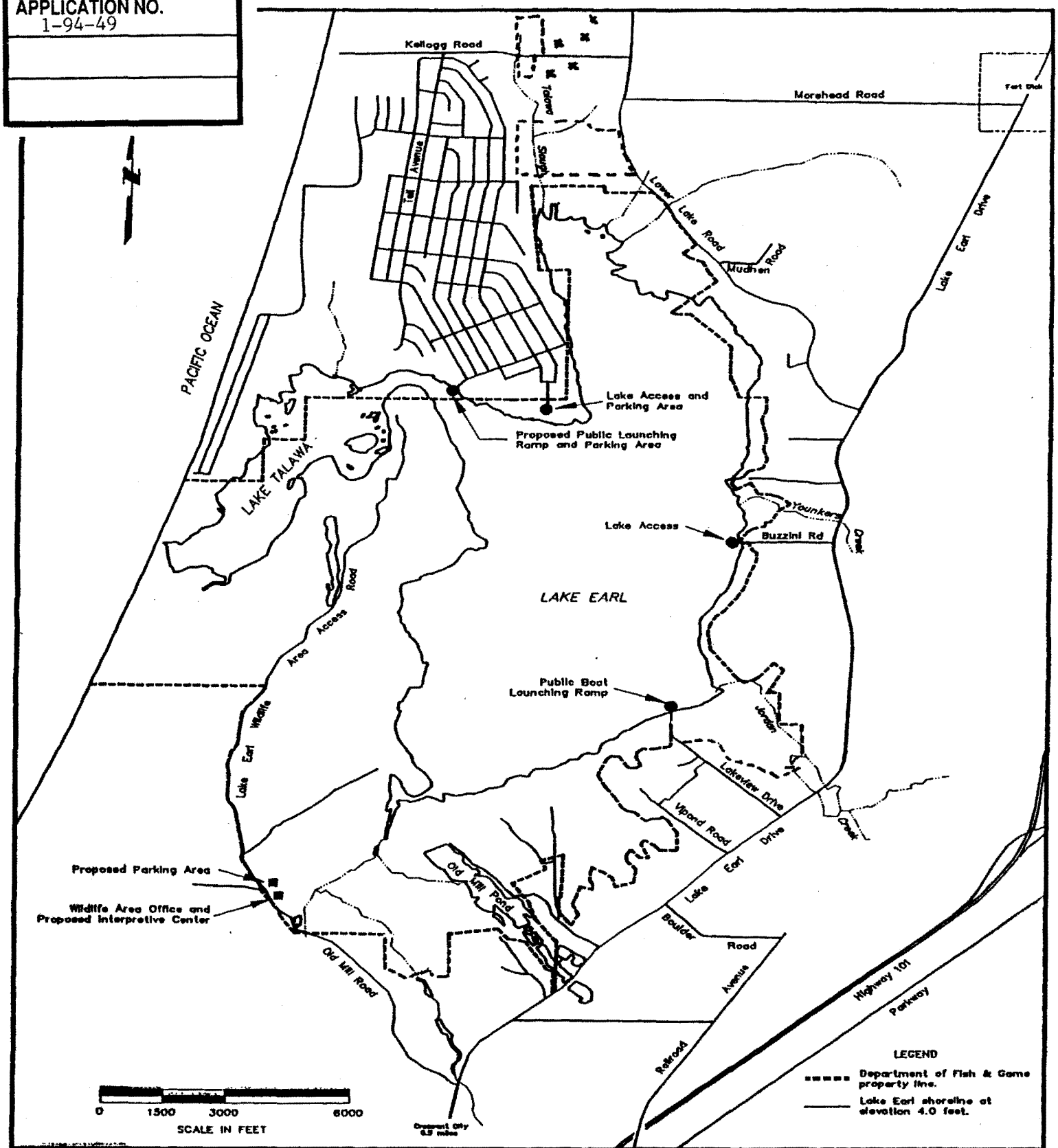


Plate 8

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

ACCESS & VISITOR FACILITIES | DEL NORTE COUNTY

x Location of active wells subject to flooding at 10+ feet MSL

EXHIBIT NO. 16
APPLICATION NO. 1-94-49

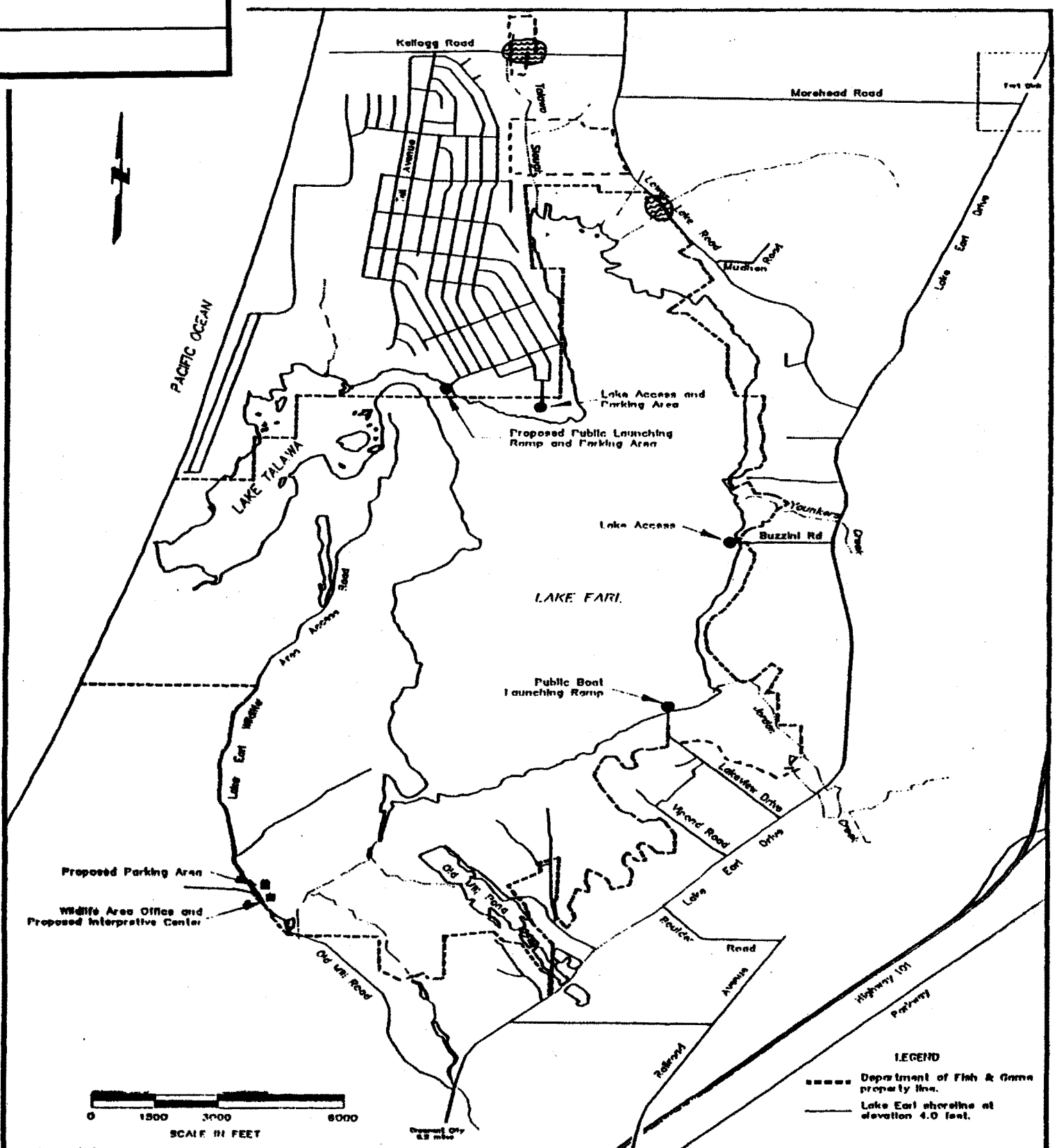


Plate 8

CALIFORNIA DEPARTMENT OF FISH AND GAME

LAKE EARL WILDLIFE AREA

ACCESS & VISITOR FACILITIES | DEL NORTE COUNTY

Public Roads Flooded at 9+ Feet MSL

Lake Earl bill awaiting House vote

Legislation would require Army Corps of Engineers to determine water level

Federal legislation that would require the U.S. Army Corps of Engineers to determine an appropriate water level for Lake Earl is awaiting a vote in the U.S. House of Representatives.

An argument over the lake level has been going on for several years. Some groups say it should be at 8 feet — to better protect flora and fauna in the area — while others say 4 feet so land around the lake does not flood.

Last year, the corps took input on the matter at a public meeting in Crescent City.

The corps took the matter under consideration; however, no decision about the level has been made, which leaves the lake at the 8-foot level for now.

Members of the Del Norte County Board of Supervisors, among others, have stated that in the absence of an environmental study, there is no objective information on what the true level should be.

At the request of the board of supervisors, U.S. Rep. Frank Riggs proposed federal legislation that would require the Corps of Engineers to study what the lake level should be.

This week the legislation passed the full Resources Committee of the House.

According to Riggs, "Lives, jobs, health issues and environmental concerns are at stake right here in Del Norte County. We must solve the lake level problem and solve it soon. We just can't leave people hanging without any resolution to this problem. This legislation will promote a solution so people can plan for the future."

"This issue is extremely important to all of the people of District 4 and Del Norte County as a whole," said Supervisor Clyde Eller, who represents the district the lake is in.

Eller commended Riggs for "coming to the rescue of the county and in particular District 4."

The Lake Earl legislation will be taken up sometime before the close of this congressional session in October.

STATE OF CALIFORNIA—THE RESOURCES AGENCY

DEPARTMENT OF FISH AND GAME
619 SECOND STREET
EUREKA, CA 95501
(707) 445-6493

EXHIBIT NO. 18
APPLICATION NO. 1-94-49
(page 1 of 5)

PETE WILSON, Governor

January 22, 1996

Dear Lake Earl Working Group Member:

Enclosed is a copy of the meeting notes from the September 14, 1994 meeting of the Lake Earl Working Group. Also enclosed are an updated list of the members of the Lake Earl Working Group, including addresses and telephone numbers, and a copy of the final Lake Earl Interagency Agreement (Agreement).

The parties to the Agreement decided to have the final draft of the Agreement signed by all of the signatory parties by October 1, 1994. We did not make that deadline. DFG worked for several months to encourage the Coastal Commission to sign the Agreement, but the Coastal Commission (CC) staff has decided against being a signatory. The Regional Water Quality Control Board (RWQCB) also has declined to sign the Agreement. Both the CC and the RWQCB will work with the Task Force. The Agreement will be circulated for the other participating agency signatures in February.

The Working Group agreed to request a Section 404 (Clean Water Act) permit from the Corps of Engineers (COE) under the application of Del Norte County (DN) and the Department of Fish and Game (DFG). Application was made for a two year interim permit to breach the sand bar at the eight foot elevation between September and February 15, of each year. The interim period will be two years. The COE permit requires a Coastal Development Permit also be issued. The CC has decided not to issue an interim permit for the breaching, but issued an emergency permit when DN requested one on December 29, 1995. The sand barrier was breached on January 2, 1996. At that time the Lake was at 9.6 feet.

Funding for environmental documentation continues to be a concern. The California Office of Emergency Services (OES)

encouraged DFG to request money, through OES, from the Federal Emergency Management Agency (FEMA) for environmental documentation for breaching the sand barrier. In June, we completed a Hazard Mitigation Proposal (a FEMA funding format) requesting funds to study lake Earl as a means of eliminating flood problems. We have not received a response from OES or FEMA. We have doubts the proposal will be funded.

We are back to looking for money to fund the project. Carol Wagner, Aid to Assemblyman Dan Hauser, made a strong effort to look for money in the State Legislature. But, alas, the legislature said "no". It appears at this time that OES and FEMA have also said "no". Please be thinking about other ideas to fund the study. If you have any ideas, please let me know what they are.

We would like to meet in March, review the COE interim permit and the CC emergency permit which have been issued. We need to look at the permit requirements and discuss working together to accomplish permit mandated monitoring. Please remember that it was the Lake Earl Working Group that requested the permit, even though it was requested in the name of DN and and DFG for the convenience of having specific entities with which the permiting agencies would be able to work. We would also like to revisit how to fund the project and begin to plan the environmental documentation process.

We are proposing a meeting in Eureka on Wednesday, March 6. We will follow up with more specific information on time, location, etc. a little later. Please let me know of any items other than those discussed above you think we should be on the agenda. Whether it be searching for funds, planning, doing monitoring or resource tasks, the Lake Earl Working Group will need all of us to work closely together if we are to maintain and protect the manifold natural resource values at Lake Earl.

Sincerely,

Herbert J. Pierce
Wildlife Biologist

cc: All Lake Earl Working Group Members

EXHIBIT NO. 18
APPLICATION NO. 1-94-49
(page 2 of 5)

NOTES from the SEPTEMBER 14, 1994 LAKE EARL WORKING GROUP MEETING

Attending the Meeting:
David Ammerman, US Army, Corps of Engineers
Claire Courtney, US Congressman Dan Hamburg's Office
Wade Eakle, US Army, Corps of Engineers
Kevin Foerster, US Fish and Wildlife Service
Darren Fong, US Fish and Wildlife Service
Linda Martinez, California State Lands Commission
Richard Mize, Del Norte County Health Department
Chris Mobley, US National Marine Fisheries Service
Gary Monroe, California Department of Fish and Game
Mike Monroe, US Environmental Protection Agency
James Muth, California Coastal Commission
Ernest Perry, Del Norte County
Herb Pierce, California Department of Fish and Game
Bill Rodriguez, California Regional Water Quality Control Board
Steve Scholl, California Coastal Commission
Carol Wagner, California Assemblyman Dan Hauser's Office
Mark E. Wheetley, California State Coastal Conservancy
John E. Wilson, Del Norte County

EXHIBIT NO. 18
APPLICATION NO. 1-94-49
(page 3 of 5)

A major part of the intent of the meeting was to produce a final copy of the Lake Earl Interagency Cooperative Agreement (Agreement) for breaching the sand barrier between Lake Earl and the Pacific Ocean. Several suggestions were made. Del Norte County (DN) suggested public health and safety factors be stated in the pertinent facts section of the Agreement. State Lands Commission (SLC) had concerns about funding for studies or environmental documentation which may be undertaken by the Lake Earl Working Group. US Fish and Wildlife Service (USFWS) suggested the agreement should indicate that California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements will be met. There were also some minor editing issues identified. The problems of flooding of human facilities will be identified in the Agreement. The Agreement identifies locating funding as part of work to be accomplished. The intent of the Agreement is specifically to comply with CEQA and NEPA. The minor editing issues were worked out.

The Department of Fish and Game (DFG) believes the Lake Earl Task Force should identify available information and resources for completing environmental documents. The State Coastal Conservancy (SCC) suggested a feasibility study be done to identify existing information available for preparation of an environmental document and the gaps in available information. National Marine Fisheries Service (NMFS) suggested the wording in the Agreement be changed to reflect that concept. DFG pointed out that the original intent of the Task Force was to gather available information and look at alternatives. Determining the feasibility of a project, determining the environmental

documentation necessary, finding funding for the necessary work and completing it are all part of the proposal for the Lake Earl Working Group.

The environmental documentation that will be required by the US Army, Corps of Engineers (COE) was discussed. COE determined in 1991 that an Environmental Impact Statement would be necessary for it to consider issuance of a permit to breach at the 4 foot elevation. It will make another assessment of the project and determine the level of environmental documentation when a permit is again requested.

Funding continues to be a problem. State Assemblyman Dan Hauser's office put substantial effort into trying to get a funding bill through the state legislature, but without success. Some agency representatives believe there are funds available in other areas. Consideration was given to rewording the Agreement to assist with gathering funds. The NMFS suggested the term "plan" be used in place of the word "assessment" to target funding sources. DN explained the term "assessment" was used to allow for a broad interpretation of the Working Group's undertaking so that it would be easier to meet the objectives of a variety of funding sources.

The working group decided the draft Agreement with the suggested modifications listed above was the final that each of the agencies would sign. We agreed to try to get the final Agreement signed by all agencies by October 1, 1994. It was also agreed a copy the Agreement would be sent to each agency for signature independently and returned to the California Coastal Commission. All of the signature pages will be collated with the original Agreement. Each agency will then receive a completed Agreement with all the signatures.

A discussion of the information available to establish the location of the COE jurisdiction around Lake Earl followed. Information collected by DFG that helps to identify wetlands and hydrology around Lake Earl was presented. COE said the information was acceptable. It also said its jurisdiction is usually the line of ordinary high water and adjacent wetlands. DFG presented a map generally portraying the extent of what it believes is the COE jurisdiction. COE jurisdiction as depicted by DFG is based on plant type, hydric soils, and National Wetland Inventory Maps. The COE jurisdictional boundary appears complex in the vicinity of the Pacific Shores Subdivision. DFG's mapping is not intended to be final and may not be adequate to meet all the regulatory agency needs.

There was further discussion about the information available for environmental documentation. Plant community map, threatened and endangered species map, agricultural lands map and the map of roads and developments adjacent to the lake compiled by DFG appear acceptable to the COE. The lake bed contour map prepared by the Department of Water Resources (DWR) provided significant

information and appears acceptable to the COE to meet part of their information needs.

Assemblyman Dan Hauser's Office stated the need to look at alternatives to breaching. Alternatives may include casing and capping wells and raising county roadbeds. A combination of casing and capping wells and raising roadbeds may provide enough protection to allow the breaching to occur at higher levels than in the past. It was suggested that possibly if roads and wells were protected that the lake could be allowed to rise to a level where it would breach the sand barrier itself. The consensus of the Working Group was that artificial breaching would have to occur at times. Substantial development has already occurred in the floodplain of Lake Earl which will have to be protected. It would likely be flooded if the water were to rise to its highest potential before the sand berm would breach naturally.

A discussion of how the lake water levels could effectively be lowered with out encroaching on COE jurisdiction occurred. Ideas such as only breaching above the level of ordinary high water were suggested, thus a COE permit would not be necessary It was generally agreed that the barrier will need to be artificially breached within the COE jurisdiction and that a COE permit will be necessary.

Maps of sensitive species, including threatened and endangered species produced by DFG appear to be acceptable. Relative to sensitive fish species, NMFS would like information on the timing of spawning and outward migration of all species, particularly Coho salmon. NMFS would also like to know the extent to which these species use the lake as spawning, and rearing habitat. Possible sources of information include UC Davis Cooperative Extension and the Sea Grant Program.

The COE indicated that no additional data needs exist before it can consider an interim two year permit to breach the lake at the eight foot elevation between September and February 15. DFG will prepare a permit request to be signed by DN and DFG. COE will work to get the permit processed.

DFG is concerned that the other agencies remain a part of the Working Group. All of the participating agencies have substantial interest about or authority over the breaching of the sand barrier between the lake and the ocean. DFG does not have permit authority over the breaching but has taken the leadership to get the responsible, trustee, and management agencies together to work toward the common goal of obtaining permits to breach the barrier on a scheduled basis. DFG has concerns that if all of the agencies do not sign the Agreement there will be less interest in working toward a common goal and greater difficulty in reaching consensus.

The meeting adjourned.

Notes taken by L. Fukushima, DFG

LAKE EARL INTERAGENCY WORKING GROUP

Members:
DEL NORTE COUNTY (Health Department, Community Development Department)

STATE of CALIFORNIA (State Coastal Conservancy, Department of Fish and Game, Department of Water Resources, Office of Emergency Services, State Lands Commission)

UNITED STATES (Army Corps of Engineers, Environmental Protection Agency, Fish and Wildlife Service, National Marine Fisheries Service)

Cooperating Offices and Agencies:
STATE of CALIFORNIA (Senator Mike Thompson, Assemblyman Dan Hauser, Coastal Commission, Regional Water Quality Control Board

LAKE EARL INTERAGENCY WORKING GROUP
DRAFT* MEETING AGENDA

March 6, 1996
10:00 am to 4:00 pm
Humboldt Bay Harbor District Office
Woodley Island Marina
Eureka, California

Introductions
Update
  Corps Interim Permit
  Coastal Emergency Permit
  Search for Funds
Permit Conditions
Responsibility for Completing Requirements
Environmental Documentation for the "Permanent" Permits
  Level of Environmental Documentation (EIS/EIR vs. EA/Neg. Dec.,

    Full document vs. Focal Document, etc.
Environmental Documentation Costs
  Estimates
  Potential Funding Sources and Ideas.
  Contacts
Constituency of the Lake Earl Interagency Working Group
Future Meeting Schedule
Adjourn

* Revisions to this agenda are possible. Please contact me at (707) 441-5790 if you believe there are other items which should be on the agenda.

Herb Pierce

EXHIBIT NO. 19
APPLICATION NO. 1-94-49

United States Department of the Interior

IN REPLY REFER TO:

FISH AND WILDLIFE SERVICE
Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825-1846

In Reply Refer To:
PN20793N36

May 16, 1995

District Engineer
Corps of Engineers, San Francisco District
Attn: Regulatory Functions Branch (Bob Smith)
211 Main Street
San Francisco, California 94105

Subject: Public Notice No. 20793N36, California Department of Fish and Game and Del Norte County, Breaching of Sandbar Separating Lakes Earl and Talawa from the Pacific Ocean, Del Norte County, California

Dear Sir:

The U.S. Fish and Wildlife Service (Service) has reviewed Public Notice No. 20793N36, dated April 7, 1995, regarding a proposal to periodically breach, over a two year period, the sandbar separating Lake Talawa from the Pacific Ocean. The following comments have been prepared under the authority, and in accordance with the provisions, of the Fish and Wildlife Coordination Act.

SERVICE POLICY

When reviewing Corps' public notices, the objectives of the Service are: "Ensuring that all authorized works, structures, and activities are (1) judged to be the least ecologically damaging alternative or combination of alternatives (e.g., all appropriate means have been adopted to minimize environmental losses and degradations) and (2) in the public's interest in safeguarding the environment from loss and degradation." (Federal Register, Vol. 40, No. 231, December 1, 1975). For impacts to wetlands and aquatic habitats, the Service's goal is no net loss of in-kind habitat values or acreage.

PROJECT DESCRIPTION

The California Department of Fish and Game (CDFG) and Del Norte County (County) propose to artificially breach the sandbar between Lake Talawa and the Pacific Ocean between September 1 and February 15 if lake levels rise above +8.0 feet Mean Sea Level (MSL), and again on February 15 if lake levels are above +5 feet MSL. No breaching activities would occur between February 16 and September 1. Breaching would be accomplished using a bulldozer, and the sandbar would then be allowed to reform naturally. The project purpose, as stated in the public notice, is to prevent flooding of wells adjacent to the lakes and avoid related groundwater contamination, and to avoid breaching of the sandbar in spring and summer when water inflow is insufficient to replenish lake levels necessary for aquatic species survival. In addition, the applicants state they will use this two year period to develop environmental documentation necessary to assess reasonable alternatives to historic breaching practices, and develop environmentally sound management strategies for maintaining the health of this fragile ecosystem.

General Fish and Wildlife Resources

The Service believes the proposed project may affect aquatic resources of national importance (ARNI). This statement provides the Corps of Engineers with notification by the Service pursuant to the Clean Water Act Section 404 (q) Memorandum of Agreement (Part IV 3.(a)) between the Departments of Interior and Army.

Lakes Earl and Talawa form one of the most unique and valuable wetland complexes in California. A diverse assemblage of plant and wildlife species rely on the mosaic of habitat types within this system, including emergent wetlands, open water with submerged aquatic beds, mudflats, flooded pastures, woodland, sand beach, and riverine habitat. Over 250 species of birds and 58 species of mammals have been recorded to occur within the Lake Earl and Smith River Delta flood plain and adjacent uplands. Waterfowl and shorebirds of the Pacific Flyway use Lake Earl as a wintering and resting area during migrations, and Lake Earl supports the largest wintering population of canvasbacks (*Aythya valisineria*) north of San Francisco Bay. Anadromous fish species, including the chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorhynchus gairdnerii*) and coast cutthroat trout (*Oncorhynchus clarkii*) spawn in Jordan Creek, the main tributary to Lake Earl, and juveniles of these species use the lakes as a nursery area.

Sensitive Species

A number of federally threatened, endangered or candidate species are known to occur in the Lake Earl/Talawa ecosystem, including the tidewater goby (*Eucyclogobius newberryi*), Aleutian Canada Goose (*Branta canadensis leucopareia*), Oregon silverspot butterfly (*Speyeria zerene hippolyta*), Steller sea lion (*Eumetopias jubatus*), brown pelican (*Pelecanus occidentalis*), bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), western snowy plover (*Charadrius alexandrinus nivosus*), marbled murrelet (*Brachyramphus marmoratus*), and red-legged frog (*Rana aurora*), (H. Pierce, CDFG, unpub. data, September 14, 1994). Candidate plant species known to inhabit the area include Thurber's reedgrass (*Calamagrostis crassiglumis*), valley sagittaria (*Sagittaria sanfordii*), Wolf's evening primrose (*Oenothera wolfii*), and sand dune phacelia (*Phacelia argentea*).

Potential Impacts

A thorough environmental analysis is needed to quantify direct and indirect effects of the proposed project on fish and wildlife resources. However, the Service believes the potential exists for adverse project related impacts to sensitive species.

The tidewater goby is highly sensitive to salinity changes. Artificial sandbar breaching may destroy essential tidewater goby refugial habitat, and, unlike natural breaching, the fish would receive no natural warning cues that allow them to seek refuge in backwater areas. Breaching may also create unfavorable conditions for juvenile salmonids and other fish in Lake Earl by reducing the amount of available habitat, allowing water temperatures to elevate, and prematurely flushing juveniles into the ocean.

In addition, breaching may cause a significant loss of open water habitat used by diving ducks for foraging and loafing. This is also the principal habitat type used by all waterfowl on Lake Earl and Talawa.

Indirect impacts associated with future development of the Pacific Shores project would substantially impact known habitat of the Oregon silverspot butterfly. The stated purpose of this project, to prevent flooding of wells, could facilitate development of the Pacific Shores project. The estimated cost

to cap and replace existing wells affected by a +10 MSL is projected to be less than $12,000 (Herb Pierce, CDFG, pers. comm. April 24, 1995). As a first step in developing a management plan for Lakes Earl and Talawa, the applicants should secure funds to facilitate these upgrades.

RECOMMENDATIONS AND CONCLUSIONS

As previously stated, the Service believes this ecosystem to be an ARNI; but will not object to permit issuance provided the following recommendations are incorporated as special conditions in the permit:

1. Prior to the application for any future permits, (including the duration of this 2 year period), the applicants will complete a thorough environmental analysis of the Lake Earl/Talawa ecosystem, including ecologically preferred alternatives. Specific studies necessary in developing an ecologically sound management plan include:

   1) Analyzing the extent and depths of the lakes at elevations ranging from 0 to +12 feet MSL;

   2) Determining acreage of permanent and seasonal wetland habitat at lake elevations ranging from 0 to +12 feet MSL;

   3) Documenting the amount of habitat available to, and level of use by, migratory bird species under a full range of lake levels;

   4) Studying the importance of the lagoon system to various life stages of anadromous fish;

   5) Analyzing the effects of breach frequency, magnitude, and seasonal timing, on special status species;

   6) Determining population size and habitat use patterns of the tidewater goby;

   7) Assessing cumulative and indirect impacts associated with artificial breaching; and

   8) Documenting potential frequency and extent of groundwater contamination from surrounding wells at different lake elevations.

2. Upon permit issuance, initiate formal consultation with the Service regarding all federally listed species occurring in the project area prior to beginning breaching activities under this permit.

3. Submit all environmental documents related to the management of Lakes Earl and Talawa to the Service for review and comment.

If you have further questions regarding these comments, please contact Meri Moore (Wetlands Branch) at (916)979-2113 or Bob Pine (Endangered Species Branch) at (916) 979-2739.

Sincerely,

Joel A Medlin

Joel A. Medlin
Field Supervisor
U.S. Department of the Interior Coordinator

EXHIBIT NO. 20
APPLICATION NO. 1-94-49
(page 3 of 3)

STOVER ENGINEERING

PO Box 783 - 207 Price Mall - Crescent City, California 95531 (707) 465-6742 Fax (707) 465-6008
e-mail: stovereng@aol.com

MR BOB SMITH, PERMIT MANAGER
US ARMY CORPS OF ENGINEERS
211 MAIN STREET
SAN FRANCISCO CA 94105-1905

Job Number: 95-012

19 May 1995

RE: Permit Number 20793N36 - Lake Earl Breach Permit

Dear Mr. Smith:

I represent the Pacific Shores California Water District as their District Engineer. I understand the review period has been extended to 27 May 1995. After careful review of the information in the public notice for the proposed breach permit for Lake Earl, we believe a lower lake level for breaching should be considered for an interim breaching permit. We kindly request that a public hearing be conducted and that a lower lake level of four feet be considered for the interim breaching permit.

The Pacific Shores subdivision was approved in 1963 with 27 miles of paved roads constructed shortly thereafter. The Pacific Shores California Water District was established in 1987 to create mechanisms to complete the development to conform with Regional and Federal health regulations. There are 1,140 acres in the subdivision under approximately 1,280 ownerships. The subdivision was designed with a drainage discharge elevation of 4 feet MSL. The economic feasibility of the water district to serve water to the subdivision depends greatly on maximizing the number of parcels that can be served.

The Public Notice identified that "The Corps of Engineers further stated that the private lands to the north of the wildlife area known as Pacific Shores partially flooded along the periphery of the private property when lake levels exceeded 4.0 ft MSL." It further stated that "only small portions of the Pacific Shores private lands are located below the 10.0 ft MSL elevation contour." Drainage hydraulics apparently have not been addressed by the Preliminary Environmental Assessment. Backwater conditions within the Pacific Shores drainage system will be above the proposed 8.0 foot level thus inundating more than "only small portions of the Pacific Shores private lands." In our opinion, breaching the lake above the 4 ft MSL elevation constitutes a taking of land that has been historically drained. Reduction of developable properties due to increased lake levels also reduces the economic feasibility of a public water system.

The surface hydrology must be carefully addressed prior to issuing a permit (interim or permanent) to breach the lake above the 4.0 ft MSL elevation. This elevation could be easily justified due to historical practices as well as constitutional and economic impacts. Studies that are being prepared during the interim period must justify a height above the 4.0 ft MSL elevation.

The public notice also indicates that the public road system "is now degraded and unmaintained by Del Norte County." The recent flooding in January 1995 (which was a two year hydrologic event in Del Norte County) made emergency funds available by the Federal Government to repair and resurface Tell Boulevard within the subdivision. This indicates that some roads are maintained for a beneficial purpose. If flooding occurs again due to a high lake elevation, thus poor drainage, the roads will be damaged again requiring additional funds that may not be available. Intentional flooding, and subsequent damage to County facilities funded by federal, state and local agencies is not a beneficial use of public resources.

It is my understanding that the Del Norte County Board of Supervisors had applied previously for a permit to breach the lake at the 4 ft MSL elevation but the permit was denied. It is evident that the elevations proposed for this permit was a compromise for the County rather than a desire for a higher elevation. We believe the County has been placed in a position to compromise on an issue that degrades the needs and welfare of Del Norte County.

We believe no information was presented to fully justify the 8.0 ft MSL elevation or even the 5.0 ft MSL elevation proposed in the interim permit. The issues raised above indicate that the economics, cultural values, flood hazards, land use, water supply, and considerations of property ownership have not been adequately addressed for the issuance of the interim permit. We strongly request that the elevation of the lake be maintained at its recent historical elevation of 4.0 ft MSL until the studies and concerns that we have raised can be adequately addressed to justify a reasonable alternative.

Thank you in advance for you consideration in the matter. If you should have any questions or concerns raised by the issues addressed above please feel free to contact me.

Very truly yours,

STOVER ENGINEERING

Ward L. Stover, PE
Principal

cc: PSWD Board
Hon. Frank Riggs
Bruce K Scott, US Army
DN Co Board of Supervisers
Ernest Perry, DN County
[redacted], CA Coastal Commission
Banky Curtis, CA Fish & Game

EXHIBIT NO. 21
APPLICATION NO. 1-94-49
(page 2 of 2)

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

TE WILSON, *Governor*

October 10, 1995

Gary Monroe
Department of Fish and Game
619 Second Street
Eureka, CA 95501

Dear Mr. Monroe:

Subject: Request for Certification, Corps of Engineers Public Notice 20793N36, Breaching of Lakes Earl and Talawa, Del Norte County

Your application for certification pursuant to Clean Water Act Section 401 for the breaching of Lakes Earl and Talawa has been reviewed. Also evaluated was the Corps of Engineers Pubic Notice and Environmental Assessment.

The purpose of the proposed project is to prevent flooding of roads and wells as a result of high water levels in Lakes Earl and Talawa. This is an interim action until a long-term lake level management plan and an environmental impact analysis can be developed. Under the proposed plan the lakes would be breached between September 1st and February 15th of each year whenever the water level rises to +8 feet above Mean Sea Level (MSL). Also, if on February 15th the level is +5 feet above MSL the lakes would be breached. Breaching would occur by digging a channel approximately 20 feet wide, 200 feet long and 5 feet deep through the sandbar separating Lake Talawa from the ocean. Closure would occur naturally. The Corps permit would have a 2 year life during which time the Lake Earl Working Group would attempt to formulate a long-term plan to maintain a lake level that will maximize wildlife values and at the same time protect private and public infrastructure from flooding.

The act of breaching and the subsequent lowering of the lakes waters does not appear to create a significant water quality impact. It can be argued that not breaching the lake causes adverse water quality impacts by flooding of wells on private property surrounding the Lake Earl Wildlife area. This impact can be mitigated by properly abandoning the poorly-constructed flood-prone well and obtaining a secure alternative water source, which would most likely be a new well. There is some speculation that high lake levels maintained over a long period of time would cause ground water to flow towards the Smith River and result in groundwater contamination. There is no specific data that supports this scenario at this time. Breaching the lake causes a rapid draining of the lake and subsequent mixing of fresh and salt water in Lake Talawa. This brackish water may affect plant and animal communities that would also occur during a natural breaching event and does not appear to be significant based on current knowledge.

The existing land uses adjacent to the lakes are primarily agricultural with some residential and commercial areas. The developed areas are served by individual on-site sewage treatment and disposal systems, primarily septic tanks and leachfields. High lake levels may impact a small number of these facilities, but, it is our understanding that these systems are all located on land that is at elevation 17 feet or greater. At this elevation on-site systems should continue to function and not degrade ground water quality.

The beneficial uses of the lakes as delineated in the Regional Water Board's Basin Plan includes water contact and non-water contact recreation, commercial and sport fishing, warm freshwater habitat, wildlife habitat, migration of aquatic organisms, estuarine habitat, and the potential for aquaculture. The latter seems a remote possibility considering the area is a designated wildlife area. Lake level changes may adversely impact some beneficial uses and at the same time enhance others. According to Herb Pierce of your Department the timing of the breaching is more important for fish and wildlife values than the changing lake level.

Based on current information we do not believe that breaching the lake as proposed will have a significant water quality impact on ground or surface waters of the Lake Talawa and Lake Earl watersheds. The proposal appears to be in compliance with the Regional Water Board's Basin Plan and we will not act further on your application. The Corps of Engineers may issue their permit without further action by the Regional Water Board.

Please call Bill Rodriguez of my staff at (707) 576-2683 if you have any questions.

Sincerely,

Benjamin D. Kor
Executive Officer

WTR:tab/dfgearl

cc: Jim Muth, California Coastal Commission, 45 Fremont Street, Suite 2000, San Francisco, CA 94105-2219

David Ammerman, Corps of Engineers, P.O. Box 4863, Eureka, CA 95502

Bob Smith, Corps of Engineers, San Francisco

State of California

Memorandum

To : Mr. James J. Muth
Coastal Planner
California Coastal Commission
North Coast Area
45 Fremont, Suite 2000
San Francisco, California 94105-2219

Date : November 13, 1995

From : Department of Fish and Game - Gary Monroe

Subject: Permit Application No. 1-94-49, Breaching Lake Earl

I don't believe I can provide all of the information you requested regarding our Lake Earl breaching plan but I will do the best I can. As you know, this permit application is only intended as an interim measure until the appropriate environmental documentation can be completed to comply with NEPA and CEQA for a longer term lake level management plan. We have no reason to request a breaching permit on the basis of natural resource management. Our sole purpose in becoming an applicant is to assist Del Norte County in preventing the flooding of nine domestic wells (six are abandoned and three are still in use) located above the ten foot elevation (MSL). As far as I know, no other applications for breaching have been made. I am, therefore, assuming that the lake levels will rise above nine feet, if our permit request is denied, and Del Norte County will again ask for an emergency permit as has happened for the past few years. We feel that such breaching late in the winter has the potential to impact natural resources more than an earlier breaching at eight feet.

I have prepared responses to the additional questions you have asked. I realize that these responses may not provide all of the information you need, but its the best we can do under the circumstances.

1. Vegetative Changes

You have asked that we be more specific as to vegetative changes resulting from higher water levels in Lake Earl. You have suggested the Department of Fish and Game (DFG) should be able to predict these changes solely on the basis of lake surface elevation. Unfortunately, the situation is not so simple. A variety of factors other than water levels including salinities, soils and the timing of breaching influences vegetative response. As an example, in 1992 the lakes were breached on February 27th when the surface elevation was at 9.8 feet. Surface elevations fell below 2.0 feet and the breach remained open for several weeks. Spring precipitation was below normal so very little fresh water entered the lakes after breaching. Incoming salt water during periods of high tide gradually raised salinities. water samples taken at several locations along the lake shore in September indicated salinity levels of from 8.5 to 18.0 parts per thousand. These high salinities caused high mortality in both submergent and emergent aquatic vegetation. Livestock which depended on lake water for drinking had to be removed from the Lake Earl Wildlife Area (LEWA) until fall rains began to replenish the lakes with fresh water. During this same period

on the Lake Earl Wildlife Area since the pastures included in DFG grazing leases are above the 10 foot contour and the time of grazing will be during the summer and fall when water levels are below 10 feet.

When water surface elevation exceeds 9 feet flooding of sections on Kellogg Road and Lower Lake Road will occur. This flooding will increase as water levels increase. At about 10 feet lake water will inundate several wells which could result in some contamination of ground water. Contamination could be prevented, however, if the wells were capped or otherwise sealed to prevent leakage from the wells to the aquifer.

We would expect that lake levels would not get much higher than 9 to 10 feet since Del Norte County would request an emergency permit to breach for the purpose of protecting public health and safety. Based on past experience the necessary permits would be granted.

2. Breaching at Lower Water Surface Elevations

Breaching of lower levels, for example 4 feet MSL would result in a reduction of lake surface area of about 1000+ acres annually flooded, as compared to breaching at 8 feet. If breached whenever the lakes rise to 4 feet, the maximum size of the water surface area would be about 2500 acres at most. In comparison, breaching at the 8 foot level would result in over 3000 acres of shallow water wetlands for at least several months each year. Spring breaching at the 4 foot elevation could result in very low water levels in the summer would increase water temperatures and reduce dissolved oxygen. These conditions would have adverse impacts on fish life, particularly trout and salmon. If salinities are high during the low water period aquatic vegetation would also be adversely impacted.

The average annual water levels would be held consistently low. Seasonal flooding of between 500 and 1000 acres would no longer occur, resulting in a loss of productivity for water associated birds and mammals. A reduction in lake levels could also lower water tables sufficiently to adversely impact other wetlands near the lakes.

Livestock grazing on DFG lands would not be impacted since grazing is confined to specific pastures above the 10 foot contour. Breaching at the 4 foot level would impact grazing potential on an estimated 42 acres of private land lying below the 10 foot contour. Although, total AUMs might not change significantly, the time period in which livestock could be grazed would be increased by breaching at lower levels.

County roads would not be flooded by rising lake levels if the lakes were breached at 4 feet in normal years. The flooding of domestic wells would not occur since they are all located above the 9 foot contour.

Impacts of breaching at lower levels on the endangered tidewater goby are not known. However, this species has survived under past practices which would indicate that they are capable of tolerating

water temperatures measured at the narrows rose to 75 degrees (at higher lake levels water temperature at the narrows averages about 68.0 degrees). Salinity and high water temperatures will have more impacts on animal and plant life than higher average water levels.

Because of the many variables which come into play, in addition to lake surface elevation, we cannot be much more specific than we have, in terms of vegetative changes resulting from any manipulation of lake levels. It is reasonable to assume, as you suggested, that the distribution and extent of wetlands that surround the lakes will change over time if these levels are maintained at from 1.5 to 3.0 feet higher than average past levels. The extent of wetlands, however, would not change significantly since the lands below the 10 foot contour are already wetlands by definition. They exhibit wetland soil characteristics, support wetland plant species and are periodically flooded or highly saturated with water even under past breaching patterns.

You are also correct in assuming that the greatest change in vegetative growth would occur in the relatively flat areas. The change would be primarily in the increase of emergent wetland species such as slough sledge (Carex obnupta), rushes (Juncus sp.), spike rush (Eleocharis sp.), and reed canary grass (Phalaris arundinacea). This change will be subtle and will occur over a long period of time if higher lake levels are maintained. Drastic changes in vegetation are not expected since the lakes will still be drained annually and for a varying of time water levels will be less than 2 feet (MSL).

2. Livestock Grazing

Longer periods of shoreline inundation will reduce the annual time periods in which livestock grazing is possible, at least below the 8 foot elevation. This does not necessarily mean that Animal Unit Months (AUM's) will be reduced because of higher average water levels. Livestock grazing on State Wildlife Areas is a tool used in managing habitat for the benefit of some wildlife species. The allowable grazing levels and the timing of grazing will be determined by wildlife needs, not by lake levels. The primary reason for grazing on the Lake Earl Wildlife Area is to maintain short grass feeding habitat for the Aleutian Canada goose on specific pastures suitable for this purpose during the late winter and spring months when the geese are present in large numbers. We are currently working on a grazing plan with the U.S. Fish and Wildlife Service and the University of California Extension Service to achieve the desired objectives. Until this plan is developed we will not know precisely what the AUM's will be or the time periods in which grazing will be permitted.

3. Agricultural Lands in Private Ownership

The Assessor's Parcel Numbers of private lands zoned for agricultural use below the 10 foot contour are as follows:

APN 105-030-009	APN 105-030-015
APN 105-303-010	APN 105-030-048
APN 105-030-011	APN 105-030-055

4. Shoreline Trees

The allegation by Mr. Resch that average higher lake levels have killed 991 to 1,497 trees around Lake Earl is unsubstantiated. The most common trees found along the lake shore are willow (Salix sp.), red alder (Alnus rubra) and Sitka spruce (Picea sitchensis). These species commonly grow in marshy areas where standing water is present for relatively long periods of time. Munz (a California Flora and Supplement, 1968) describes Sitka spruce as commonly found in moist or swampy places. On the Lake Earl Wildlife Area and other areas along the north coast a common habitat type is classed as an alder swamp. These alder swamps occur in areas where standing water is present for most of the rainy season. The dominate tree species in such habitat are alders, willows and Sitka spruce. We have detected no significant mortality of these species on the wildlife area.

A more likely cause for any recent mortality in trees along the lakeshore is salinity levels, not periodic inundation. In 1992 the lakes were breached on February 12th by Del Norte County. A dry spring followed and very little fresh water flowed into the lakes subsequent to the breaching. The breach remained open for several months allowing the entry of seawater at each high tide. By September the resulting decrease in freshwater inflow and the increase of tidal inflow increased water salinities significantly. Water samples taken on September 21, 1992, indicated salinity levels at the narrows to be 18 ppt and from 8.5 to 9 ppt along the east side of Lake Earl. Similar conditions occurred in 1993. A copy of the water quality tests which were conducted by DFG on October 21st and 22nd, 1993 is attached.

Shoreline tree species, particularly alder and spruce, are highly susceptible to mortality from increases in salinity. Several thousand young alders planted by DFG on the Fay Slough Wildlife Area in Humboldt County died as a result of salt water intrusion from a faulty tidegate in 1991.

Conditions causing an increase in salinity in Lake Earl could occur at any time, regardless of the water level, if the breach does not close and freshwater inflow is low.

The presence of dead trees along the lake shore is beneficial to many wildlife species. Dead trees, or snags, provide both perching and nesting habitat for a variety of raptors and wading birds (egrets and herons). Dead trees also provide nesting habitat for cavity nesting birds including wood ducks, hooded mergansers and several species of woodpeckers. These snags are a very important component of any forest of riparian ecosystem in terms of both species diversity and numbers.

Lake Earl has always had numerous dead trees along the shoreline. Many of these trees have been dead for many years. Mr. Resch, unfortunately, has not specified how long the trees he described have been dead. I suspect many of them have been dead for a long time.

5. Aleutian Canada Goose

The best explanation we can give for the reduction of Aleutian Canada geese use on the wildlife area is simply that higher quality forage is available to them on nearby private lands that have better soils. In

addition, the population of geese (over 20,000) has surpassed the capability of the wildlife area to support them.

The U.S. Fish and Wildlife Service was contacted in 1991 regarding DFG application to breach the lakes. In their response they indicated that the breaching would not result in adverse impacts to the geese and that no formal consultation would be required (see attached letter).

The DFG is currently working on a management plan, in cooperation with the U.S. Fish and Wildlife Service and the California Department of Parks and Recreation, to manage and improve goose foraging habitat on suitable state owned lands in the Lake Earl area.

6. Snowy Plovers and Oregon Silverspot Butterflies

Snowy plover nesting habitat is located along the ocean beach above the high tide line in typically unvegetated sand dunes. Suitable habitat of this type extends south from the mouth of the Smith River to near Point Saint George. Pacific Shores Subdivision owns land between Kellogg Road and Lake Talawa that contains such habitat. It is reasonable to assume that this property is capable of providing opportunities for snowy plover nesting. No recent surveys have been conducted to locate nests in this area, however.

Information on the location of Oregon Silverspot Butterfly habitat was provided by the U.S. Fish and Wildlife Service. A copy of their correspondence to our Department, including maps, is attached. The DFG has not asked for or received permission to enter Pacific Shores property, however, the area is easily accessed by numerous public roads.

7. Tidewater Goby

In response to this proposal to breach the lakes, the U.S. Fish and Wildlife Service identified potential adverse impacts to the tidewater goby (see attached letter). They also stated that they would not object to this interim two year plan under the conditions specified as follows:

A. Prior to the application for any future permits, including the duration of this two year period, the applicants will complete a thorough environmental analysis of the Lake Earl/Talawa ecosystem, including ecologically preferred alternatives. Specific studies necessary in developing an ecologically sound management plan include:

1) Analyzing the extent and depths of the lakes at elevations ranging from 0 to +12 feet MSL;

2) Determining acreage of permanent and seasonal wetland habitat at lake elevations ranging from 0 to +12 feet MSL;

3) Documenting the amount of habitat available to, and level of use by, migratory bird species under full range of lake levels;

4) Studying the importance of the lagoon system to various life stages of anadromous fish;

5) Analyzing the effects of breach frequency, magnitude, and seasonal timing, on special status species;

6) Determining population size and habitat use patterns of the tidewater goby;

7) Assessing cumulative and indirect impacts associated with artificial breaching; and

8) Documenting potential frequency and extent of groundwater contamination from surrounding wells at different lake elevations.

B. Upon permit issuance, initiate formal consultation with the Service regarding all federally listed species occurring in the project area prior to beginning breaching activities under this permit.

C. Submit all environmental documents related to the management of Lakes Earl and Talawa to the Service for review and comment.

8. Water Quality Certificate of Compliance

A copy of the certification from the North Coast Region of the State Water Quality Control Board is attached.

9. Old Dump

An abandoned dump site is located in the dunes just south of Kellogg Road adjacent to Talawa Slough. It is well above the 10 foot contour as shown on the U.S.G.S quad map. We have no knowledge of the leaching of any toxic materials into Lake Earl. Such leaching could occur, however, whether the lake surface elevation is at 1 foot or 10 feet, since the sub-surface water flow is from north to south according to the Department of Water Resources.

10. Two Winter Breachings for Anadromous Fish

Our fisheries biologists see no reason why breaching twice each winter is necessary for anadramous fish. Anadromous fish runs existed in the north coast lagoons long before the arrival of man. Under natural conditions passage of fish in or out of the lagoon occurred whenever the barrier dune was breached. If breaching did not occur when young fish were moving to the sea they simply stayed in the lagoon until passage was possible. This condition still exists in Big Lagoon and Stone Lagoon where artificial breaching is not permitted. Anadromous fish are doing quite well in these lagoons without interferance from man in the natural breaching process.

11. U.S Fish and Wildlife Service Comments

I believe that the more recent letter from the U.S. Fish and Wildlife Service, May 16, 1995, concerning our proposed interim breaching plan represents their present position. A copy is attached. In this letter

they made three recommendations that should be implemented before any long term lake level management program is approved. We agree with their comments and recommendations.

Dr. Lauck's letter of February 7, 1992, is in response to the 1991 Fish and Wildlife Service comments. I have no information regarding any comments that Dr. Lauck has prepared on their more recent letter.

My response to Dr. Lauck's 1992 comments are as follows:

1. Dr. Lauck takes issue with the statement that the lakes would be reduced in size from 3,700 acres to 2,500 acres if breaching at, I assume, the 4 foot elevation was permitted. It should be obvious that the lakes cover substantially more surface area at higher levels than lower levels. Under natural conditions these higher levels would occur annually. Therefore, any artificial breaching would result in a reduction of water surface acreage as compared to natural processes.

Dr. Lauck also discusses a number of situations which might come about as a result of hydrological conditions. I don't believe his education or experience would qualify him as an expert on the subject. As a wildlife biologist, I certainly am not qualified to comment on hydrological issues or Dr. Lauck's personal opinions of them.

2. Dr. Lauck has also disagreed with the Fish and Wildlife Service in their statement that lower water levels would reduce the quality of habitat for diving ducks. He refers to natural breaching as being catastrophic. It is difficult to understand his reasoning in using the term catastrophic since natural breaching has been taking place for at least several thousand years here, and at other north coast lagoons, before mans more recent interference. The fish and wildlife species in and around the lakes did quite well without our intervention. The fact of the matter is that when the lakes are breached at 4 feet or 10 feet the same thing happens. Water levels drop within 48 hours to 2 feet or less. The channel width and depth of the breach is the same in either case. The time it takes for natural closing to occur is dependent on tides, near shore ocean currents and the volume of water flowing into the lakes.

In terms of habitat quality, for diving ducks, the most important issue is food production. Two aquatic plants, sago pondweed (Potamogeton sp.) and ditch grass (Ruppia maritima) are the most important food plants in Lake Earl for most diving ducks, particularly canvasbacks. The growth of these species is dependent on water depth, light penetration and water quality. Since the lakes are very shallow, even at the 8 to 10 foot surface elevation, water depths are highly suitable for these species, and water clarity is usually good. These conditions normally result in prolific growth for both species. Therefore, the greater area that is flooded for longer periods of time the greater the production of the plants. The one major limiting factor in aquatic plant growth is water quality, in this case salinity. Sago pondweed, for example, will do well in water with salinities up to 7 to 8 parts per thousand. Higher salinities can cause significant adverse impacts as did occur in the early 1970s, when breaching was permitted at the 4 foot elevation, and in 1992, breaching at 9.8 feet. As clearly illustrated by these examples, salinity levels are more a function of rainfall, tides and other physical processes than surface water elevation at the time of

breaching.

Dr. Lauck's assumption that controlled breaching will give reasonable depth for diving ducks does not consider either the food habits of waterfowl or water quality parameters. Given that salinity does not exceed 7 to 8 parts per thousand, the larger the lakes and the longer the time of inundation the greater the benefits to the diving ducks and other waterfowl.

3. Dr. Lauck's contention that higher water levels during the summer killed much of the emergent vegetation is not based on fact. As previously stated salinity is a more important factor in influencing either submergent or emergent plant growth. Emergent aquatic plants, such as bulrush (Slirpus acutus) and cattail (Typha latifolia), which are the most dominant aquatic emergents at Lake Earl grow best in perennial standing water at depths of up to several feet. About the only way to control bulrush and cattails when they become too thick is to dry them out.

4. His contention that the distance between waterfowl nests and the lakes would increase predation if the lakes were maintained at higher levels is incorrect. Ducks normally nest on upland sites up to 1 miles from the water, regardless of what the water level may be. The level of predation will not increase.

5. I'm not sure that I understand Dr. Lauck's statement that "the reduced volume and depth of the water would reduce the amount of habitat available to juvenile salmoids rearing in Lake Earl and Talawa and would likely create unfavorable conditions for them." The purpose of the proposed interim breaching plan is to maintain the lakes at higher elevations, particularly during the summer. Water temperatures, dissolved oxygen and other water quality factors which influence salmonid habitat would be improved by maintaining higher lake levels and volume.

6. The breaching of the lakes, in itself, is not an action that would adversely impact sago pondweed. An examination of the past history of breaching will show that in most cases, whether breached at 4 feet or 9 feet, the lake levels will drop to 2 feet or less. The most significant factor influencing sago pondweed growth is salinity. If salinity rises above 7 to 8 parts per thousand damage to pondweed will probably result. Salinities are not a function of the breaching but rather a result of how long the breach stays open, the time of year it is open and the amount of fresh water draining into the lakes.

7. It is difficult for me to understand why our proposed interim breaching plan could pose a severe threat to the tidewater goby (Eucyclogobius newberryi). As compared to breaching at the 4 foot lake level, as desired by Dr. Lauck, our proposal has much less potential for causing adverse affects to this species. The tidewater goby developed genetically over many thousands of years to occupy a particular habitat niche in the transition zones of coastal streams and estuaries between seawater and freshwater. They occupied these habitats long before the arrival of either aboriginal or European settlers. Their development in Lake Earl occurred during a time when only natural breaching caused a lowering lake level and an interchange of fresh and saltwater. This breaching probably came about when lake surface elevations rose above

12 to 13 feet msl, as Dr. Lauck suggests in his earlier comments. If they developed and thrived under these conditions for so many thousands of years why would they be more adversely affected by breaching at 8 feet rather than 4 feet?

Dr. Lauck indicates that the salinity of the lakes is 7% for Lake Talawa and 3% for Lake Earl. This is an oversimplication of an ecological system that is much more complex. Salinities vary significantly according to conditions. As previously stated the time of breaching, the length of time the breach stays open and the amount of freshwater inflow are the primary factors influencing salinity. The salt level fluctuates widely dependent on these factors.

DFG has not conducted any population surveys of the goby in Lake Earl either before, during or after breaching in 1991. However, one of the purposes of this interim breaching permit is to give us time to develop the necessary information on all the lakes natural resources to meet NEPA and CEQA requirements before any long term lake level management program is initiated.

8. It is suggested by Dr. Lauck that two category 2 (Federal listing) plants, Thurber's reedgrass (Calamagrostis ,crassiglumis) and valley sagittaria (Sagittaria sanfordii), and two category 1 plants, Wolf's evening primrose (Oenothera wolfii) and sand dune phacelia (Phacelia argentea) might be affected by our breaching proposal. As Dr. Lauck admits there is little chance that Thurbers reedgrass or valley sagittaria would be impacted since artificial breaching has been going on for supposedly 75 years. To our knowledge, these species do not grow in any areas that would be flooded for long periods of time if the lake is allowed to rise to 8 feet MSL. Wolf's evening primrose and sand dune phacelia are found only in dune habitat well above the 8 foot contour and would therefore not be impacted by higher average lake levels. .

9. A map previously submitted to you illustrates the primary habitat for the Oregon silverspot butterfly (Speyeria zerene hippolyta) as described by the U.S. Fish and Wildlife Service. Flooding up to the 9 to 10 foot elevation would not encroach on the identified habitat of this species.

12. Management for a Particular Endangered Species versus a Whole Ecological System

We agree with your thought that it is best to manage the lakes as one ecological system. However, we are mandated to protect and manage for endangered species and their habitat. In the case of Lake Earl we are managing the area to provide the widest range of habitat for the greatest variety of native species, both plant and animal. For example, approximately 300 acres of pasture will be seasonally grazed by livestock to provide short grass feeding habitat for Aleutian Canada geese. Other pastures and grasslands will not be grazed to ensure suitable habitat for other species which prefer tall grass. It is our intent to allow natural successional processes to restore coastal forest and upland sites. In some cases, where mans activities have adversely impacted native species, we may give nature a hand by accelerating restoration. To illustrate, we have fenced riparian areas and planted willows, and alders. If possible, at some time in the future, we hope to initiate a program to control European beach grass and restore native dune vegetation. In terms of lake water level management, we would

prefer to allow the system to function naturally. However, other considerations such as public health and safety may make this alternative infeasible.

It is my position, and, I believe DFG's position that species preservation and management can best be accomplished through the preservation of functioning ecosystems. In this case, our purposed breaching plan seems the best alternative, at least for the short term. Over time, public acquisitions, flooding easements or other methods may eventually allow the system to function in a more natural mode.

13. Alternative Analysis

Following are brief discussions of various alternatives that have been considered:

1. No Project

Although, we don't have much information on the natural breaching process)because breaching has been accomplished by mechanical means for many years) we can make some reasonable assumptions. If not breached by man the lakes would continue to rise during the rainy season until the surface elevation reached 12 or more feet. At some point above 12 feet, when tides and heavy surf were right, the breach would occur naturally. The lake surface elevation would fall to less than 2 feet and remain low until tides, current and sand transport closed the breach. Once the breach closes, lake waters would again rise as long as the volume of run-off water, entering the lake exceeds the evaporation rate. Under this system inundated wetlands would expand from about 2,000+ acres to 4,000+ acres during much of the winter. Summer water levels would be higher (probably 4 to 6 feet MSL) than they have been in the past when the lakes were breached at 4 feet. The average water levels would be higher throughout most of the year.

The highest water levels would occur between November and February, the period when large numbers of migratory waterfowl and other water associated birds are present. This breaching would also allow for the passage of anadramous fish, both adult spawners and juvenile migrants.

If the breach closes before the end of late winter and spring rains the lakes would probably begin to fill again with run-off water. Depending on the amount of rain, the lakes could be expected to reach the 4 to 6 foot water surface elevation and remain static through the summer.

During the summer the dissolved oxygen levels and water temperatures should remain suitable for anadramous fish. The production of sago pondweed and ditch grass should be good since salinity would be less than 7-8 parts per thousand throughout Lake Earl. The increased summer water levels would increase both the production and survival of nesting waterfowl.

The higher water levels for longer periods of time would reduce livestock grazing AUMs on approximately 40 acres of private land currently used for this purpose. No reduction in AUMs would occur

periodic breaching either naturally at higher levels or mechanically at lower levels.

3. Two Year Interim Breaching as Proposed by Del Norte County and DFG.

Although, this plan does not resolve all of the lake level management issues raised by various agencies, landowners and the public, it does provide for the prevention of road and well flooding over the short term while still providing an increase in wetland size and quality. During this interim period the necessary information can hopefully be developed to meet CEQA an NEPA requirements for a long term management plan.

Allowing the lakes to rise up to 8 feet between September 1 and February 15 will increase the total lake surface area by over 1000 acres during the fall and early winter months when thousands of waterfowl and other water-associated birds are present. Both habitat quality and quantity for these migrant species will be improved. Breaching would probably occur in December or January under normal rainfall patterns. Although, lake levels would drop to less than 2 feet, rainwater run-off would be sufficient to maintain water quality and reduce salinities. Once the breach closes the lakes would again begin to rise. By ensuring that breaching does not occur after February 15 the lakes should be higher during the spring and summer months. The breaching between September and February would allow for both upstream and downstream passage of salmonids. Both water temperature and dissolved oxygen would be improved for these fish. Higher water between April and September would provide better habitat for resident waterfowl and other locally nesting water associated birds. The production of submergent aquatic plants would be increased, providing a commensurate increase in the area's capability to support waterfowl.

We feel that this alternative is the best of our options, in terms of improving conditions for fish and wildlife at Lake Earl while, at the same time, protecting public roads and domestic wells from flooding. This is, of course, only a temporary measure. By the end of the 2 year span of the proposed temporary permit we should have the information necessary to produce a more comprehensive plan for long term management of lake levels and documentation of all impacts as required by CEQA and NEPA.

Sincerely,

Gary Monroe
Associate Wildlife Biologist

DEPARTMENT OF FISH AND GAME
619 SECOND STREET
EUREKA, CA 95501
(707) 445-6493

July 1, 1996

Mr. James J. Muth
California Coastal Commission
North Coast Area
45 Fremont, Suite 2000
San Francisco, California 94105-2219

Dear Mr. Muth:

Thank you for the work you have done to coordinate between the Lake Earl Working Group (LEWG), the Army Corps of Engineers (Army) Permit and the Coastal Commission (CC) requirements for obtaining a Coastal Development Permit (CDP). Enclosed is information you requested to further process the Lake Earl Working Group's request for a CDP to breach the sand berm between Lake Earl and the Pacific Ocean.

The Department of Fish and Game (DFG) and Del Norte County (DN) signed the CDP application for the breaching of the sand berm at Lake Earl as representative agencies of the LEWG, not as independent agencies. The LEWG is composed of state, county and federal agencies with ownership, management, trustee, or permit authority over Lake Earl. The information you have requested will be prepared by the LEWG. We think it is important for CC to know that the permit is being requested not by DFG or DN, but by the LEWG. The CC should be aware that CC staff is an integral part of the LEWG and has had, and will continue to have, direct input into the LEWG's decisions and actions.

The LEWG is requesting that you file permit application No. 1-94-49 as complete, and would like to have the permit request heard at the September 1996 meeting of the CC in Eureka. This will give local people the opportunity to attend the meeting. The LEWG is agreeable to limiting the issue presented to the CC as a choice between breaching the berm under a continuing series of emergency permits or breaching as proposed in permit (No. 1-94-49).

The CC and the Army have asked DFG to convene regular meetings of the LEWG. DFG intends to do so. Meetings will be scheduled as work assignments within the group are completed and input of all of the members is needed. The 14 agencies and two legislative offices involved will be asked to convene when it is necessary to advance the work of the LEWG. We do not intend to schedule meetings on a routine calendar schedule because the

costs of travel make it impractical to meet without having specific work activities to complete.

The LEWG is providing the information required under the special conditions of Army Permit No. 20793N36, issued for breaching the sand berm. The information requested in that permit is part of the information you also requested. A copy of the Army Permit is enclosed as Exhibit A. The Army Permit allows the LEWG until December 31, 1997 to complete the monitoring required to obtain the requested information. We believe the Army required monitoring will also meet CC requirements. A substantial amount of the information the Army requested has been completed.

An analysis, or determination, of the extent and depths of Lake Earl at elevations ranging from 0.0-12.0 feet, msl. was requested by the Army. The Department of Water Resources (DWR) has completed a map of the lake showing the water surface extent for elevations ranging from 0.0 feet to 10.0 feet in elevation. The Army has said it will accept the DWR mapping as meeting the requirements of the permit. The acreage of the lake water surface and the length of wetted shoreline at various elevations can also be determined from the DWR map which is included as Exhibit B. A table of the acreage and length of shore line for various elevations is shown as Exhibit C. A census of water associated birds at Lake Earl (Monroe et al, *Natural Resources of Lake Earl and the Smith River Delta, 1975*) generally answers the question about migratory bird use of Lake Earl and is included as Exhibit D.

The importance of the Lake Earl coastal lagoon system to various stages of anadromous fish can be extrapolated from the literature available on the importance of coastal lagoon systems. DFG, the U.S. Fish and Wildlife Service (FWS), and the National Marine Service will coordinate to provide the LEWG with the requested information to forward to you and the Army. These three agencies will also analyze the effects of breaching frequency, magnitude and seasonal timing on special status species including listed threatened and endangered species.

The DFG has evaluated the Army request to determine the population size and habitat use patterns of the tidewater goby. It found, after considerable review, that the population of the tidewater goby in Lake Earl cannot be feasibly ascertained with existing resources. Generally, except in very small and/or simple ecological systems, precise populations of organisms cannot be determined. Lake Earl is neither small nor simple. Rather than attempt to address the population size, the LEWG will address the affects of opening the lagoon to the ocean on the population. DFG will begin investigations to address the possible flushing of the tidewater gobies to the ocean as a result of artificially breaching the sand barrier between the lake and the ocean.

The Del Norte Department of Health and Social Services (DNDHSS) has documented the potential frequency and extent of groundwater contamination from surrounding wells. It says that there is no foreseeable adverse public health effect of low lake levels. Lake water levels allowed to reach an elevation between 9.5 and 10.0 overtopped a shallow stock well in the winter of 1991-92, and contaminated the aquifer. That well was capped and sealed but 26 other wells are known to occur below the 12 foot elevation. It is expected that the overtopping of those wells would also contaminate the aquifer. DNDHSS also says that conventional septic systems should not be installed lower than 7.5 feet above the maximum lake level because of the nature of the water table relative to the lake. Septic systems should meet Regional Water Quality Control Board policy as expressed in its basin plan. Compliance with these requirement is impossible until the maximum lake level is determined. A copy of the DNDHSS letter to DFG documenting its concerns is included as Exhibit E.

Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the proposed project when added to other, closely related projects. In this subject case, the proposed project is the issuance of an interim permit to allow the breaching of the sand barrier between Lake Earl and the Pacific Ocean, subject to a prescribed regimen. The regimen prescribed mitigates the impact of the breaching and permits the lakes to seek their collective level after the breaching period. This permit also allows the gathering of information to assist in the consideration of any future requests to breach. Such information could further dictate when and how any breaching would take place and under what circumstances.

The Pacific Shores Water District (PSWD) is developing an application and a Draft Environmental Impact Report (DEIR) to address development at Pacific Shores. It is anticipated that PSWD will make some proposal in its application and DEIR to address flooding by Lake Earl. However, the DEIR is not available and it is anticipated that the PSWD will seek some method to permanently address flooding through stabilization of the lakes or mitigation by engineered design of each homesite. The proposal of the PSWD does not have the same objectives as the project contained in this application. There are no other closely related projects currently or reasonably foreseeable in the future.

A continuing series of emergency permits is advantageous to neither the property owners nor the fish and wildlife resources. Generally, under the emergency permit scenario, the lagoon (Lake Earl) is allowed to rise until a local problem with the water level exists. Sometimes the water rises above the level of serious concern to property owners because equipment cannot be quickly deployed to relieve the problem once an "emergency" is

proclaimed. Declaration of an "emergency" must wait until the problem is already so severe as to require immediate action. At these "emergency" levels, high water may already be affecting people.

The problem high water levels may occur late in the winter or early spring at a time after which little rain will fall. When the sand barrier is breached to relieve the "emergency" and the reseals, there is usually not enough water runoff from adjacent land entering the lagoon to benefit fish and wildlife. The water level in the lagoon may then remain so low, 1.5 to 2.0 feet, for the following eight to nine months that the loss of habitat and poor condition of the remaining habitat is significantly deleterious to fish and wildlife.

Losses in water volume and surface area reduce the total habitat for fish and aquatic wildlife. This may be particularly true for anadromous fish which partially mature within the lagoon system before venturing to sea. The water volume and surface area decrease by about 50% when the water falls from eight feet in elevation to two feet. This change means a loss of habitat to some species and reduction of water quality for these and other species. Similar loss occurs in the natural ecological system, but the timing and periodicity is different. It is not the rapid reduction of water in the lagoon that is a problem for fish and wildlife, but the timing and periodicity of artificial breaching occurrences. In a natural ecosystem, the lagoon would not remain at such low levels for extended periods as it has for the last several years. Even in those years when the sand berm was being regularly breached, but not under the emergency permit concept, it did not remain so disastrously low for such long periods as it has in recent years.

Concerns have been expressed that the barrier needs to be breached more often to allow salmon to migrate to the sea. That is not biologically correct. It must be remembered that anadromous fish in this system evolved with the naturally occurring breaching which would have been less often than the artificial breaching. Breaching the sand bar when the water level is higher comes closer to mimicking the natural system than breaching it often at lower water elevations and keeping it low. In other northern California coastal lagoons such as Big and Stone lagoons, and virtually every other coastal lagoon with ecological systems essentially the same as that of Lake Earl, artificial breaching is not allowed. The ecology of those lagoons which are allowed to remain natural continue to function at a high level. It should be expected that Lake Earl would function at its highest biological levels with natural breaching. There is no biological need to open it more often.

It has also been suggested that Lake Earl must be open to the ocean in the spring to allow emigration of salmonid smolts. In fact, salmonids may remain in the lagoon for an extended period without ill effects. Delayed emigration is a natural

situation in coastal lagoons. On one July survey of Lake Earl 14 coho salmon ranging in size from 4.5 to 12.5 inches (and averaging 8.0 inches) were found to be in good condition although these fish had not yet migrated to the ocean. Coho normally emigrate to the ocean at one year of age when about 5-6 inches long. The lagoon with its brackish environment and plentiful food organisms can function similarly to the ocean for salmonids. The need to emigrate to the ocean is substantially less important for fish in this type of a system than in a system without a large estuarine lagoon.

Lake Earl is particularly important to waterfowl. Waterfowl forage on plants in the lake which compete best in very low levels of salt intrusion and cool water. When the lake water remains low for long periods, both the salinity and water temperature rise and remain substantially elevated above the level advantageous to waterfowl forage plants. In recent years extremely low water levels remaining in the lake for numerous months have had serious detrimental effects on vegetation.

The wildlife, as the fish, associated with Lake Earl have evolved along with the lagoon system over the millennia and are adapted to the natural breaching conditions. The most advantageous breaching program for fish and wildlife would be to allow the lagoon to fill until it breaches naturally. Existing development completed in the flood plain during those years when the water level in the lagoon was kept artificially low makes natural breaching now politically infeasible.

The breaching program for which a CDP is being requested is one that the various agencies of the LEWG have agreed is acceptable to each, at least for the interim period. The LEWG would be happy to discuss the permit further with you should you have any questions about our response to your request for information. As DFG has compiled the information prepared by the various agencies of the LEWG, we will act as liaison. My telephone number is (707) 441-5790.

Sincerely,

Herbert J. Pierce
Assoc. Wildlife Biologist

cc: Mr. Ernest Perry
Del Norte County Community Development Department
700 5th Street
Crescent City, California 95531

EXHIBIT C

SURFACE WATER ACREAGE and WETTED SHORELINE
of
LAKE EARL
at
VARIOUS WATER SURFACE ELEVATIONS

The following water surface acreages do not include islands within the lake that occur at the designated water level. The wetted shoreline includes the shoreline of islands that occur at the designated water level.

Water Elevation (in Feet)	Water Surface (in Acres)	Wetted Shoreline (in Miles)
2	2,191	19.06
4	2,828	27.82
6	3,573	40.94
8	4,134	51.57
10	4,826	57.78

Essentially the lowest the water falls when the lagoon ("lake") is open to the sea is two feet. The surface area of the lake at two feet is 2,191 acres. This area would have to be considered permanent wetland as the water remains on it essentially at all times. The area above that would have to be considered seasonal wetland. Even under natural conditions this area would ultimately drain at times when the lagoon opens to the sea naturally. The acreage of the lagoon between two feet and ten feet in elevation is 2,635. Using this rationale, there is 2,191 acres of permanent wetland and 2,635 acres of seasonal wetland within the outer limits of Lake Earl at the ten foot elevation.

The surface water area of the lake at ten feet better than doubles from the surface water area at 2 feet, while the wetted lake shore triples in length. It should be pointed out that the impacts of lowered water levels on the lake affects both the permanent and seasonal wetlands of Lake Earl.

APPENDIX E - Water-associated Bird Census, Lake Earl
Average Monthly Populations 1970-71-72-73

Species	Jan. Avg.	(Peak)	Feb. Avg.	(Peak)	Mar. Avg.	(Peak)	Apr. Avg.	(Peak)	May Avg. (1972)	June Avg.	(Peak)	July Avg.	(Peak)	Aug. Avg. (1972)	Sept. Avg.	(Peak)	Oct. Avg.	(Peak)	Nov. Avg.	(Peak)	Dec. Avg. (1972)	Avg. Annual Bird Days Use
Swans	75	172	54	152	0		0		0	0		0		0	0		0		14	28	75	
Mallard	76	229	144	210	28	37	22	34	14	6	(10)	36	(64)	146	165	250	198	287	365	605	487	
Pintail	865	(1,330)	337	500	207	579	21	42	3	1	1	0		182	505	931	1,594	(1,708)	275	500	1,610	
Gadwall	173	230	162	332	19	50	175	(250)	0	10	(20)	13	(26)	1	23	30	0		6	10	50	
Green-winged Teal	28	85	6	10	0		8	17	0	0		0		0	45	80	161	316	160	200	160	
Cinnamon Teal	18	55	7	20	5	10	7	8	2	1	2	0		0	0		0		50	100	0	
Mallard	267	550	450	(2,042)	12	35	28	50	12	4	9	0		0	466	742	2,769	(3,920)	2,387	(4,415)	12,192	
Shoveller	3	10	16	45	0		0		10	0		1	2	0	0		0		96	192	0	
Pintail	19	30	36	89	2	6	0		0	0		4	8	0	0		0		107	124	0	
Canvasback	1,087	(3,100)	429	880	44	125	21	35	61	0		0		20	0		0		1,427	(1,930)	2,758	
Scaup	354	825	52	120	27	40	64	(128)	236	4	9	19	(38)	80	84	165	5	10	693	(2,152)	806	
Bufflehead	101	334	371	555	96	110	219	(407)	4	0		0		0	0		1	2	220	272	86	
Ruddy	1,816	(3,977	1,102	(2,460)	648	(1,104)	30	40	83	2	3	0		3	0		500	901	2,366	(2,848)	7,770	
Hooter	10	30	87	236	0		90	(180)	240	30	(61)	0		0	0		0		32	65	30	
Merganser	44	52	0		0		0		0	0		0		30	50	100	0		0		0	
Unidentified	1		0		0		0		47	0		0		0	0		0		0		0	
WATERFOWL TOTAL	6,036		3,253		1,088		685		712	58		73		557	1,338		5,228		8,184		29,124	1,744,922
Godwit	0		0		8	8	0		0	0		0		0	30	30	12	12	10	10	0	
Willet	0		0		0		0		0	0		0		10	0		0		0		0	
Other shorebirds	28	28	390	(1,020)	50	50	300	(300)	1,744	53	(53)	23	(40)	78	840	(1,350)	416	602	0		100	
SHOREBIRDS TOTAL	28		390		58		300		1,744	53		23		88	870		428		10		100	124,449
Blue Heron	5	12	29	51	3	5	3	6	2	5	6	5	7	4	12	17	12	16	8	10	4	
Common Egret	27	70	39	71	14	37	5	10	12	2	3	1	2	5	16	17	18	24	49	95	43	
WADING BIRDS TOTAL	32		68		17		8		14	7		6		13	28				57		47	9,330
Coot	756	(1,318)	805	710	774	(1,835)	749	(847)	254	7	8	5	(10)	0	397	794	2,274	(2,448)	6,931	(13,487)	20,430	
Grebe	177	187	370	790	57	90	23	41	50	43	(55)	7	8	32	82	159	63	101	297	475	345	
Loons	3		44	44	2	5	0		0	13	(25)	0		0	1	2	0		7	15	0	
Cormorant	37	151	37	52	50	133	11	20	42	62	(94)	24	(26)	113	33	34	18	25	40	52	593	
OTHER WATER BIRDS TOTAL	1,030		1,256		883		785		346	125		36		145	513		2,355		7,275		21,368	1,207,101
WATER ASSOC. BIRDS TOTAL	7,726		4,967		2,046		1,776		2,816	243		136		803	2,749		6,041		15,526		50,639	2,986,372

EXHIBIT E

COUNTY OF DEL NORTE

DEPARTMENT OF
HEALTH AND SOCIAL SERVICES
Stephen D. Brohmer, Director

PUBLIC HEALTH
909 Highway 101 North
Crescent City, CA 95531
(707) 464-7227

SOCIAL SERVICES
PUBLIC GUARDIAN
981 H Street
Crescent City, CA 95531
(707) 464-3191

April 17, 1996

Herb Pierce
California Department of Fish & Game
619 Second Street
Eureka, CA 95501

Dear Mr Pierce

At the last meeting of the "Lake Earl Working Group", you suggested that the various agencies send information to you that could be used to make an environmental determination Here is some information

Adverse Effects of Low Lake Levels: There is no forseeable adverse public health effect of low lake levels Some members of the public have expressed concern that wells would go dry Such an occurrence would probably require an extended period during which the level remained very low This could happen if the bar were breached at the beginning of a long dry season

Direct Contamination of Groundwater: As in most of the Del Norte Coastal Plain, there is no aquaclude to protect deeper sources of domestic water Contaminated water flowing into a shallow well contaminates the groundwater upon which everyone depends for domestic supplies At a lake level between 9 5 and 10 0 feet, a stock well at 950 Kellog Road is overtopped Four other wells subsequently become contaminated

Attached is a summary of the well monitoring results for coliform organisms Although the laboratories utilized and their method of reporting varied throughout the sampling period, a trend is evident The overtopping of the well during the winter of 1991-92 caused heavy contamination which had fairly well dissipated by the winter of 1993 94 At this time the well was again overtopped It and the four others again show heavy contamination which is tapering off by July when the monitoring is discontinued

A well cap seal had been placed on the overtopped well between the two episodes This may be the reason for the more rapid clearing of contamination from the aquifer during the second episode

Below the elevation of 12 feet above sea level there are 26 wells of various depths, ages and construction There is no reason to believe that overtopping any of them would not cause a similar chain of events If anything, the effect could be greater since they are farther from the lake allowing for a longer plume of contamination If the lake is allowed to rise without control to twelve feet, the potential to contaminate 100 or more wells is clearly evident

General Groundwater Quality: The data collected by Bill Mendenhall of the Department of Water Resources confirms what might logically be concluded from observation. The water table in the surrounding lands slopes gently toward Lake Earl. Its surface cannot be lower than the surface of Lake Earl. The North Coast Regional Water Quality Control Board in policy expressed in its "Basin Plan" has concluded that in sandy soil, 5 feet of separation between the water table and the bottom of a conventional leach field is necessary to protect ground water quality from domestic septic tank effluent. Since conventional leach lines extend at least 2 ½ feet underground, it follows that land lower than 7 ½ feet above the maximum level of Lake Earl should not be developed with conventional septic tank and leach field systems for sewage disposal. The soil is all sandy. Compliance with this requirement is impossible until the various public agencies decide the maximum elevation of the lake surface.

Mosquito Control: The subject of mosquito production from shallow water on land innundated by Lake Earl is one of considerable controversy. It is clear, however, especially from experience in 1988, that under the right conditions (high water, warm temperature, light winds and perhaps others) that production sufficient to cause nuisance conditions is possible. The high organic content of Lake Earl water favors the breeding of the main species capable of serving as a vector for several equine encephalitides. Sentinel chicken flocks tested during 3 seasons, 1992, 93 and 94 did not, however, reveal the presence of any of the viruses in the area. The negative impact of the nuisance affect of the mosquitoes on the public is accentuated nevertheless, by the fear (unfounded or not) of these diseases. Del Norte County does not have a mosquito abatement district. It is not likely that 2/3 of the population affected would vote for the extra taxes necessary to support one.

Health Department files have never shown disease problems from mosquitoes, and intensive monitoring for 3 years has not even shown the presence of disease-producing viruses in the area. There are excellent theoritical reasons to conclude that the possibility of disease from mosquito vectors is vanishingly small, and the issue has never been raised in this area except by people with a vested economic interest in maintaining a lower lake level.

Although there has never been a disease-problem, there are certainly years when mosquitoes have been a major nuisance in the late spring and early summer. The nuisance problems occur with the combination of warm spring weather and late rainfall. Although late rainfall tends to create a higher lake level, it is important to note that the lake itself is not the cause of the mosquito problem.

Certainly during high "mosquito-nuisance" years large numbers of mosquitoes breed in the lake. They also breed in every puddle and wetland in the coastal dunes, in Elk Creek, and throughout the coastal plain. The public attention directed towards the lake as the single major cause is simply not scientifically justifiable.

I am well acquainted with William Reeves' definitive book, The Epidemiology and Control of Mosquito-borne Arboviruses in California, and I would be happy to expand on these comments if you wish.

Very truly yours,

Richard Mize, M.D.
Health Officer

Dale Watson

by Dale Watson, R.E.H.S. II

DW:hjw

WATER SAMPLES FOR THE ADDRESSES ON KELLOGG

DATE	925	930	945 stock	950 domestic	950
02/26/92	240		2.2	240	240
03/31/92	16	240	240		2.2
04/23/92	16	240	9.2		240
05/21/92	16	16	240	240	5.1
06/11/92	2.2	240	240	240	9.2
07/02/92	2.2	240	240	5.1	5.1
09/09/92	1	1	1	0	0
10/07/92	1	1	1	1	1
01/13/93	1				
05/10/93	1	1		1	1
06/14/93	1	1	1	1	0
07/14/93	1	1	1	1	0
08/04/93	1	1	1	1	0
09/08/93	1	1	1	1	0
10/06/93	1		1	1	0
10/12/93		16.0			
11/03/93	1	1	1	0	0
12/15/93	240		0	240	240
01/19/94	5.1	2.2	3.6	16.1	0
03/28/94	6.9	240	1.1	240	0
04/20/94	2.2	0	3.6	240	0
05/09/94	12.0	0	0	12.0	0
06/13/94	1.1	0	0	6.9	0
07/28/94	2.2	23.0	0	2.2	0

ABSENT=0
PRESENT=1
>=240
=0

RECEIVED
AUG 09 1996
CALIFORNIA
COASTAL COMMISSION

Facsimile Cover Sheet

To: JAMES J. MUTH
Company: CALIF. COASTAL COMMISSION NORTH COAST AREA
Phone: (455) 904-5260
Fax: 415-904-5400

From: JANICE M. BOWEN
Company: TOLOWA NATION
Phone: 707-487-7661 (W)
Fax: 707-487-3302 (W/FAX)

Date: 9AUG 96
Pages including this cover page: 1 No

Comments:

Tolowa Nation would like the Lakes Earl and Talawa to be kept at its historical level of 4 ft. Our village sites and burial grounds are flooded each year, because everyone wants to be in charge, the Army Corp of Engineers,the Board of Supervisors of Del Norte County, the Dept of Fish and Game. All Tolowa Nation wants is are ancestors given the respect they deserve by not desacrated their graves EACH YEAR. Documentation has been an ongoing study for years. Whenis this study to be completed. Tolowa Nation wants the Historical level of 4ft kept until the study is completed. The villages ofEt-shu-let, Tushroshku-shtun and others need to be protected by the breaching of Lakes Earl and Talawa.

EXHIBIT NO. 25
APPLICATION NO. 1-94-49

signed
Janice M. BowenSec.
TOLOWA NATION

Janice M. Bowen
9AUG96

PACIFIC SHORES PROPERTY OWNERS ASSOCIATION

16026 Wyandotte St.
Van Nuys, CA 91406

August 18, 1996

VIA FACSIMILE

James Muth
North Coast Planner
Californiua Coastal Commission
45 Freemont St. 1900 and 2000
San Francisco, CA 94105

Re: Application Permit #1-94-49 by County of Del Norte and CA Department of Fish and Game to breach lakes Earl and Talawa at the 8ft MSL.

Dear Mr. Muth,

The Pacific Shores Property Owners Association objects to the above permit being granted.

Any permit application calling for the breaching of the lakes above the historical 4ft MSL should require a public hearing.

Please inform us of any public hearing dates or changes regarding the above permit.

Thomas W. Resch, President PSPOA

Thomas W. Resch

EXHIBIT NO. 26
APPLICATION NO. 1-94-49

PROSKAUER ROSE GOETZ & MENDELSOHN LLP

2121 AVENUE OF THE STARS
SUITE 2700
LOS ANGELES CA 90067-5010

(310) 557-2900
FAX: (310) 557-2193

NEW YORK
WASHINGTON DC
BOCA RATON
CLIFTON NJ
PARIS

EUROPEAN COUNSEL:
DUBARRY LEVEQUE
LE DOUARIN & VEIL
PARIS-BRUSSELS

JAMES M. WAKEFIELD
(310) 284-4509

August 19, 1996

VIA OVERNIGHT COURIER

James Muth
North Coast Planner
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Re: Comments on Application By County of Del Norte and California Department of Fish and Game For Coastal Commission Permit No. 1-94-49

Dear Mr. Muth:

The County of Del Norte (the "County") and the California Department of Fish and Game (the "Department") (jointly, the "Applicants") have submitted an application ("Application") for Permit No. 1-94-49 to the California Coastal Commission (the "Commission"). The Application seeks a permit to breach the sandbar separating Lakes Talawa and Earl from the Pacific Ocean on a two-year interim basis whenever the surface level of the lakes rises above eight feet mean sea level ("MSL"). Since the previous interim permit was conditioned on breaching whenever the lake level rose above the lakes' official four feet MSL surface level (see USGS survey map), the Application is, in effect, a request to raise the surface level by deferring breaching until the water level rises to eight feet MSL. The Pacific Shores Subdivision California Water District (the "Water District") submits these comments in opposition to the proposed action.

A. HISTORIC ISSUES

Comment 1. **The lake level issue has already been considered by the Commission and four foot MSL level approved as the level at which breaching should occur.** The Applicants have not submitted any new information which suggests that a change in policy should be considered. In 1991, the County applied for Permit No. 1-91-63 which sought to raise the high-water level of Lakes Talawa and Earl to eight feet MSL by deferring breaching until the water was at or above the eight feet MSL level. This application for an eight foot level was denied by the Commission, and the permit for Lake Earl was approved only on the condition that the lake breaching occur "whenever the lake elevation reaches four feet above mean sea level."

The revised findings conditioning approval on a four foot MSL high-water level state:

> The Commission finds that the breaching program would be consistent with the Coastal Act if the sand bar were breached when the lake level reaches four feet MSL instead of eight feet MSL. Breaching the sand bar at four feet MSL is consistent with the above-referenced sections of the Coastal Act (Sections 30230, 30231, 30240, 30241, 30242 and 30253) as it serves to maintain the elevation of the lakes at a level which has existed for the past 75 to 100 years and as it avoids the flooding of additional wetland, environmentally sensitive, and agricultural lands. (Emphasis and insert added.)

Notwithstanding the Commission's 1991 findings, the same Applicant (this time as co-Applicant), with the same issue, based on the same facts, is again bringing this issue before the Commission. Therefore, the Applicants are effectively asking the Commission to reconsider the same data and come to a decision contrary to its findings of five years ago.

Based on estimates provided by the Department of Water Resources in 1991, the Commission noted that "it is clear that allowing the elevation of the lakes to rise from 4 feet MSL to 8 feet MSL would result in a 44 percent increase in the size of

the lakes by flooding of an additional 1,130 acres of surrounding land." Commission, Staff Report: Revised Findings, Application 1-91-63 ("1991 Findings"), p. 6. A significant portion of the land flooded at eight feet MSL, over 350 acres of the Pacific Shores Subdivision (the "Subdivision"), is property within the Water District's jurisdiction. See Declaration of Thomas Resch.

The proposed action, if approved, would cause significant flooding of public infrastructure and privately owned parcels served by the Water District, impairing the Water District's ability to carry out its basic function and imposing a severe hardship on its over 1,200 constituents.

Comment 2. **The Application seeks to alter the historic water level of Lakes Talawa and Earl.** Evidence that Lakes Talawa and Earl have historically been maintained at the four foot MSL level has been previously considered by the Commission and is reflected in the Commission's 1991 findings that "the water elevation of the lakes has been maintained at about four feet MSL for the past 75 to 100 years" and that "breaching the sand bar at four feet MSL . . . serves to maintain the elevation of the lakes at a level which has existed for the past 75 to 100 years. . . ." 1991 Findings, pp. 9 and 10. The local ecosystem, infrastructure and landuse developed around the four foot level. The effect of the proposed action on each is addressed in separate comments.

B. GENERAL ADVERSE IMPACTS

Comment 3. **By deferring breaching until the lake has reached eight feet MSL, the proposed action will increase the velocity of flow at the breach site.** Once a breach in the narrow sand dune blocking the mouth of Lake Talawa is made, the flow of water quickly forms a channel by eroding away the sand. The higher the water column behind this breach, the greater the velocity of flow. This will be greatest during the earlier flows and diminish as the lake level recedes.

Comment 4. **The greater volume of water released at eight feel MSL will cause greater erosion at the breaching site.** As a matter of physics, the greater the amount of flow through the breach, the greater the erosion will be, other conditions being equal. This erosion will also increase with velocity of flow acting on the breach site. Greater flow will also increase with higher levels. Given a greater volume and faster velocity

release at eight feet MSL, more of the breach site will likely be eroded than was during historic four foot MSL breaches.

Comment 5. **Closure of the breach site may be delayed because of the higher surface level at which breaching is proposed.** Closure of the breach site is probably related to three major factors: (1) seawater flow and continuity of flow in and out of the lake; (2) wave action of the ocean; (3) the width and depth of the breach site. The first two factors are unrelated to lake water levels at the time of breaching. However, the widened breach site resulting from delaying breaching until the surface level rises to eight feet MSL will impede closure given equal conditions of 1 and 2.

Comment 6. **Higher standing water during summer months will cause additional erosion and more release of sand and other sediments.** One consequence of the proposed action is that if the lakes do not rise to eight feet MSL before summer, high standing water will likely remain throughout the summer months. High water levels during extended periods of the summer months will kill off emergent grasses and vegetation due to flooding. Roots of the grasses impede erosion. For example, in the breaching of 1992, after high lake levels during the summer of 1991 (six to eight feet), large expanses of emergent vegetation died causing considerable organic erosion, especially along the back side of the fore dunes. After the 1992 breach, a large deposit of silt and sand emerged as the water level receded in the channel between the lakes. Substantial erosion ate away lowlands to the south separating the lakes (which are actually saline lagoons) from Lake McLaughlin, a separate freshwater lake unconnected to the lagoons. As a result, Lake McLaughlin was destroyed and became an arm of the lagoons.

In contrast, the following year, when preceding summer waters were not high and the vegetation was not killed, such erosion did not occur. The Pacific Shores Property Owners Association made before and after measurements by monitoring seven different stakes on the backside of the north fore dunes. Only one stake indicated about one inch erosion. Around the other stakes the grass was still green after breaching and no measurable erosion occurred at these stakes. This was an area that had extensive erosion in 1992.

Comment 7. **With the establishment of a long-term higher maximum lake level, emergent vegetation would move to higher ground resulting in increased mudflats between lake and vegetation after breaching.** Higher maximum lake water levels prior to breaching do not increase the water levels after breaching. Therefore, as the emergent vegetation moves to higher ground because of the increased maximum lake level, the distance between the vegetation and lake edge after breaching increases proportionally. The result is large expanses of mudflat areas between low water levels and emergent vegetation. This condition will be aggravated as shallow portions of Lake Earl fill in because of the increased erosion described in prior comments.

C. **ADVERSE IMPACTS ON THE WATER DISTRICT**

Comment 8. **The proposal to defer breaching until the water level reaches eight feet MSL will interfere with the use of private property within the Water District's jurisdiction.** The Water District, a special district created under the laws of the State of California, has jurisdiction over a two square mile area consisting of the Subdivision and adjoining properties zoned residential. The Subdivision, located on the north shore of Lakes Talawa and Earl, consists of over 1,500 1/2-acre lots. More than 1,200 persons are currently on record as owners of parcels within the Subdivision. Elevations within the subdivision range from approximately four feet MSL to twelve feet MSL. With breaching deferred until the lakes rise to eight feet MSL, at least 75 privately owned parcels will be underwater or partially underwater for many months of the year. Several hundred other privately owned parcels will have access impaired due to flooded public streets within the subdivision. Over 1,000 privately owned parcels will suffer property value reductions because the increased water table will create additional environmental and engineering problems that will need to be addressed before the owners can use their parcels for their intended residential purpose.

Comment 9. **The proposal to defer breaching until the water level reaches eight feet MSL will interfere with infrastructure within the Water District's jurisdiction.** In the early 1960s, the Subdivision was platted and approved by the County and all 1,500 parcels were sold to individual owners. At the time the subdivision was developed and the lots sold, the lakes were maintained at a maximum four foot MSL. Each parcel in the Subdivision is fronted by a paved street and served by a drainage

system, which are now dedicated as part of the County public works. Both the street network and drainage system were designed for the four foot MSL level. Raising the lake levels to eight feet MSL would flood parts of many streets and may reverse the flow in the drainage system, threatening the integrity of the entire Subdivision.

Comment 10. **The proposed high water levels will prevent the Water District from performing its prescribed function as a local agency.** The County has delegated to the Water District the task of engaging in the numerous studies required under CEQA and the Coastal Act to evaluate land uses and the impacts of development by its constituents within its area of jurisdiction. Since 1988, the Water District has been conducting the studies required under the applicable statutes. These studies are based on a four foot MSL maximum lake level. Experience with high water levels in recent years suggests that soil saturation, erosion, and the resulting impacts on habitat caused by raising the lake level to eight feet MSL might invalidate many of the studies. The proposed action also threatens test wells in low lying elevations of the Subdivision. See Declaration of Thomas Resch. If the lake level is increased to eight feet MSL, as proposed in the permit Application, the Water District's six years of studies on the surrounding environment may be rendered useless, resulting in a huge waste of taxpayer funds, and further delay in resolving the local landuse issues.

D. ADVERSE IMPACTS ON, AND TAKINGS OF, PRIVATE PROPERTY

Comment 11. **The Department's past and present actions suggest that it is attempting to take control of private property without payment by flooding it.** In its 1991 Findings, the Commission stated that the Department has "an ongoing acquisition program to purchase from willing sellers all private lands around the lakes up to the 10 foot contour." 1991 Findings, p. 5. Had this been true, this comment would not be necessary. The Department's acquisition program is illusory. The Department has not purchased a single lot in the Subdivision in almost 20 years. During this time many Subdivision parcels below the ten foot contour were listed for sale by their owners, without an offer by the Department. More than a few parcels were eventually abandoned by their owners and forfeited to the County for back taxes. Yet, the Department did not even attempt to acquire these. Instead, the parcels were put up for tax sale and sold to private parties. Rather than purchasing these parcels, the

Department has repeatedly attempted to flood them by raising the lake level. This suggests that the Department is not interested in paying for private property it can flood and take for free.

Comment 12. **Property owners who front or are close to the lake are directly impacted by flooding of their property.** At least 74 parcels would be underwater or partially underwater for many months of the year and mudflats the rest of the year if the lake levels were raised to eight feet MSL. The owners of these parcels would effectively be denied all use of their properties. Governmental action which floods a person's property on a regular basis is clearly a taking of that property.

Comment 13. **Many property owners who front the north end of Lake Talawa will suffer extraordinary erosion if the lake level is increased to eight feet MSL.** The addition of an additional four feet in depth of water over the several thousand acre surface more than doubles the lake's volumes. Therefore, deferring breaching until the lakes rise to eight feet MSL will result in a massive outflow of water in quantities and at rates far more substantial than has historically occurred when the lake is breached at four feet. Past experience with high water level breaches shows that the increased force of that outflow draws substantial quantities of soil from the lakeshore, eroding lakeshore parcels. In particular, the forceful current through the deeper and more narrow Lake Talawa will severely erode the private properties adjoining Lake Talawa. If the erosion and the threat of future erosion renders these properties unfit for use, it would constitute a taking of those properties.

Comment 14. **Increasing the lake level from its historical level will likely increase hydraulic pressure on the shallow aquifer beneath the Subdivision, which may adversely impact parcels above.** Although the Subdivision has sandy soil which ordinarily drains well, increased groundwater levels associated with past flood conditions had led to abnormal saturation of sandy soils throughout the Subdivision. Because groundwater is found within ten feet of the surface throughout much of the Subdivision, any increase in the groundwater level caused by the proposed higher lake level will likely create saturated soils, and may create saturated soils where saturated soils have not existed for more than 100 years. If this action creates new wetlands, it will adversely affect the ability of affected property owners, including those above the eight foot contour, to utilize their parcels. Even where it does not create new

wetlands, high groundwater level may impair the ability of property owners to construct foundations and other improvements required for use of their properties. The proposed action will also increase the risk of earthquake damage throughout the subdivision and adjoining areas because the effect of saturating the sandy soils is to make it more prone to liquefaction.

Comment 15. **Increasing the lake level to eight feet MSL may deny parcel owners use of their properties by impairing development of the sewer and water infrastructure required under state law.** The value of each residential parcel in the Subdivision is substantially based on the Water District's ability to ultimately construct sewage treatment and water delivery facilities to it. If raising the lake level causes a corresponding rise in groundwater levels, it may prevent the Water District from fulfilling this responsibility to part or all of the parcels in its service area. For instance, the impairment of sites for sewage disposal through leaching or ponding, the difficulty of trenching and laying water lines in saturated soils which would not otherwise be saturated, may hinder or preclude the Water District from being able to provide services.

Comment 16. **The proposed increase in water levels will likely lower property values of the private property it adversely affects.** If, by approving the Application to raise the maximum lake level to eight feet MSL, the Commission were to delay the Water District from completing the studies required under the Coastal Act, the effect will be to delay further development within the Subdivision for the foreseeable future. This will likely lower the value of all 1,500+ residential parcels within the Subdivision. Further, if the Commission were to approve raising the maximum lake level to eight feet, the resulting access and drainage problems within the Subdivision would, in effect, be guaranteed for the length of the permit, thus additionally lowering the value of the affected parcels.

E. ADVERSE IMPACTS ON HUMANS

Comment 17. **Raising lake level to eight feet MSL will harm permanent residents of the Subdivision.** Two families permanently reside in the subdivision, as building permits on two parcels were approved prior to enactment of the Coastal Act and CEQA. Backed up drainage systems and flooded roads caused by high water levels have led to flooding and access problems for these residents and, at least once, prevented an emergency vehicle from

responding to an emergency when called. In this case, flooded roads within the Subdivision prevented an ambulance from reaching Mrs. Carl Woods, a permanent resident of the Subdivision, when she required emergency treatment. Although Mrs. Woods survived without permanent harm, the next incident may not be as fortunate.

Comment 18. **Increasing the lake level to eight feet MSL may reduce public access to Lakes Talawa and Earl.** Pacific Shore Property Owners Association in conjunction with the California Department of Parks and Recreation have long maintained several public access points to Lakes Talawa and Earl. With eight foot MSL water levels, these are flooded. Because of the shallow gradient of the lands surrounding the lakes, when high water level breaches have finally occurred, the result is large expanses of mud flats, again rendering the public access point inaccessible. Because the land between four feet and eight feet MSL is of the same shallow gradient, the proposed action would reduce public access to Lakes Talawa and Earl by flooding it for part of the year and reducing it to mudflats the remainder of the year.

Comment 19. **Increasing the lake level to eight feet MSL may expose nearby humans to an increased health risk and nuisance.** A substantial increase in the mosquito population will arise from ponding and standing stagnant water as the lake rises over shallow elevations. During episodes of flooding caused by deferred breaches in the past, a substantial increase in mosquito population has been documented in the Lake Earl and Lake Talawa area. The major problem species, Culex tarsalis, is known to carry the deadly encephalitis virus. Lauck, Lee and Lauck, A Review of Mosquito Problems in the Lake Earl/Lake Talawa Area with Special Reference to Adult Trapping During the Summer and Fall of 1992 and 1993, at p. 22. Major mosquito outbreaks documented in 1961, 1988 and 1991 were each associated with high water levels. Id. at pp. 3-10. In fact, high lake levels during the summer seem to be the greatest contributor to high densities of Cx. tarsalis. Id. at p. 14. All known information supports this correlation. The only individual to question this in the past is employed as an agent of one of the Applicants and is not qualified as an expert in entomology. Id. at p. 17. Expert review and analysis of the conditions at the Subdivision concludes that such outbreaks pose a public health risk:

> Certainly the potential of equine encephalitis does exist during high populations of Culex tarsalis and even other mosquitos in large numbers. An attitude of prevention should be pursued. Lake levels around 4 feet do suppress summer and fall populations of cx. tarsalis and possibly other mosquitos. Summer and early fall is the main periods of equine encephalitis transmission and proper lake water level management should help prevent high mosquito populations.

Id. at p. 22.

Recent studies of the mosquito problem at Lake Earl include the following:

> Hazelrigg and Webb, Types and Abundance of Mosquitos Associated With the Lake Earl Wildlife Area, Del Norte Co., California: Early Seasonal Occurrence and High Lake Water Level (August, 1991).
>
> Letter by Dr. Paul Springer to James Muth, dated August 27, 1991, requesting a two year study.
>
> Lauck, Lee and Lauck, A Review of Mosquito Problems in the Lake Earl/Lake Talawa Area with Special Reference to Adult Trapping During the Summer and Fall of 1992 and 1993 (199_) (two year mosquito study).

F. ADVERSE IMPACTS ON INFRASTRUCTURE

Comment 20. **Raising the lake level above four feet MSL would likely defeat the Subdivision's design.** The Subdivision contains approximately 27 miles of paved streets, the grade of which is based upon a lake level of four feet MSL. The Subdivision contains 4.5 miles of drainage improvements. The drainage outlets into the lake have a flowline of four feet MSL. If the lake is allowed to rise above that level, the drainage flows in the culverts and ditches back up into the Subdivision.

Comment 21. **Existing infrastructure problems attributable to an Applicant (the County) compound drainage problems in the Subdivision associated with raising the lake level above four feet MSL.** The Subdivision design elevations, which were approved by the County in the 1960s, provide for a best case situation. A best case situation no longer is possible. This is because the County has failed to adequately maintain the drainage facility, which it is responsible for. As such, the drainage flow in the ditches is considerably restricted. For example, in Spring 1993, when the lake was only approximately two feet MSL, the unmaintained drainage facilities contributed to flooding of more than two miles of road, degrading the road pavement and subgrade. Until the County cleans the drainage facilities, the level of the lake must be maintained as low as possible. Under current circumstances, raising the lake level to eight feet MSL would cause significantly more roadway within the subdivision to be flooded and damaged.

Although the County is a co-Applicant of this proposed permit, its proposal would adversely affect infrastructure it is responsible for maintaining. The proposed eight foot level would cause tremendous harm to this infrastructure, promoting additional siltation in the drainage facilities as well as further degradation of the road pavement and subgrade. Secondary flooding from the increasingly impaired drainage system would further compound the problems.

Comment 22. **The increased volume of water in Lakes Talawa and Earl associated with an eight foot MSL lake level is inconsistent with the County Flood Control Plan.** A drainage issue on a larger scale that must be resolved prior to approval of the Application is the current application for the Del Norte County Flood Control Plan. In 1978, CH_2M Hill prepared a study for the County of the Lake Earl Drainage Basin. In the study, the lake was assumed to be maintained at a level of four feet MSL. Backwater conditions were derived assuming a 100-year storm. The lake acts as a detention basin. If the lake is kept at a higher level reducing the volume of stormwater it can detain, what will the backwater conditions be? A lake level above four feet MSL may require alteration of the current drainage plan for the Lake Earl Basin. This, in turn, may harm downstream property owners, since the drainage conditions downstream have changed. These issues must be studied and satisfactorily addressed prior to issuance of a permit to breach at a lake level higher than four feet.

Comment 23. **Higher maximum lake water levels will give less buffering for potential flash flooding.** The County regularly records the highest rainfall per area in the State of California and its coast usually receives well over 100 inches of rain annually. Higher maximum lake water levels will provide less buffer not only for flash flooding due to excessively heavy rains but also for times when the Smith River overflows into the ancient mouth (channel) flowing into the Lake. This overflow from the Smith River almost always coincides with times of excessively heavy rains, making emergency breaching difficult or impossible.

G. ADVERSE IMPACTS ON WILDLIFE AND THE ECOSYSTEM

Comment 24.. **The proposed action may significantly disrupt environmentally sensitive habitat areas surrounding the lakes.** In its 1991 Findings regarding a virtually identical proposal to defer breaching until the lakes reach eight feet MSL, the Commission found that: "the proposed project has the clear potential to result in adverse environmental impacts to lands surrounding the lakes, such as . . . the significant disruption to environmentally sensitive areas." 1991 Findings, at p. 10. It goes on to state:

> [A]dequate information and analysis has not been presented for the Commission to fully assess the potential adverse environmental impact to the lands surrounding the lakes of waiting to breach the sand bar at 8 feet MSL as proposed. For example, the California Department of Water Resources has not yet completed its hydrological study, no extensive biological or habitat studies have been performed, and no EIR has been prepared.

1991 Findings at p. 10. Since the Applicants have failed to present any new biological or habitat studies, or to prepare an EIR. and because the hydrological study has never been completed and/or released, the Commission's previous finding that it has been presented inadequate information and analysis to fully assess the potential adverse environmental impact of waiting to breach the sand bar at eight feet MSL applies equally to this permit Application.

Comment 25. **The proposal to defer breaching until the water level reaches eight feet MSL will likely disrupt the local ecosystem which has developed around the four feet MSL maximum lake level.** In a Public Notice released by the United States Army Corps of Engineers in April 1995, serving as a Preliminary Environmental Assessment of the effect of water levels on the Lake Earl Wildlife Area located on the opposite shore of the lakes, the Corps states that "[l]ong-term breaching practices carried out over the years, as well as other land uses, have cumulatively resulted in the current 'ecological condition' at the Lake Earl Wildlife Area." Notice, p. 8, ¶ 6. In its 1991 Findings in support of maintaining the lake levels at four feet MSL, the Commission reported:

> The whole ecology of the two lakes is dependent upon the periodic breaching of the sand bar, whether by man or natural forces. The salinity levels, the aquatic vegetation, and the breeding and migratory patterns of the lakes' wildlife and fisheries resources are dependent upon the periodic mixing of salt water with the mostly fresh water of the lakes.

1991 Findings at p. 8. High water breaching at random water levels in the last several years has inflicted serious harm on the ecosystem. The proposal to defer breaching until the water level reaches eight feet MSL will continue to harm the ecosystem, preventing its recovery. Effects on specific species will be addressed by specific comments.

Attached documents:

U.S. Army Corps of Engineers Public Notice No. 20793N36 (April 7, 1995).

David R. Lauck, A Need to More Precisely Define Effects of Higher Lake Level Proposed Lake Earl/Talawa Breaching Permit (1995).

Comment 26. **The plant and animal communities which inhabit the lake and surrounding areas have adapted to and may be dependent on a cyclical pattern of breaching at the four foot level.** This pattern is evident from the wildlife in and around the lakes. A Public Notice released by the United States Army

Corps of Engineers in April 1995 states that wetland plant communities in the Lake Earl area have likely developed to their present condition as a result of breaching practices carried out over the past 70 to 100 years by land owners. Notice, p. 4, ¶ 5. It is abundantly clear in the record that these plant communities did not develop under the high water conditions proposed in this permit Application. The attached Comments of Dr. David Lauck, which the Water District incorporates in this document, describe in detail the destructive effect that high water levels at the level proposed in this permit Application would have had on the established plant community. High water levels, such as that proposed in this permit Application, likely also adversely affect established animal life because of direct and indirect changes in their habitat brought about by the change in the breaching pattern.

Comment 27. **Breaching is a catastrophic event. The greater the surface level of the lakes at the time of breach, the greater the catastrophe.** A breaching event is catastrophic because it causes a sudden and significant change in the lakeshore environment. Although some species may be dependent on such fluctuations, normally in biological systems repeated catastrophic events are associated with reduced biodiversity. There is no apparent reason why the rule would not apply to the Lake Earl area.

The catastrophe increases in both severity and area affected as breaching is deferred to a higher surface level. The resulting effect of a high water breach may be to reduce or eliminate species tolerant of, or even dependent on, lesser fluctuations in water level. Further, the increased area affected may impact populations not affected by a lower level breach. In such case, reduced biodiversity would occur, as populations of species not tolerant would be expected to decrease, to be replaced with populations of the fewer species tolerant to the greater fluctuations.

Specific studies on the effect of catastrophic flooding on species found in Lake Earl and the surrounding area are not known to have been conducted. In the absence of data to the contrary, it cannot be ruled out that the proposed action would cause significant environmental harm and reduction in biodiversity, especially when one considers the steep decline in populations of certain endangered species observed in the past

several years when high water breaches began to occur. See comments below.

Comment 28. **Breaching at a lower surface level is less disruptive than a breach deferred until the lakes rise to eight feet MSL.** The Commission's 1991 Findings state that "breaching on February 15, when the lake elevation is at least 5 feet or more above MSL, is a preemptive measure to avoid having to breach the lakes during the spring and summer months in the event of a wet summer . . . as breaching during this time of the year is more environmentally disruptive." 1991 Findings, pp. 4-5. By deferring breaching until the lake level rises to eight feet MSL, the possibility of a spring or summer breaching event is increased.

H. ADVERSE IMPACTS ON ENDANGERED ANIMAL SPECIES

Comment 29. **Several endangered or threatened animal species or candidate species which have adapted to and may be dependent on a cyclical pattern of breaching at the four foot level may be endangered by the proposed action.** Many species of anadromous fish, including the Tidewater Goby (Eucyclogobius newberryi), Steelhead Salmon and Cutthroat Trout, have traditionally been found in Lake Earl. The Aleutian Goose (Branta canadensis leucopareis) feeds on short grass found alongside the lake. The Oregon Silverspot Butterfly (Speyeria zerene hippolyta) is dependent on a single plant species found near the lake. Notwithstanding the potential adverse effects on diverse species with diverse needs, this Application is supported by little more than speculation regarding the effects of the proposed change on these species. Absent hard evidence that the proposed change in lake management level will not harm any of these species, the historic cyclical pattern of breaching at the four foot level should be continued.

Comment 30. **Lake levels above four feet MSL may threaten the Tidewater Goby.** Little is known about the Tidewater Goby, a small fish that lives in brackish waters associated with lagoons and river mouths. The Tidewater Goby is listed as an endangered species primarily because much of its habitat throughout California has been lost due to degradation by man. Based on information provided by the U.S. Fish and Wildlife Service sometime prior to 1991, the Commission found that the Tidewater Goby was abundant in Lake Earl. The Goby was first found in Lake

Earl in 1981 on the northeast side of Lake Earl and reported again in 1984.

However, subsequent studies indicate that the Goby has been reduced or eliminated from the lake in subsequent years. In a study conducted in 1990, the Department (Monroe) was able to count only two Gobys (one confirmed), which were found in the narrows. In 1993, a survey of Lakes Earl and Talawa for the Tidewater Goby (Salamunovich) found no specimens.

This apparent steep decline in Tidewater Goby population corresponds to a period during which breaching was deferred until lake levels reached flood proportions, suggesting a possible link between high lake levels and the population decline. Possible reasons for the association include a reduced influx of saltwater into the lakes because of less frequent breaching episodes, shoreline erosion and rotting vegetation caused by increased lake levels degrading the water quality of the lakes, and/or the increased current of high water breaches sweeping the Gobys into the ocean. Notwithstanding a lack of information about the Goby's survival needs and the apparent sharp decline in Goby populations during a period of high water breaches, the Applicants have failed to study the effect that their proposal to increase the lake level by four feet before breaching would have on the Goby. In reviewing the problem, Anne Henderson-Arzapalo of the United States Fish and Wildlife Service, National Fisheries Research Center, stated, "I really can't predict what impact increased water levels and decreased salinities will have on most of these fish (including the Goby) without additional fish population and water quality information." Letter from Dr. Anne Henderson-Arzapalo of the United States Fish and Wildlife Service to Thomas Resch dated March 4, 1992. Until the reason(s) for the decline in Tidewater Goby population is ascertained, and evidence is found that a higher breach level would not adversely impact that population, the Commission cannot find that the proposal to increase the maximum lake level will not adversely affect the Tidewater Goby.

Recent studies of the Tidewater Goby include the following:

Lake Earl/Talawa, Del Norte County (Field Notes) written by David A. McLeod (October 3, 1991).

Tidewater Goby Survey of Lakes Earl and Talawa for the Pacific Shores Subdivision EIR by Tim Salamunovich of Thomas R. Payne & Associates dated June 14, 1993.

Pacific Shores Property Owners Association, Fish and Wildlife Documentation, Lake Earl and Lake Talawa, Del Norte County (March 1992). See Comments by Dr. Anne Henderson-Arzapalo of the U.S. Fish and Wildlife Service at pp. 1-4 and studies on the Goby included immediately after Ms. Henderson-Arzapalo's letter.

Comment 31. **Deferring breaching until the lake level rises to eight feet MSL may adversely affect anadromous fish that inhabit Lake Earl but migrate to sea.** Anadromous fish hatch in freshwater, migrate to sea for much of their lives, and return to freshwater to reproduce. The 1991 Findings state: "The periodic breaching of the sand bar allows the seasonal entry of ocean waters into the lakes and allows migratory fish to enter and leave the lakes." 1991 Findings, at p. 8. The migratory patterns of anadromous fish obviously require an open passage from fresh water to the sea.

In 1975, the Department counted 14 species of anadromous fish in Lake Earl. Included in the population was the King Salmon, Silver Salmon, Steelhead Salmon and Cutthroat Trout. Natural Resources of Lake Earl and the Smith River Delta, Natural Resources of Lake Earl and the Smith River Delta, California Department of Fish and Game (March 1975). Each species has different migration habits.

King Salmon usually migrate to sea at an early age. Silver Salmon usually stay in the lake for two years after hatching before migrating to sea. Cutthroat Trout and Rainbow Trout may or may not run to sea. Cutthroat Trout that run to sea are known as Steelhead Salmon. In July 1996, the National Marine Fisheries Service proposed listing as threatened steelhead runs in Coastal Northern California. This includes the Lake Earl run.

When the Department did its survey in 1975, it had been at least 50 years since the practice of regularly breaching the sandbar whenever the lake level rose to approximately four feet MSL. Therefore, it should be clear that four foot MSL is conducive to those species. However, fish surveys conducted in recent years when only infrequent high water level breaches were performed counted few, if any, individuals of these species.

The impact of deferred breaching is obvious. Addressing the breaching of Lake Earl, Anne Henderson-Arzapalo, of the U.S. Fish and Wildlife Service, National Fisheries Research Center, states: "Obviously, the species which get their recruitment from the ocean (flatfish, salmonids, and the herring) will be adversely affected if the ocean access is blocked." Letter from Dr. Anne Henderson-Arzapalo to Thomas Resch dated March 4, 1992.

In 1992, Jim Waldvogl, Fishery Biologist and Sea Grant Advisor of the University of California, wrote a letter to the Army Corps of Engineers. In his letter he states, "It is imperative that Lake Earl be opened to the ocean twice each winter for the survival of its anadromous fish stocks. The exact timing is not presently known, but a reasonable time would be January to mid-February for adult in-migration and March-April for juvenile out-migration. . . . [P]lease make the anadromous fish runs in the Lake Earl system a high priority; it may already be too late."

Yet, the proposed action would both reduce the frequency of breaches from historic levels and may result in improperly timed breaches. Under the circumstances, the proposal to alter and reduce the breaching schedule cannot be found to have no adverse impact on these species, absent scientific evidence to the contrary.

Recent information on anadromous fish in Lake Earl includes:

Army Corps of Engineers Public Hearing in re Permit Application Transcript (August 1995), Minutes of August 1995 Meeting in Crescent City, California, at pp. 14-16. James Waldvogl is the Area Marine Advisor for the University of California, Sea Grant Extension Program. If further information is required, Mr. Waldvogl can be contacted at the following address:

Jim Waldvogl
Area Marine Advisor
University of California
Sea Grant Extension Program
981 H. Street
Crescent City, CA 95531
Telephone (707) 464-4711

Pacific Shores Property Owners Association, Fish and Wildlife Documentation, Lake Earl and Lake Talawa, Del Norte County (March 1992). See Comments by Dr. Anne Henderson-Arzapalo of the U.S. Fish and Wildlife Service at pp. 1-4 and studies on fish species in Lake Earl counted by the Department in 1975.

Crescent City Triplicate, "Steelhead Endangered, Northern California Fish Could Join Threatened List" (July 31, 1996).

Comment 32. **The proposed increase in the lake level to eight feet MSL will flood most of the feeding grounds created for the Aleutian Goose.** Creation of migratory feeding grounds for the Aleutian Goose (Branta canadensis leucopareis) was cited as one of the main purposes for the establishment of the Lake Earl Refuge on the south shores of Lakes Talawa and Earl. These geese feed primarily in short grass areas which are usually grazed by cattle. Most of the grass areas within the Refuge are flooding and not available for feeding when the water reaches six to seven feet. At higher water levels, the geese will then move to nearby farms at higher elevations. In the last several years, when high water levels occurred due to deferred breaching, migrating geese did not feed in the area due to high lake water levels. Springer has stated that the geese are opportunistic and will go to available food sources; however, the farmers are not always appreciative of the geese populations feeding on their grazing lands. Since the Refuge was formed in part to accommodate as many geese as possible, then they should do so until Department has purchased other lands for this feeding purpose.

Comment 33. **Deferring breaching until the lake level rises to eight feet MSL may destroy habitat required by another threatened species, the Oregon Silverspot Butterfly.** The Oregon Silverspot Butterfly (Speyeria zerene hippolyta) was listed as a threatened species with critical habitat in 1980. U.S. Fish and Wildlife Service (1980). The butterfly was not known to exist in California until the Lake Earl population was discovered sometime after 1980. Hammond. The coastal dunes around Lake Earl is an important site for the butterfly, because viola adunca and viola langsdorfii, violets which are the only known food source for the butterfly larvae, are found there.

The butterfly appears to feed only on violets found in lowlying areas. Violet plants on higher dune areas may not be a suitable food source because the plants bloom, seed and then

wither by early summer, prior to the larvae hatching. Shaw and Wiseman (1992). In 1993, Dr. David Lauck, of Humboldt State University, visited the site and also observed many plants badly withered as early as June, in spite of the considerable rainfall late in the season of that year. In 1994, he observed that many of the plants had withered considerably by late May. Apparently for this reason, the best butterfly habitat was found in the depression immediately to the north of Lake Talawa. Many violet plants in this area were flooded during the summer of 1991. Low populations of butterflies occurred in 1992. In 1993, after low summer lake water levels in 1992, populations increased.

The decline of Oregon silverspot in 1992 due to flooding of plants during the high waters of the summer of 1991 suggests the harmful effects of high summer waters on the federally listed butterfly. Likewise, the fact that high populations were found in 1993 after low summer lake water levels indicate that historic lake levels are more advantageous to the butterfly. This is confirmed by studies conducted by Hammond on State Parks land immediately to the north of Lake Talawa. Hammond observed:

> During much of February 1992, the lake level was at 9 feet or more. Much of the violet-silverspot habitat on the State Parks land was submerged under water for over a month. This flooding appears to have killed nearly all silverspot larvae in this area. . . . If the Lake Earl silverspot population was completely confined to the habitat on State Parks land, it probably would have been exterminated in 1992 due to the lake flooding.

Hammond, p. 12. Shaw and Wiseman conclude that water levels must be kept lower than six feet MSL if butterfly habitat is not to be adversely impacted.

Even if there was no evidence supporting maintenance of lower water levels, the proposed action should not be approved. Since the Oregon silverspot has successfully succeeded during the 75+ years of breaching the lake at low water levels, why would a change in lake water levels be appropriate with a lack of information to confirm beneficial results? Since the butterfly is federally listed as a threatened species, the proposed action

cannot be justified absent data that it would not harm the butterfly and its habitat.

Available studies of this species are as follows:

Hammond, Field Survey of Habitat for the Oregon Silverspot Butterfly (Speyeria zerene hippolyta) in Curry County, Oregon and Del Norte County, California (1992) (see in particular pp. 11-12).

Shaw and Wiseman, Survey of Habitat for the Oregon Silverspot Butterfly in the Pacific Shores Subdivision, Del Norte County, California (1993).

I. ADVERSE IMPACT ON PLANT SPECIES

Comment 34. **Past high water levels caused by deferred breaching have resulted in large scale tree kills.** In January 1992, a tree survey of chorioallantois of Lakes Talawa and Earl found that 233 sitka spruce, 754 alder and 4 lodgepole pine were killed by high water during the summer of 1991 and up to the time of breaching in 1992. Core samples indicated some of these trees were over 75 years of age. This survey did not include the kill of several thousand willows, some probably rare and deserving of protection status. While it is unclear whether the cause of death was from the high waters themselves or the resulting change in salinity caused by the high water, the effect is the same: long established trees were killed in mass when submerged by high waters. What evidence do the Applicants have to show that more trees will not be killed by similar high water, especially during the summer, if their proposal is accepted? Absent hard data proving no adverse effect, any attempt to raise the lake level above its historic four foot MSL level should be rejected.

Supporting evidence:

Pacific Shore Property Owners Association, Tree Report: Lake Level Seven Feet Eight Inches (MSL) (January 1992).

Pacific Shore Property Owners Association, Tree Report: Lake Level Three Feet (June 1992).

Letter: Scott R.J. Feller (Professional Forester, State of California) to Pacific Shores Property Owners Association

dated September 29, 1992, regarding age of trees and cause of death in and around the shores of Lake Earl-Lake Talawa.

Videos and pictures supporting the reports were taken at the time, and are available upon request.

Comment 35. **Breaching at water levels above four feet MSL may harm endangered, threatened and candidate plant species.** In a 1992 communication to the Army Corp of Engineers, Wayne S. White of the United States Fish and Wildlife Service states that a number of endangered, threatened and candidate species occupy coastal dune areas, and could be affected by breaching activities at Lake Earl. These species include the following: two Category 2 candidate plants, Thurber's reedgrass (Calanagrostis crassiglumis) and Valley sagittaria (Sagittaria sanfordii), Wolf's evening primrose (oenothera volfil), a Category 1 candidate species, and Sand phacelia (phacelia argentea), a Category 2 candidate species.

Comment 36. **Increased salinity in the lakeshore soil caused by an increase in maximum water levels may harm or eliminate Thurber's reedgrass.** In his 1992 communication, Mr. White states that Thurber's reedgrass would be adversely affected by increasing salinity in the lakes. If Thurber's reedgrass is so close to the waterline as to be affected by salt water, would not this species be submerged by high water levels, and would not this species be killed by high water levels during the summer months? In contrast, for it to be present, this species has apparently not been adversely affected by breaching at the four foot level over the past 75+ years.

Comment 37. **Saltwater intrusion caused by the proposed action may destroy the habitat of the Valley sagittaria.** In 1991-1992, deferred breaching caused overflow of saline waters from the lagoons into nearby Lake McLaughlin, an independent freshwater lake and the major known site for the Valley sagittaria in the area. The Valley sagittaria is highly sensitive to salt. This ill-thought action damaged or destroyed this freshwater habitat. If the prior high water level breaching made this species extinct in the area, the continued saltwater intrusion caused by the proposed action might. This issue must be studied and resolved prior to consideration of the proposed action.

Comment 38. **Erosion caused by the proposed action may reduce or eliminate Wolf's evening primrose by destroying its habitat.** Wolf's evening primrose is mostly found on the back side of the fore dunes on the north side of Lake Talawa, which have remained relatively stable during the 75+ years of breaching at low levels. These dunes which were badly eroded during the 1992 breaching at high water levels, and continued high water breaches have washed many of these dunes away. It is virtually certain that this species is being severely damaged, since high water level breaches have washed significant portions of its habitat away. The Applicants do not appear to have studied, or even considered, the effect of high water level on Wolf's evening primrose. Until the Applicants can prove that the proposed action will not harm this species, breaching should not be set at higher levels than the historic 1900-1987 practices.

Comment 39. **Erosion caused by the proposed action may destroy the habitat of the Sand dune phacelia.** The largest local population of the Sand dune phacelia is located on the back side of the fore dunes just south of Lake Talawa. This area was also badly eroded from the high waters of 1992. It is likely that this erosion also damaged this species by eliminating its habitat. The Applicants do not appear to have considered, let alone studied, the effect of high water level on the Sand dune phacelia. Until the Applicants can prove that the proposed action will not harm this species, breaching should not be set at higher levels than those conducted between 1900-1987.

Comment 40. **In contrast to the potentially harmful effect of the proposed action, the above plant species clearly survived regular breaching at the four foot level.** Since all of the above species of plants were present and therefore did survive 75+ years of breaching practices at around the four foot level, why should higher lake levels be set for breaching? The Applicants do not appear to have taken advantage of the high water levels at breaching time in 1988 and 1992 through 1996 to study this. Absent evidence that these species will survive better at these higher water levels for breaching, the lake management level should be reconfirmed at four feet MSL.

Comment 41. **The Applicants have failed to consider possible effects on the proposed action on the Sago pondweed.** The above referenced 1992 communication by Wayne S. White of U.S. Fish and Wildlife states, "The breaching may adversely affect the production of sago pondweed in the Lakes. The pondweed is an

extremely important food source for waterfowl in the Lake." What are these adverse affects? Higher water level breaches have more catastrophic effects on the environment; what is the effect of this on the Sago? Does Sago pondweed grow better in warmer or cooler waters? Does the volume of water have an effect on the water temperature? Does the pondweed thrive at lower water levels during the summer after breaching? Might production of Sago pondweed decrease with larger volumes of water during the summer? The answers to these questions are unknown. However, it is known that Sago pondweed has survived in the lakes over the last 75 years when the lakes were breached at or about four feet MSL. Absent data to the contrary, the lakes should continue to be managed at the four foot MSL level.

J. THE APPLICANTS HAVE FAILED TO JUSTIFY THEIR PROPOSED ACTION

Comment 42. **It is not clear from the proposal why a higher lake water level before breaching is more desirable.** Applicants have failed to show why the historic lake management level should be changed, and have failed to show that raising the maximum lake level to eight feet MSL will be an improvement over the historic breaching level. Just stating that this will improve habitat or be beneficial to a particular species is not enough. Precise reasoning needs to be presented and documented. If the Applicants are concerned about the adverse impacts of the higher level emergency breaches that occurred in the last several years, these concerns are better met by restoration of the lakes to their historic levels breaching at four feet MSL.

Comment 43. **The Applicants have failed to present any studies that analyze the potential impacts of the proposed breaching at high lake water levels.** Absent conclusive evidence that the proposed action will not adversely impact the natural and human environment, it must be rejected.

Comment 44. **The Applicants lack a management plan for their proposed action.** In 1988 the Department submitted a management plan for the Lake Earl Wildlife Refuge located on the southern side of the lakes. This plan was never instituted, and seven years later there is still no management plan. Why should the public trust the management of Fish and Game to do proper investigation during this interim permit period, when they have failed to complete a management plan for their own property? Why should they dictate water levels while lacking proper information and plans to make sound judgment? Should not a management plan

for the Refuge be approved before a permit for breaching is considered?

Comment 45. **The Applicants have failed to present a plan to monitor the foreseen and unforeseen impacts of their proposed action on the natural and human environment.** Assuming that the Applicants were able to show that the proposed action will not adversely impact the natural and human environment and had a management plan to implement it, they have failed to present a plan to monitor the impacts of their actions to insure that unforeseen impacts do not occur. The type of monitoring should be stated and complete procedures for the monitoring outlined. Monitoring should include changes in endangered species, changes in overall biodiversity, major population changes in species, changes in general habitat, and adverse impacts on humans, landuse, infrastructure and private property.

Comment 46. **Since at least some damage can be shown by high lake water, an EIS should be developed to more clearly define the full effects of high lake levels.** Since the present fauna and flora of the area have primarily developed and have survived during 75+ years of breaching at lower lake levels, since human uses have also developed at these lower lake levels, and since this proposal would institute a different set of environmental influences, an EIS should be required. This may realistically occur in the next several years. Congressman Frank Riggs has introduced a bill to fully fund a complete EIS of the Lake Earl basin to be conducted by the federal government. To approve alteration of the historic lake level prior to completion of the EIS would be improvident.

Comment 47. **The "no project" alternative is not an acceptable and environmentally sound alternative and does not satisfy the concerns set forth above.** In 1991, the Commission found that "allowing the lakes to naturally breach themselves would not be advisable at this point of time." 1991 Findings, p. 12. It further notes that:

> The California Department of Fish and Game's policy is that wetland quality should not be favored over wetland quality, and has determined that relying solely on a natural breaching at this point in time would result in extremely high lake levels and have a net detrimental effect on wetland and wildlife

> values. The Commission therefore finds that allowing the lakes to naturally breach themselves is simply not an acceptable and environmentally sound alternative as it would result in significant public health and safety problems and result in diminished wetland and wildlife values.

1991 Findings, p. 13. Because reverting to a natural breaching scheme after 75+ years of managed breaches at the four foot MSL level would destroy the ecosystem that has developed, it must be rejected.

K. CONCLUSION

Comment 48. **The facts have not changed since 1991 when the Commission last considered an interim permit application; therefore, the decision should not change.** In 1991 Findings regarding a virtually identical proposal to defer breaching until the lakes reach eight feet MSL, the Commission found that "the proposed project has the clear potential to result in adverse environmental impacts to lands surrounding the lakes, such as . . . the significant disruption to environmentally sensitive areas." 1991 Findings, at p. 10. It further found that: "[A]dequate information and analysis has not been presented for the Commission to fully assess the potential adverse environmental impact to the lands surrounding the lakes of waiting to breach the sand bar at 8 feet MSL as proposed." Id.

In 1991, the Commission prefaced approval of the last interim on breaching whenever the water level rises to four feet MSL. In rejecting a proposed eight foot MSL request, it found that:

> The fact remains that adequate information analysis has not been presented for the Commission to fully assess the potential adverse environmental impacts to the land surrounding the lakes of waiting to breech the sand bar to eight fee MSL as proposed.
>
> The Commission therefore finds that additional hydrological and biological studies and analysis are necessary under the Coastal Act to fully assess the project's

potential adverse environmental impacts to the land surrounding the lakes. Until these additional studies have been completed and until all of the outstanding environmental issues have been formally analyzed, the Commission cannot find that the proposed breaching of the sand bar when the lake is at eight feet MSL is consistent with the Coastal Act Sections 30230, 30231, 30240, 30241, 30242 and 30253 as it is impossible to fully assess the project's potential adverse impacts to biologically productive wetland areas, environmental sensitive habitat areas and agricultural lands which surround the lakes.

The Commission finds that the breaching program would be consistent with the Coastal Act if the sand bar were breached when the lake level reaches four feet MSL instead of eight feet MSL. Breaching the sand bar at four feet MSL is consistent with the above-referenced sections of the Coastal Act as it serves to maintain the elevation of the lakes at a level which has existed for the past 75 to 100 years and as it avoids the flooding of additional wetland, environmentally sensitive, and agricultural lands.

Since the 1991 decision, the Applicants have failed to present any new biological or habitat studies, or to prepare an EIR in support of their proposed action. In contrast, the Water District is presenting considerable new evidence that supports the Commission's previous decision to approve breaching at the four foot MSL level. Finally, a hydrological study of the lakes by the Californian Department of Water Resources, which in 1991 had not been completed, still has not been completed and/or released. For all of these reasons, the Commission's previous finding that it has been presented inadequate information and analysis to fully assess the potential adverse environmental impact of waiting to breach the sand bar at eight feet MSL applies equally to this permit Application. Therefore, the Commission should reaffirm the rationale of its prior decision and make approval of the project contingent on a special

condition that breaching occur whenever the lake level rises above four fool MSL.

As a public agency charged with protecting the interests of its constituents, the Water District has carefully considered all aspects of this issue before drafting these comments. The Water District respectfully requests that the Commission carefully consider these comments in their entirety prior to action on the proposed action.

Respectfully,

JAMES M. WAKEFIELD
District Counsel
on behalf of the
Pacific Shores Subdivision
California Water District

Enclosures

cc: Robert D. Pearson
Thomas Ryan
Ward L. Stover
(via U.S. Mail w/out enclosures)

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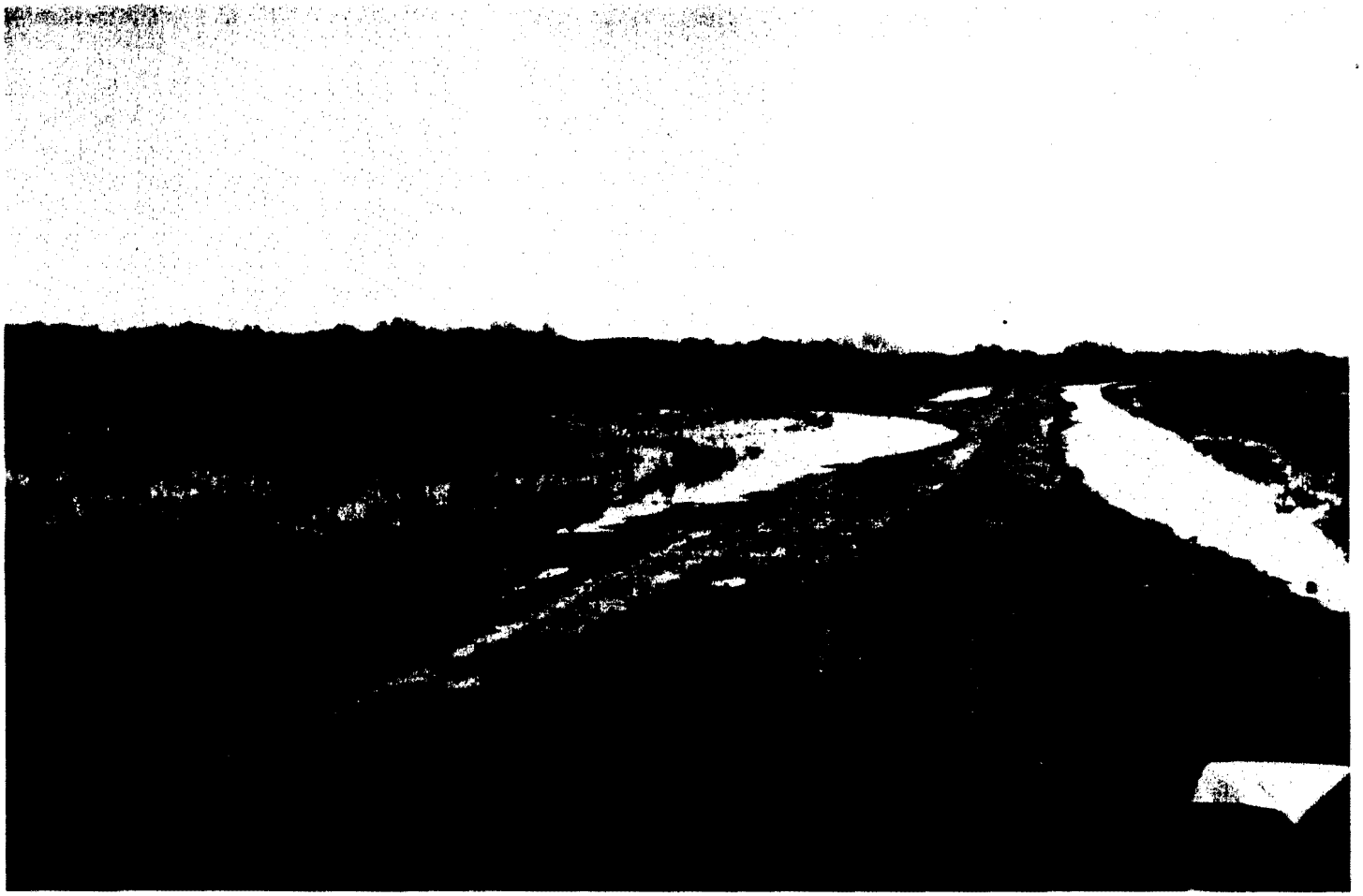
Distelrath Drive



February 6, 1994 - 8'6" msl

This is the only road leading to the nine beach access sites for use by the Pacific Shores property owners, and the public.

STATE OF CALIFORNIA

PETE WILSON, *Governor*

STATE LANDS COMMISSION

LEO T. McCARTHY, *Lieutenant Governor*
GRAY DAVIS, *Controller*
THOMAS W. HAYES, *Director of Finance*

EXECUTIVE OFFICE
1807 - 13th Street
Sacramento, CA 95814

CHARLES WARREN
Executive Officer

916 323-4673

File Ref.: SD 92-11-16.4

November 20, 1992

Mr. Dwayne B. Smith
Pacific Shores Property
Owners Association Inc.
648 Lausinda Avenue
Long Beach, CA 90803

Re: State Ownership at Lake Talawa

Dear Mr. Smith:

This letter is in response to your letter dated November 2, 1992, in which you inquire about the State's interest in Lake Talawa and Lake Earl. What we are providing you with is a sketch of the basis for state ownership. Please be aware that there are many factors which affect the determination of the State's interest and which cannot be dealt with in a letter such as this. Therefore, you should consult your own attorney if you have any questions about the nature of the law governing state ownership of lands.

Pursuant to the Equal Footing Doctrine the State of California became the owner of all navigable waters and tide and submerged lands within its boundaries when it was admitted to the Union on September 9, 1850. In waterways where there is a tidal influence, the State's ownership extends up to the ordinary high water mark. Where there is no tidal influence, the State has a fee ownership between the ordinary low water marks. In all navigable waters and tide and submerged lands the State exercises the Public Trust up to the ordinary high water mark.

The State Legislature has delegated the administration and management of its sovereign lands to the State Lands Commission. (See Public Resources Code Sections 6216 and 6301.) Under this delegation the Commission has the authority to lease lands for various purposes and to enter into litigation to defend the State's title.

With regard to Lake Talawa and Lake Earl, the State claims a fee interest in the lakes and surrounding lands. The source of the State's title is based on claims of sovereign ownership. The State's interest was challenged many years ago in litigation. The suit was settled when quitclaim deeds were given to the State. Thus, the State now has two independent bases for asserting title. The area sought to be breached to lower lake elevations is within lands owned by the State. The State's interest extends to the ordinary high tide line of the Pacific Ocean and includes the entire area where any breaching might be sought. We are enclosing copies of some of our records which will track this for you.

A certain Ernestine Buzzini claims an interest in some of the state lands. However, the Commission does not recognize her claim of title to any lands within the beds of Lake Earl or Lake Talawa.

It should also be noted that the Assessor's plat shows a portion of Lake Earl and Lake Talawa to be within lands owned by your Association. These lands are claimed by the State as sovereign lands and the alleged interest of the Association is subject to challenge by the State. Any interest the Association might have would be above the low water marks and would be subject to the Public Trust.

On September 1, 1980 the Commission leased to the Department of Fish and Game the beds of Lake Earl and Lake Talawa. The term of the lease is 49 years. The Department is authorized to use the land for the preservation of wildlife habitat. A copy of the lease and its single amendment is enclosed for your reference.

Enclosed also are copies of Commission agenda items which have granted the Department of Fish and Game the right to breach the sand dunes to reduce water elevations in the lake. Also enclosed is an agenda item denying the County of Del Norte permission to do the same. It is the Commission's position that no party may breach the sand dunes by any means to lower the lake's water elevation without the Commission's prior consent.

We understand, but have no documentary evidence, that the Department of Fish and Game has acquired land in a proprietary capacity through the Wildlife Conservation Board. We suggest that you contact either the Department or the Board for verification of this and the specific location of such lands.

In response to your question regarding State ownership of all lakes within California, the State owns such lakes only if they could be considered sovereign lands at the time California was admitted to the Union.

Very truly yours,

JAMES R. FREY
Staff Counsel

STATE OF CALIFORNIA
STATE LANDS COMMISSION
1807 13TH STREET
SACRAMENTO, CALIFORNIA 95814

PETE WILSON, Governor

January 9, 1994

File Ref.: PRC 5879.9
R.A. # 24493

California Department of Fish and Game
Region 1
Attention: Richard L. Elliott, Regional Manager
601 Locust Street
Redding, CA 96001

Dear Mr. Elliott:

SUBJECT: Amendment to Lease PRC 5879.9 to Expand Lease Area and Interim Breaching of Sand Bar at Entrance to Lakes Earl and Talawa near Crescent City, Del Norte County

Enclosed, for your records, is the fully executed Amendment to General Permit - Public Agency Use authorizing the expansion of the lease area and the interim breaching of the sand bar at the entrance to Lakes Earl and Talawa in Del Norte County. This project was approved at the State Lands Commission meeting on November 15, 1994.

Our Accounting Office will be notifying you within 90 days regarding the balance of any deposit or amount due for staff time spent on this project under Reimbursement Agreement No. 24493.

Gary Monroe's cooperation in helping to complete this transaction was very much appreciated. If you have any questions, please call me at the telephone number referenced above.

Sincerely,

ORIGINAL SIGNED BY
JUDY LUDLOW
Public Land Management Specialist

Enclosure

cc: California Dept. of Fish and Game
Attention: Gary Monroe
619 Second Street
Eureka, CA 95501

STATE OF CALIFORNIA
STATE LANDS COMMISSION

2ND AMENDMENT OF LEASE PRC 5879.9

WHEREAS, the **STATE OF CALIFORNIA**, acting through the **STATE LANDS COMMISSION,** hereinafter called Lessor, and **CALIFORNIA DEPARTMENT OF FISH AND GAME,** hereinafter called the Lessee, have heretofore entered into an agreement designated as Lease PRC 5879.9 authorized by the State Lands Commission on August 26, 1980 and executed September 19, 1980, whereby the Lessor granted to said Lessee a General Lease - Public Agency Use covering certain State submerged lands situate in Del Norte County; and

WHEREAS, Pursuant to Paragraph 16(e) of Section 4 of Lease PRC 5879.9, its terms, covenants and conditions may be amended, revised or supplemented by mutual agreement of the parties; and

WHEREAS, Lessee wishes to:

1) Increase the lease area to include all of those lands received by the State of California through quitclaim in and adjacent to the beds of Lake Earl and Talawa for the preservation of a wildlife habitat;

2) Conduct interim annual breaching of the sandbar at the entrance of Lakes Earl and Talawa pending the completion of a feasibility study and any required environmental documents required under the California Environmental Quality Act (CEQA) and/or the National Environmental Policy Act (NEPA) which will be prepared by the Lake Earl Interagency Working Group or their Consulting Contractor, for the purpose of determining whether, or under what conditions, breaching the sand barrier between Lake Earl and the Pacific Ocean is in the public interest;

3) Lessee wishes to breach the openings to Lakes Earl and Talawa by cutting a channel through an unvegetated sand dune. The breaching will be done only between September 1 and February 15 if the lake levels rise above 8.0 feet or on February 15 if the lake levels are above 5.0 feet;

4) Lessee wishes to accomplish the breaching by cutting a channel approximately 200' long, 20' wide and 5' deep through the sand barrier with a bulldozer. Approximately 75 cubic yards of sand will be side cast on either side of the channel and will be carried to the ocean within a few hours of the breaching.

WHEREAS, by reason of the foregoing, it is now the desire of the parties to amend the foregoing Agreement.

NOW THEREFORE, the parties hereto agree as follows:

1) The lease shall be amended to include all those lands received by the State of California through quitclaim donations from private owners in and adjacent to Lakes Earl and Talawa and as shown on the attached Exhibit "A";

2. Lessee or their official contractor is authorized to conduct the interim annual breaching of the sandbar at the entrance of Lakes Earl and Talawa pending the completion of a feasibility study and any required environmental documents required under the California Environmental Quality Act (CEQA) and/or the National Environmental Policy Act (NEPA);

3. The breaching will be done only between September 1 and February 15 if the lake levels rise above 8.0 feet or on February 15 if lake levels are above 5.0 feet;

4. Lessee shall obtain all permits or authorization from the California Coastal Commission, U.S. Army Corps of Engineers, Del Norte County and the Regional Water Quality Control Board prior to any and all proposed breaching activities;

5. All breaching is subject to the terms and conditions as set forth by the California Coastal Commission, United States Army Corps of Engineers or any other regulatory agency, and shall be performed as required.

/
/
/

The effective date of this amendment to the aforesaid Agreement shall be November 15, 1994.

This amendment is a portion of Document No. PRC 5978.9, with a beginning date of September 1, 1980, consisting of four (4) sections with a total of six (6) pages.

All other terms and conditions of Lease PRC 5979.9 shall remain unchanged and in full force and effect.

This Agreement will become binding on the Lessor only when duly executed on behalf of the State Lands Commission of the State of California.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date hereafter affixed.

LESSEE:

CALIFORNIA DEPARTMENT OF
FISH AND GAME

By Richard L. Elliott

Title Regional Manager

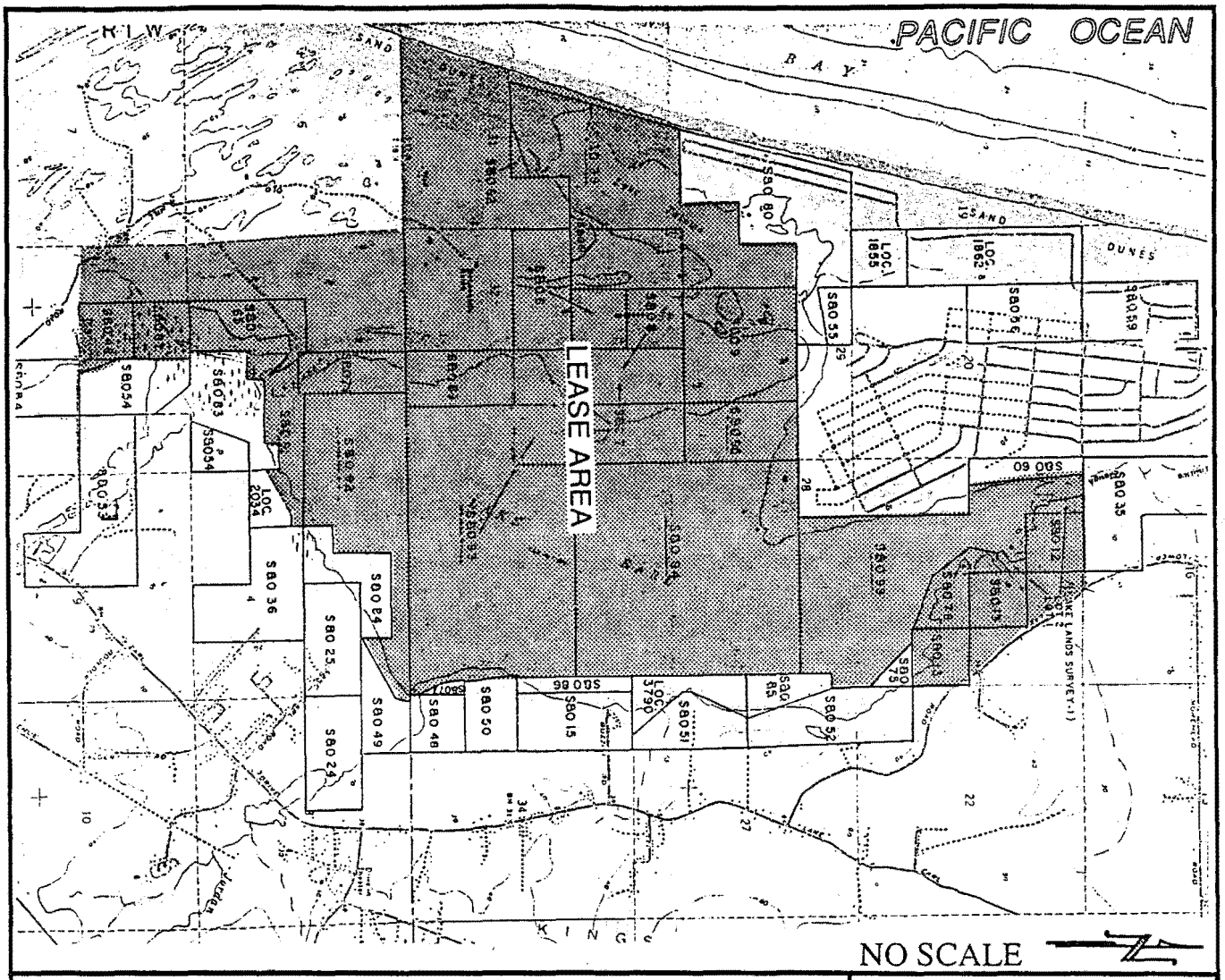
Date 11-14-94

STATE OF CALIFORNIA
STATE LANDS COMMISSION

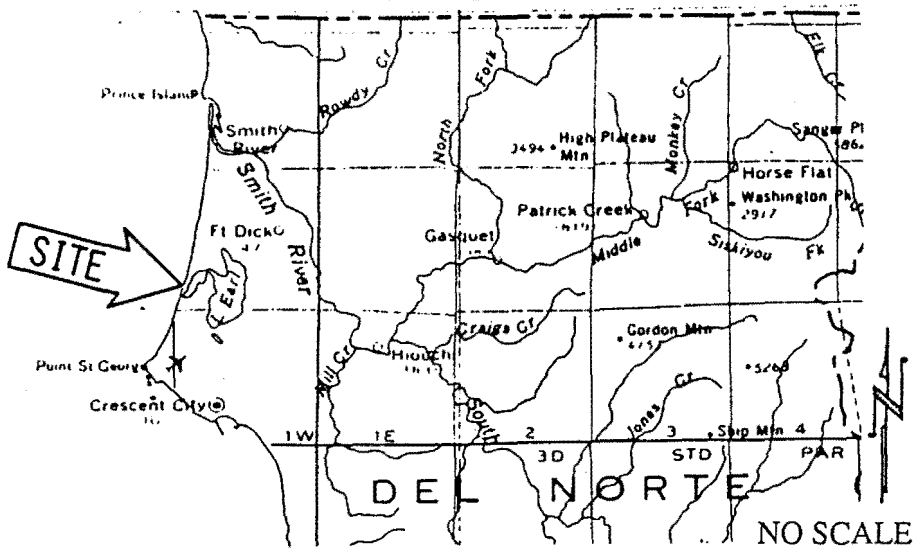
By [signature]

Title Chief, Division of Land Management

Execution of this document was authorized by the State Lands Commission on NOV 15, 1994



LOCATION MAP



This Exhibit is solely for purposes of generally defining the lease premises, and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

EXHIBIT "A"

PRC 5879

California Fish & Game

Lakes Earl & Talawa

DEL NORTE COUNTY

CG 5/94

IFORNIA ALL-PURPOSE ACKNOWLEDGMENT

No. 5907

State of Calif

County of Shasta

On 11-14-94 (DATE) before me, Lexie Ann Cox (NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"),

personally appeared Richard L. Elliott (NAME(S) OF SIGNER(S)),

☑ personally known to me - **OR** - ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

LEXIE ANN COX
Comm. #959113
NOTARY PUBLIC – CALIFORNIA
SHASTA COUNTY
My Commission Expires
March 24, 1997

WITNESS my hand and official seal.

Lexie Ann Cox
SIGNATURE OF NOTARY

OPTIONAL

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

☑ INDIVIDUAL
☐ CORPORATE OFFICER

_____
TITLE(S)

☐ PARTNER(S) ☐ LIMITED ☐ GENERAL
☐ ATTORNEY-IN-FACT
☐ TRUSTEE(S)
☐ GUARDIAN/CONSERVATOR
☐ OTHER: _____

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

DESCRIPTION OF ATTACHED DOCUMENT

PSC
2nd Amendment of Lease SP79-9
TITLE OR TYPE OF DOCUMENT

4
NUMBER OF PAGES

11-14-94
DATE OF DOCUMENT

yes
SIGNER(S) OTHER THAN NAMED ABOVE

DEPARTMENT OF THE ARMY PERMIT

Permittee: **California Department of Fish and Game - Del Norte County**

Permit No.: **20793N36**

Issuing Office: **San Francisco District**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: **Breaching the sandbar separating Lakes Talawa and Earl from the Pacific Ocean. Breaching would be done only between September 1 and February 15 if lake levels rise above 8.0 feet Mean Sea Level (MSL), or again on February 15 if lake levels are above 5.0 feet MSL. The purpose of breaching is to prevent flooding of local county roads and domestic wells, and to prevent possible aquifer contamination. All work shall be done in accordance with the attached drawings labeled "Proposed Breaching of Lake Earl by Cutting a Channel to the Ocean", In: Lake Earl, At: 5 miles north of Crescent City, Del Norte County, California, 3 of 3.**

Project Location: **Lakes Talawa and Earl, Crescent City, Del Norte County, California.**

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 1997**. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

EXHIBIT NO. 30
APPLICATION NO. 1-94-49
(page 1of 3)
California Coastal Commission

Special Conditions:

1. The permittee shall convene regular meetings of the Lake Earl Working Group to develop the least damaging practicable alternative for long term lake level management during the (2) year duration of the permit.

2. Specific studies to be accomplished during the 2 year period shall include:

a. Analyzing the extent and depths of the lakes at elevations ranging from 0.0-12.0 ft MSL.

b. Determining the acreage of permanent and seasonal wetland habitat at lake elevations ranging from 0.0 -12.0 ft MSL.

c. Documenting the amount of habitat available to, and the level of use by, migratory bird species under a full range of lake levels.

d. Determining the importance of the coastal lagoon system to various life stages of anadromous fishes.

e. Analyzing the effects of breaching frequency, magnitude, and seasonal timing, on special status species including listed and proposed threatened and endangered species.

f. Determining the population size and habitat use patterns of the tidewater goby.

g. Assessing the cumulative and indirect impacts associated with artificial breaching.

h. Documenting the potential frequency and extent of groundwater contamination from surrounding wells at different lake levels.

3. The permittee shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Gary Morgan — 12/28/95

(PERMITTEE) (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Michael J. Walsh — 29 Dec 95

(DISTRICT ENGINEER) MICHAEL J. WALSH (DATE)
LTC, EN