

FINDING OF NO SIGNIFICANT
IMPACT



MOUNTAIN LAKE ENHANCEMENT
PLAN

PRESIDIO OF SAN FRANCISCO
MAY 2001

This Finding of No Significant Impact (FONSI) has been prepared for implementation of the proposed action as described in the *Mountain Lake Enhancement Plan and Environmental Assessment (MLEP/EA)* at the Presidio of San Francisco in the Golden Gate National Recreation Area (GGNRA).

The FONSI is based on the analysis of impacts associated with conducting enhancements for improving water quality, habitat and the visitor experience at Mountain Lake, as discussed in the MLEP/EA, dated October 2000, and input received during the public comment period. Comments received during the public review period for the MLEP/EA are summarized and responded to in Attachment 1 (Report Accompanying the FONSI). Minor text changes and revisions in response to the comments are provided in Attachment 2 (Errata Sheet). The MLEP/EA, the Report Accompanying the FONSI, the Errata Sheet, and the *Presidio General Management Plan Amendment Final Environmental Impact Statement (GMPA)*, from which the MLEP/EA is tiered, are incorporated by reference, as supporting documents for this FONSI.

1 Summary of Proposed Action

The MLEP/EA is the joint effort of three agencies: the Presidio Trust, the National Park Service (NPS), and the Golden Gate National Parks Association (GGNPA). Because the Presidio Trust manages the portion of the Presidio where Mountain Lake is found, the Trust is lead agency for this environmental compliance process. The overall goal of the MLEP is to improve the health of the lake and adjacent shoreline and terrestrial environments. The MLEP/EA has three interrelated objectives: 1) to improve water quality; 2) to enhance habitat; and 3) to enhance public access. The project includes habitat restoration, but does not include restoration of a full ecosystem with the reintroduction of any animal species. The proposed action (Alternative 2) includes the following elements:

- Dredging of approximately 11,500 cubic yards of sediment to deepen the lake;
- Mechanical aeration of the lake;
- Phased removal of exotic trees from the east shore;
- Revegetation with native wetland, willow woodland, and oak woodland species;
- Phased removal of exotic weeds and revegetation;
- Construction of an interpretive trail with three overlooks;
- Development of a new overlook along the south shore; and
- Future phased improvements along the east arm.

2 Public Review

2.1 November 1, 2000, MLEP/EA Released

The MLEP/EA was released on November 1, 2000 for a forty-five day public review period, which ended on December 15, 2000.

2.2 Environmental Assessment Mailing

Approximately 600 copies of the *Summary of the Mountain Lake Enhancement Plan* were distributed to Presidio tenants, Presidio residents, local neighborhood organizations and groups, and project neighbors. Included with the *Summary* was a letter announcing the availability of the MLEP/EA for review and comment. Approximately 120 copies of the MLEP/EA were distributed to city, state and federal government agencies, public interest groups, neighbors, and various individuals.

2.3 Public Meetings and Site Tours

A series of public meetings and site tours were conducted for the project. Notices for the public meetings were mailed to the list described above and announced in the *Presidio Post*. In addition, 2000 flyers announcing both the site tours and the public meetings were distributed in the neighborhoods immediately adjacent to the project site. Public meetings and site tours were prominently promoted at Mountain Lake's onsite bulletin board. Articles describing the Mountain Lake project and these events were included in the March, September, and October 2000, editions of *The Presidio Post*. Two formal public meetings were held in September and November of 2000 at the Park's Fort Mason Headquarters and chaired by the Golden Gate National Recreation Area Citizen's Advisory Commission. These public meetings, held as part of the development and review of this environmental assessment, are described below:

■ March 2000 – Mountain Lake Enhancement Plan Scoping Meeting

The formal planning process for Mountain Lake began with a Public Scoping Meeting, held at the Presidio's Log Cabin. Meeting notices were mailed to the Mountain Lake mailing list described above. The challenges of restoring Mountain Lake were presented to interested attendees. Key issues identified included tree removal, visitor access, habitat enhancement, and noise from Park Presidio Boulevard.

■ September 2000 – Citizen's Advisory Commission Meeting

The NPS provided advance public notice regarding items to be discussed at this public Advisory Commission Meeting. An overview of the MLEP/EA was presented at this meeting.

■ October 2000 – Site Tours

Three tours of the Mountain Lake project site were given. The public was invited to participate. Each tour included an overview of the MLEP/EA. Approximately 120 neighbors and representatives of groups participated in the tours. Tree removal and noise from Park Presidio Boulevard were the issues most often mentioned by tour participants.

■ November 2000 – Public Open House

An open house and public briefing on the Mountain Lake Project was held at Saint James' Church, located in the neighborhood adjacent to Mountain Lake. The presentation included an overview of the MLEP/EA. Roughly 10 neighbors attended. Tree removal was again the most frequently mentioned issue.

■ November 2000 – Citizen's Advisory Commission Meeting

On November 28, 2000, the proposed action was briefly summarized and public comments on the MLEP/EA were received at the meeting. Six members of the audience spoke. Comments focused on overall support for

the project, tree removal, habitat enhancements, and concerns about potential contamination in lake bottom sediment.

■ February 2001 – Presidio Trust Public Board Meeting

The MLEP/EA and a summary of public comments thereon were presented at this public board meeting. A resolution directing the Presidio Trust to prepare a FONSI for the MLEP/EA was passed at the end of the presentation.

2.4 Public Comments and Response

Oral comments were received from two organizations and four individuals at the November 2000 public meeting. Written comments were received from 9 organizations and 12 individuals during the 45-day comment period. A total of 15 individuals and 9 organizations provided written or oral comments on the MLEP/EA. Some people/organizations presented both written and/or oral comments. All written and oral comments were evaluated and responded to in Attachment 1, which was summarized at the February 2001 Presidio Trust Public Board Meeting. In response to public comment, a number of minor modifications of the proposed action were also presented at the Board Meeting (Attachment 2). The modifications include acceleration of the later phased tree removal along the east shore, replacement of fence along West Pacific Avenue, planting of trees along the golf course edge, and working with Caltrans to relocate storm drains and create a better noise buffer along Park Presidio Boulevard.

In a unanimous vote, the Presidio Trust Board recommended approval of the proposed action, as modified, and completion of a FONSI.

3 Alternatives

In addition to the proposed action (Alternative 2) described above, the MLEP/EA described and analyzed three other alternatives, two action alternatives and a no action alternative. Alternative 1 called for less dredging, partial removal of exotic trees along the east shore, more limited removal of exotic weeds and revegetation, no development of an interpretive trail with overlooks, and no future improvements to the east arm. Alternative 3 called for more dredging, full removal of exotic trees along the east shore in the first phase, more extensive removal of exotic weeds and revegetation in the first phase, a longer interpretive trail, and improvements to the east arm in the first phase, including exotic tree removal. The MLEP/EA analyzed the site-specific environmental consequences of implementing each alternative.

Seven other possible alternatives for achieving the project objectives were considered but rejected in the MLEP/EA. These alternatives were: 1) adding fill along the south shore beach; 2) re-introduction of special-status species; 3) creating visitor access into existing native habitat areas; 4) dredging of the north and east arms; 5) no dredging; 6) deeper dredging; and 7) leaving all exotic trees along the east shore. These alternatives were rejected from further consideration because they would not result in fewer environmental impacts than the proposal or because they were not considered feasible. The proposed action was chosen because it is more consistent with the concept identified in the GMPA and best meets the interrelated project objectives.

4 Disposition of Environmental Effects

The following discussion presents the reasons why the proposed action will not have a significant impact on the human environment. A more detailed analysis supporting this conclusion is included in Section 4 of the MLEP/EA.

Potential environmental effects of the proposed action and alternatives were evaluated in the MLEP/EA, including impacts on land use, slope stability, water resources and quality, biological resources, cultural resources, recreation, transportation, air quality, noise, human health, safety, and the environment, scenic resources, and cumulative impacts. From the analysis in the MLEP/EA, the Trust determined that there will not be significant impacts on any of these resources. Implementation of the proposed enhancements to Mountain Lake will not result in significant adverse impacts on the environment, because the project has been carefully designed to avoid impacts and the plan incorporates mitigation measures for potential adverse impacts.

5 Measures to Minimize Potential Adverse Environmental Impacts

All practicable mitigation measures identified in the MLEP/EA to avoid or minimize environmental impacts that could result from implementation of the selected alternative will be incorporated into the project. These mitigation measures are discussed in greater detail in the MLEP/EA. As part of the decision to implement Alternative 2, the Trust is adopting a Monitoring and Enforcement Program (MEP) to monitor actual impacts once the project is begun. The MEP assures the implementation of the mitigation measures as proposed in the MLEP/EA. The MEP describes the actions that must take place as a part of each measure, the timing of these actions, the individual who is responsible for implementation, and the agency responsible for enforcing each action. The MEP is appended to this FONSI as Attachment 3. It provides the following information:

- *Impact* - Taken from the MLEP/EA
- *Mitigation Measures* – Taken from the MLEP/EA
- *Reporting Stage and Responsibility* – Applicable milestone or phase and agency/individual who will carry out mitigation measures;
- *Responsibility for Compliance* – Agency/individual who will ensure that the mitigation measures are accomplished;
- *Method of Implementation* – How actions will be implemented;
- *Enforcement* – How implementation of actions will be enforced; and
- *Checkoff* – Verification of implementation.

The Presidio Trust has ultimate control over and responsibility for the implementation of most of the measures identified in the MEP. Therefore, the Presidio Trust Construction Manager for the MLEP/EA is the assigned chief monitor. If responsibility for the implementation of a specific mitigation measure resides in another agency, the Project Manager will oversee a process to ensure coordination with these other agencies in monitoring and enforcement. The Project Manager will track the overall progress of each action, and will make available to the public the results of relevant monitoring upon request.

6 Finding

In response to comments received during the public review period, as well as public input received at the November 28, 2000, GGNRA Advisory Commission meeting, the Trust has further considered the range of alternatives, the significance of the potential impacts that may be generated by the proposed action, and the possible need to prepare a site-specific Environmental Impact Statement (EIS) for the proposed action, as modified. Based on this detailed review, as reflected in the Report Accompanying the FONSI and the MLEP/EA, the Trust concludes that appropriate alternatives to the proposed action have been analyzed, and that the proposal will not generate any significant new or different environmental impacts requiring preparation of an EIS.

In conclusion, the proposed MLEP/EA does not constitute an action that would normally require the preparation of an EIS. It is tiered off of and is consistent with the GMPA/EIS. The proposal will not have a significant impact on the human environment. There are no significant unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites listed on the National Register of Historic Places, or other unique characteristics of the region. Implementation of the action will not violate any federal, state, or local law. Therefore, in compliance with the National Environmental Compliance Act, an EIS will not be prepared.

For further information concerning this decision, contact John Pelka, NEPA Compliance Coordinator, at (415) 561-5300, or at The Presidio Trust, 34 Graham Street, P.O. Box 29052, San Francisco, CA 94129-0052.

Dated: May 2, 2001

APPROVED:


James Meadows
Executive Director, Presidio Trust

Oral comments on the *Mountain Lake Enhancement Plan and Environmental Assessment* were received from 2 organizations and 4 individuals at the November 2000 public meeting. Written comments were received from 8 organizations and 12 individuals during the 45-day comment period. Between the oral and written comments, a total of 15 individuals and 8 organizations provided comments on the Environmental Assessment. (Some people/organizations presented both written and/or oral comments). All written and oral comments have been evaluated and responded to in this *Report Accompanying the FONSI*. Abbreviations used to annotate the source of each comment are included in parentheses after each name.

Comments from Organizations Received in Oral Testimony

Friends of Mountain Lake Park - Rich Shrieve (FMLP)

Neighborhood Associations for Presidio Planning - Ron Miguel (NAPP)

Comments from Individuals Received in Oral Testimony

Mary Ellen Doyle (Doyle)

Jack Laws (Laws)

Liam Reidy (Reidy)

Lisa Vittori (Vittori)

Comments from Organizations Received in Written Testimony:

Friends of Mountain Lake Park - Rich Shrieve (FMLP)

California Regional Water Quality Control Board - Susan Gladstone (RWQCB)

Governor's Office of Planning & Research, State Clearinghouse (OPR)

Lake Streets Residents Association - William Shepard (LRSA)

National Parks Conservation Association - Steven Krefting; Natural Resources Defense Council - Johanna Wald;
San Francisco League of Conservation Voters - Armandeep Jawa (NPCA)

Neighborhood Associations for Presidio Planning - Ron Miguel (NAPP)

San Francisco Recreation and Parks Department - Marvin Yee (SFRPD)

Urban Watershed Project - Doug Kern (UWP)

Comments from Individuals Received in Written Testimony:

Roger Byrne and Liam Reidy (Byrne)

Jean & Erich Davids - Neighbor, Lake Street (Davids)

David Haase - Neighbor, California Street (Haase)

Joseph Kinyon (Kinyon)

Eugene Lew - Neighbor, 5th Avenue (Lew)

John Maccabee - Neighbor, Lake Street (Maccabee)

Nancy Newmeyer - Neighbor, 5th Avenue (Newmeyer)

Andrew Rush and Heather Chase (Rush)

Diana Scott (Scott)

Michael Shough (Shough)

Robert and Susan Vanneman, Neighbor, 7th Avenue (Vanneman)

Margaret Zegart (Zegart)

1 Overall Project

- 1.1 *Comment: The Presidio Trust has complied with State Clearinghouse review requirements for environmental documents, and no state agencies submitted comments on the EA (OPR).*
- 1.2 *Comment: Strongly supports the MLEP (Vanneman, NAPP, FMLP).*
- 1.3 *Comment: Supports the Proposed Action, and more specifically phased tree removal (LSRA).*
- 1.4 *Comment: The MLEP planning process is an example of coordination between the city of San Francisco, the NPS, Presidio Trust, and the neighboring community (NAPP).*
- 1.5 *Comment: Supports the overall goal of the MLEP and the project's identified objectives (NPCA).*
- 1.6 *Comment: Strongly favors actions that improve the habitat quality of Mountain Lake (Doyle).*
[Response to comments 1.1 through 1.6: comments 1.1 through 1.6 have been noted]
- 1.7 *Comment: The project emphasizes landscaping over ecological restoration (NPCA, Scott).*

Response to comment 1.7: The proposal is limited to habitat restoration and not ecological restoration. All three of the action alternatives propose the restoration of native Arroyo willow woodland and oak woodland along the east shore where eucalyptus will be removed. All of the species proposed for use either still exist in the remnant willow woodland at Mountain Lake or are being proposed for reintroduction based on past documentation of their presence at Mountain Lake and/or their presence in other nearby Arroyo willow and oak woodlands (such as Lobos Creek). The species list was developed with input from NPS staff, the Presidio Native Plant Nursery, and the California Native Plant Society. The photo simulations were developed using photographs of native Arroyo willow woodland, the plant community that is proposed for restoration along the lake edge. Because of exposed native rock and thin soil along the east shore, woodland in this area will not be as dense as it might otherwise be, and the photo simulations were developed to show the visual effect of this.

- 1.8 *Comment: The Presidio Trust should take over management of the eastern arm (Maccabee).*

The east arm falls within Area B, the portion of the Presidio that is managed by the Presidio Trust. This area is included in the lease for the Presidio Golf Course.

2 Alternatives

- 2.1 *Comment: The absence of specific, quantified, prioritized statement of objectives makes it difficult to evaluate the proposed project alternatives and evaluate potential conflicts and/or tradeoffs among the alternatives (NPCA).*
- 2.2 *Comment: Because the water quality and restoration objectives have not been quantified, the EA does not permit readers to evaluate alternatives on the basis of their ecological benefits (NPCA).*

Response to 2.1 & 2.2: The EA presents a realistic description of the agencies' goals in taking action at Mountain Lake, and also describes a range of reasonable alternatives in which environmental impact information and public involvement would be helpful in decision making. As such, the goal statements are sufficiently broad to define the range of alternatives. Quantification of water quality or restoration objectives runs the risk of violating NEPA by making a decision before the NEPA process has been completed. The goals are inextricably interrelated and not amenable to prioritization.

Two primary measures will be used to monitor the success of the Mountain Lake Enhancement Plan on improving water quality – water clarity and dissolved oxygen. These are commonly used integrative indicators of water quality and improvement in the health of lakes. Both of these indices will be measured monthly. Water clarity is measured by Secchi disk depth. Currently Mountain Lake has a Secchi disk depth of less than one meter. Our objective is to reach a Secchi disc depth of more than 2 meters. Dissolved oxygen (DO) will be measured in the depths of Mountain Lake, where anoxic conditions exacerbate internal loading. Dissolved oxygen often reaches 0 at the deepest parts of Mountain Lake. Our objective is to reach a DO of greater than 5 at all times in the deepest waters. Monitoring of water clarity and dissolved oxygen will be used to assess the success of enhancement activities and adaptive management activities, if needed.

- 2.3 *Comment: The three action alternatives do not represent a real range of alternatives (NPCA).*
- 2.4 *Comment: The lack of differences between the various alternatives in terms of their environmental impacts is persuasive evidence that they do not in fact represent genuinely different options for improving water quality and restoring the adjacent shoreline and terrestrial environments (NPCA).*

Response to 2.3 & 2.4: The alternatives were developed in response to the Trust's project goals and the issues raised by the public and interested agencies during scoping. Primary issues raised include the visual impact of exotic tree removal, the desire for habitat enhancement, the preservation of existing visitor access to the east shore of the lake, and the visual and auditory impact of Park Presidio Boulevard. Secondary issues focused on concerns about the impact of implementation on users. The alternatives incorporate a range of methods for addressing these issues, while satisfying all three project objectives. Alternatives that may have satisfied one of the project objectives, such as the idea of expanding visitor access into existing habitat areas, were considered but rejected because they were in direct conflict with the habitat enhancement objective.

- 2.5 *Comment: None of the alternatives considered provide for true habitat restoration along the shoreline, as is evident from the photographs provided (NPCA).*

Please see the response to Comment 1.7.

- 2.6 *Comment: No consideration was given to an alternative involving a phased approach to improving water quality, such as an alternative that would first remove non-native trees and other plants and re-establish native vegetation and then proceed to dredging (NPCA).*

An alternative utilizing only mechanical aeration and non-native tree removal was considered but rejected (MLEP, p. 68). Removing non-native trees will have a beneficial effect on the lake because it will limit the

introduction of new nutrients, tannins and other chemicals into the lake. However, it was determined that only removing vegetation would not result in an appreciable increase in water quality because of the existing high level of nutrients already in the lake. Before any significant improvement in water quality can take place, the quantity of nutrients present in the lake must be reduced. Since Mountain Lake has no outlet through which nutrients may be naturally flushed over time, the nutrients must either be chemically "bound up" using aeration, or removed by dredging. As previously stated, aeration will have a beneficial impact on improving water quality. However it will not keep emergent vegetation from rapidly filling the lake. Mountain Lake has rapidly sedimented in over the last century due to adjacent overgrazing, construction and road-building. Because of these anthropogenic sediment sources, the lake is now approximately 9 feet deep at its deepest point, shallow enough for emergent vegetation to rapidly fill the lake. The dredging designs were developed to undo this rapid anthropogenic sedimentation, and return the lake to its depth at the time when adjacent human uses sped up the natural sedimentation process and began to introduce new, high levels of nutrients into the lake (and its sediment).

- 2.7 *Comment: Given the mandate of the Endangered Species Act to bring about recovery of special status species, the Trust should have considered the option of re-establishing special status native aquatic fauna in at least one alternative (NPCA).*

No element of the Mountain Lake Enhancement Plan (MLEP) would foreclose the possibility of reintroducing special status aquatic species to Mountain Lake. The ability to reintroduce special status species to Mountain Lake is contingent on the success of restoration efforts in adjacent upland areas, success at improving water quality, and the ability to remove exotic fish and bullfrogs and keep them from being reintroduced. The MLEP would have a beneficial impact on water quality and improve adjacent habitat areas, both of which could pave the way for future reintroductions. In response to comments received on the EA, the Trust has initiated conversations with other agencies faced with the challenge of fish removals in an urban environment, to determine if fish removals and special-status species reintroductions are feasible for Mountain Lake. Special status aquatic species reintroductions will occur only after consultation with appropriate agencies and necessary environmental compliance.

3. Water quality and dredging

- 3.1 *Comment: The relationship between health of the lake and/or the water quality objective and the proposed dredging is left extremely obscure in the EA (NPCA).*

Mountain Lake is eutropic. Even if one could stop all nutrient inputs, which is impossible in an urban environment (see response to next comment), Alex Home, the limnologist working on Mountain Lake, estimates that it would take roughly 2 decades for internal cycling of nutrients to stop. Because the lake has filled rapidly due to a host of anthropogenic forces to a maximum depth of less than 9 feet, it is in danger of rapidly filling with macrophytes, and no longer functioning like a lake. Dredging is proposed in all of the alternatives to address both the health of the lake and water quality. First, dredging will deepen the center of the lake to create a healthy balance between emergent vegetation along the shoreline and open water in the center. Second, it will remove sediment deposited during the last 100 – 200 years, the period of rapid, human-exacerbated sedimentation. Not only has sedimentation during this period occurred at an

unnaturally high rate, the sediment itself is more heavily laden with nutrients due to human activity in adjacent upland areas.

- 3.2 *Comment: Since mechanical aeration is a "permanent" feature of all three "action" alternatives, it appears that this project will not result in Mountain Lake becoming a functioning lake (NPCA).*
- 3.3 *Comment: There is no option of doing without ongoing mechanical aeration, even though a specified objective of this project is habitat restoration (NPCA).*

The purpose of mechanical aeration is to attempt to compensate for the fact that Mountain Lake now sits in the center of an urban environment. Mechanical aeration is widely used to mitigate for nutrients (such as nitrates) that will continue to enter the lake by virtue of its being surrounded by dense urban development. Even if all of the surface runoff from Mountain Lake's watershed, which includes portions of the urbanized Richmond District, was free of nutrients, groundwater flows and airborne particulates would continue to introduce an unnaturally-high level of nutrients into Mountain Lake. Mechanical aeration keeps the lowest depths of the lake oxygen-rich, binds the nutrients so they cannot cause algae blooms and minimizes internal loading (the recycling of nutrients bound up in sediments due to anoxic conditions). Aeration is a critical part of the lake restoration strategy. By oxygenating the lake, reducing available nutrients, and increasing water clarity and the level of dissolved oxygen, it will undo some of the damage inflicted on Mountain Lake by virtue of its urban location.

- 3.4 *Comment: The eastern arm of the lake should be extended now (Maccabee)*

Under the preferred alternative, east arm improvements will be completed within 3 – 5 years, to minimize the visual impact of too much tree removal too quickly. Coincidentally, the phased approach allows for funding to be put in place. If funding for the second phase can be assembled and community response to accelerated tree removal is favorable, east arm improvements could be completed more quickly.

- 3.5 *Comment: The implication that shallowing of the lake and deteriorating water quality is solely due to human impact is misleading (Byrne).*

It is true that anthropogenic forces are not the only reason that Mountain Lake is filling. Some measure of filling is natural in all lakes, particularly in lakes that have no outlet, like Mountain Lake. However, during this century, Mountain Lake has been filling at a rate at least 10 times the expected natural rate, due to the construction of Park Presidio Boulevard and other nearby ground disturbance. One of the goals of this project is to undo this human-caused filling and return to lake to something resembling its natural depth.

- 3.6 *Comment: The proposed management policy is designed to favor certain species of plants and animals and discourage others (Byrne).*

The Mountain Lake Enhancement Plan is designed to expand existing habitat types (wetland, willow woodland, oak woodland), which are relatively limited in their distribution at the Presidio. Indeed, this does favor certain species of plants and animals, as does any restoration activity.

- 3.7 *Comment: The plan emphasizes design values over water quality (Scott).*

The MLEP has three objectives, one of which is to enhance visitor amenities. By defining and consolidating existing visitor access, the project attempts to reduce currently uncontrolled access along the east shore (which has negative impacts on habitat and causes erosion) while also responding to a strong community desire for some access along the east shore. We believe the preferred alternative, by eliminating access into existing habitat areas and from a portion of the new habitat areas, while still creating some opportunity for visitor access along the east shore, strikes the proper balance between project objectives.

- 3.8 *Comment: The "Historic and Existing Geomorphology" section is too simplistic – other researchers have suggested other reasons for how Mountain Lake was formed (UWP).*

Indeed, a number of ideas have been put forth about how and why Mountain Lake might have been formed. In the Plan we mention the one that we felt was most tenable given what we knew when the plan was written. What is important as far as the Plan is concerned, is that the none of these different theories of lake formation change in any way the proposed action. If the plan proposed to dredge more deeply, running the risk of "punching" through the lake bottom, then the question of lake formation would take on added importance. However, removing an average of 4' of sediment from the lake, as proposed in the preferred alternative, does not run that risk.

- 3.9 *Comment: The EA does not address the effect that the groundwater extraction wells installed for golf course irrigation had on the lake's ecology nor their removal (UWP).*

The groundwater extraction wells associated with the tank facility along the east shore of Mountain Lake were left in place and capped as part of the tank removal project in early 2001. Water levels have clearly fluctuated during the lake's history, the result of a combination of anthropogenic (golf course irrigation, San Francisco water supply) and natural causes. Although this fluctuation may have had an impact on lake ecology in the past, it does not affect the actions we have proposed for addressing water quality problems in the lake today.

- 3.10 *Comment: The pipe that crosses the lake's east arm to connect the southern groundwater extraction well to the water treatment facility is not addressed in the EA (UWP).*

This pipe is far enough east to fall outside of the area proposed for dredging in the MLEP (Figure 7).

- 3.11 *Comment: The EA does not indicate that peat lies below the lake surface (UWP).*

There is no record of peat in the borings taken during testing by the Army or by the Presidio Trust.

- 3.12 *Comment: Water level manipulation may be possible if there exists a Cal Trans tunnel connecting the lake to a storm drain (UWP).*

Although we have anecdotal evidence that a tunnel connects Mountain Lake to storm drains and/or Lobos Creek, we have thus far been unsuccessful in our attempts to locate either end of the tunnel. If such a tunnel is located during this project, it might be useful for the purpose you suggest, should water level manipulation be necessary.

- 3.13 *Comment: Without appropriate control measures, the project may have significant adverse impacts to water quality (RWQCB).*

As directed by the Clean Water Act and other applicable requirements, a Notice of Intent shall be filed with the State Water Resources Control Board prior to initiation of soil-disturbing activities to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). The General Permit requires development, implementation, and compliance monitoring of a SWPPP that prescribes BMPs to control erosion at the construction site. The project will minimize the discharge of soil during construction by employing BMPs. Prescriptions for monitoring and reporting of BMP performance and conditions before and immediately after the completion of work shall be conducted. Compliance with the BMPs included in the SWPPP shall result in a minimal amount of soil erosion. The SWPPP shall be developed in consultation with Regional Water Quality Control Board staff.

- 3.14 *Comment: The dredging activities proposed for this project may be subject to compliance with Section 404 of the Clean Water Act as mandated by the U.S. Army Corps of Engineers, and may have to comply with either Clean Water Act Section 401 (b) or Waste Discharge Requirements (WDR) as mandated by the Regional Board (RWQCB).*

The Presidio Trust has consulted with both the U. S. Army Corps of Engineers and the Regional Board about the MLEP/EA. The Trust will work with both agencies to determine what permits may be required for dredging activities at Mountain Lake.

- 3.15 *Comment: Any wetland fill would require Section 401 certification from the Regional Board.*

Neither the preferred alternative nor the other action alternatives propose filling any wetlands.

4. Natural Resources and Tree Removal

- 4.1 *Comment: Enjoys existing eucalyptus trees and does not support their removal along east shore (Haase).*
- 4.2 *Comment: The plan calls for the removal of too many trees too quickly, and their replacement with trees that will not grow as high (Scott).*
- 4.3 *Comment: It has not been quantitatively demonstrated that eucalyptus trees have polluted the lake (Haase).*
- 4.4 *Comment: The initial visual impact of eucalyptus removal along the east shore is perhaps the most controversial issue with respect to this project (FLMP).*
- 4.5 *Comment: Most of the eucalyptus trees on the east shore should be cut down, except for the big tree with the rope swing, which has been used by children for over 50 years (Davids).*
- 4.6 *Comment: All trees should be removed in the first phase because leaving some trees will have a present and continuing adverse effect on the lake and because leaving some will endanger the success of proposed habitat restoration activities (Zegart).*

- 4.7 *Comment: All trees should be removed in the first phase because funding may not be available for future tree removals (Zegart, Maccabee).*
- 4.8 *Comment: All trees should be removed in the first phase because they are senescent and removing some could weaken the remaining ones, increasing the likelihood they might fall (Newmeyer).*
- 4.9 *Comment: Eucalyptus removal is important for improving water quality and for the success of adjacent native plant restoration (Laws).*
- 4.10 *Comment: The eucalyptus should be removed and replaced with native willow and alder, which has significantly higher wildlife value (Rush).*

Response to comments 4.1 through 4.10: Blue gum eucalyptus trees, like those found at Mountain Lake, are one of the fastest growing eucalyptus. Individual trees can grow on average of 6-10 feet a year, and eucalyptus stands can spread 10 to 20 feet in diameter annually. Most mature, undisturbed stands of eucalyptus preclude the establishment of diverse understory plant species found in natural forest systems, such as oak woodlands and redwood forests. This is due, in part, to the plant germination-inhibiting effects of eucalyptus toxins (i.e., phenolic acids -- phenols) present in the thick accumulation of leaf litter that develops beneath stands, and the transfer of chemicals (i.e., terpenes) from the leaves, via fog drip, to the soils and water surface below. Research indicates that the presence of these water-soluble phenolic acids inhibits the growth of grassland plant species as well as many other herbaceous species. The continued deposition of the eucalyptus compounds into an adjacent aquatic environment, such as Mountain lake, may also compromise water quality, however little research on this topic has been completed to date. Research does indicate that because eucalyptus trees are such strong competitors for resources such as water, their presence limits the ability of other species to become established.

Most studies regarding the impacts of blue gum eucalyptus have focused on the effects and impacts of the species on native vegetation. Wildlife issues have only been addressed more recently. Some ornithologists are concerned that the deposition of the blue gum's tar-like pitch on the beak's of nectaring individuals such as humming birds and warblers is responsible for their death. Studies examining bird use of blue gum eucalyptus are currently underway to further evaluate the trees known nesting habitat values and potential impacts to local bird species.

The removal of the eucalyptus trees at Mountain Lake will enable the establishment of numerous riparian oak woodland plant species, including willows, oaks, toyon, coyote brush and other shrubs, rushes and sedges. These species provide a complex habitat structure that supports a high diversity of migratory and local bird life, as well as an increased number of plant species. The reduction in competition by the eucalyptus trees is critical to the survival and establishment of a diverse riparian vegetation community. The removal of all eucalyptus trees in one event eliminates the potential for eucalyptus leaf litter and canopy shading to increase the opportunity for weed establishment, and to limit the success of revegetation efforts. Additionally, phased removal activities could impact previous revegetation efforts, thereby increasing the timeframe for the re-establishment of vegetation buffer framing the lake's edge.

The Golden Gate National Recreation Area recently completed several other eucalyptus removal projects of similar size, the most recent being in Oakwood Valley to increase the health and viability of oak

woodland habitat. A critical ingredient to the success of this project, was the integration of community stewardship in the revegetation and maintenance efforts of the area after the eucalyptus were removed.

- 4.11 *Comment: The statement that "upland areas around the lake include remnant native wetland and riparian woodland" is not technically correct (Byrne).*

Early photographs (19th century) of Mountain Lake show a lake surrounded by a mostly bare and/or thinly vegetated shore. This deforestation is probably the result of Spanish settlement in the mid-18th century and subsequent overgrazing. Earlier evidence (i.e., period descriptions and the paleo-ecological record) suggest that prior to Spanish settlement, Mountain Lake was surrounded with riparian woodland similar to Lobos Creek and similar to what one might expect based on other Central coast lakes. The eucalyptus plantation along the east shore is an introduced and invasive exotic species that has negative impacts on the lake and adjacent habitat areas. Although Arroyo willow and oak woodland communities may not have been continuously in existence at Mountain Lake, based on an analysis of the historical record and similar coastal ecosystems by plant ecologists involved in developing the MLEP, these plant communities are the most appropriate ones for use at the lake.

- 4.12 *Comment: The Trust should plant new trees along the edge of the golf course, to mitigate the impact of removing the eucalyptus trees (FMLP, SFRPD, Laws).*

This idea has been incorporated into the preferred alternative. See Attachment 2: Errata Sheet.

5. Visitor Experience

- 5.1 *Comment: Build a wall along Park Presidio to buffer the lake. (Vanneman, Rush, Shough).*

The Trust supports this idea and will work to encourage Caltrans to develop some type of noise abatement structure or landscape feature between Mountain Lake and Park Presidio Boulevard.

- 5.2 *Comment: Off-leash dog use at Mountain Lake, particularly by professional dog-walkers, creates conflicts with other users, particularly with school children doing programs at Mountain Lake (Kinyon).*

Implementation of the Mountain Lake Enhancement Plan will not change existing NPS regulations regarding dog use.

- 5.3 *Comment: Dog walkers at Mountain Lake should be actively engaged in the restoration process (Vittori).*

We hope to continue to engage the Mountain Lake community throughout the project.

- 5.4 *Comment: Please eliminate or remove the fence along West Pacific (Davids, Lew).*

During design development, staff will study this idea and others for creating better visual access into the east arm after this area is restored.

6. Cultural Resources

- 6.1 *Comment: The statement that there may have been a Spanish encampment by the lake in 1776 should be rewritten without the qualifying "may" (Byrne).*

All evidence points to a Spanish encampment near Mountain Lake. The plan uses the qualifying "may" since no physical evidence of this encampment has been found to date.

- 6.2 *Comment: The site should be restored as closely as possible to its 1776 condition, and the de Anza Expedition should be commemorated through signage and park events (Zegart).*

By removing eucalyptus and replanting native wetland, riparian woodland and oak woodland species along the shores of Mountain Lake, the site will be restored to conditions more closely resembling the 1776 condition. However, some post-1776 intrusions, like adjoining urban neighborhoods and Park Presidio Boulevard, cannot be removed. The de Anza Expedition is already commemorated at the site with a marker and a wayside exhibit along the south shore. Although it is not part of this project, we hope that additional interpretive signage will be added in the future at Mountain Lake, interpreting not only the de Anza Expedition, but the entire 1700 year history of the lake.

- 6.3 *Comment: The lake itself is an important archive of environmental change, and archival cores should be taken before dredging begins (Byrne).*

This recommendation will be explored by staff.

7. Hazardous Materials

- 7.1 *Comment: The possible presence of toxic materials in the sediment to be removed during dredging is being dealt with openly and honestly by the Trust – we are confident it will be handled properly (FMLP).*
- 7.2 *Comment: Mountain Lake is one of the most heavily contaminated lakes in North America (Byrne).*
- 7.3 *Comment: Although the EA identified mercury as a problem in connection with water quality at Mountain Lake, we could find no acknowledgement of the fact that mercury bio-accumulates or any discussion of whether bio-accumulation has occurred at Mountain Lake (NPCA).*
- 7.4 *Comment: Beutel Environmental stormwater runoff data gathered in 1998 showed lead, coliform, and other urban stormwater related contaminants entering Mountain Lake. This data should be reviewed and incorporated if applicable (UWP).*
- 7.5 *Comment: Lead levels in the lake are higher than the EA suggests (Byrne).*
- 7.6 *Comment: Current remediation testing at Mountain Lake is not reflected in the EA (UWP).*
- 7.7 *Comment: Your lack of candor about hazardous substances in Mountain Lake is disturbing (Scott).*

- 7.8 *Comment: If implemented as described, the plan will not clean up of the lake, only "homogenize toxic sediment during superficial dredging to meet compliance levels" (Scott).*
- 7.9 *Comment: Dredging and storage of sediment next to the lake may be a potential public health risk (Byrne).*
- 7.10 *Comment: Park Presidio storm water should be redirected away from the lake (Byrne, FMLP, Laws).*
- 7.11 *Comment: The re-use of chemically contaminated sediments in upland areas near the lake is poorly described. How will these materials be assessed for re-use? (UWP).*

Response to comments 7.1 – 7.11: As part of the Army-lead investigations in Mountain Lake, three sediment samples were collected from Mountain Lake in 1990. No chemicals were present in the sediment samples at concentrations that exceeded applicable cleanup levels. However, lead, cyanide, and heptachlor were detected in a surface water sample from Mountain Lake in 1990 at concentrations slightly greater than potential applicable cleanup levels. When the Army re-sampled the lake in 1992, total heptachlor and lead concentrations were below analytical method reporting limits. The Army did not test for cyanide in the surface water sample collected in 1992. However, a study performed by the University of California at Berkeley (Beutel, 1997) indicated that pesticides and metals may be present in stormwater entering Mountain Lake.

In 1998, the Trust collected composite sediment samples from five boreholes in Mountain Lake. The objective of the sampling was to characterize the sediment that may be removed from the lake as part of the Mountain Lake enhancement project. Slightly elevated concentrations of lead were detected in one of those sediment samples. Additional surface water sampling was conducted by the Presidio Trust in 2000. There were no elevated chemicals of concern detected in surface water samples collected and analyzed by the Trust in 2000.

In 2000, the Trust became aware of sediment data developed by Roger Byrne and Liam Reidy suggesting that lake sediment may contain higher concentrations of lead and other metals than had been previously thought. In order to evaluate this possibility, the Trust collected additional sediment samples from Mountain Lake in January 2001. The samples were analyzed for metals, TPH, BTEX, MTBE, cyanide, nitrate, and chlorinated pesticides. The suite of analytes was chosen due to concern by various stakeholders that dredging activities may expose unknown chemicals at various sediment layers. The sampling was also designed to help determine if chemicals entering in stormwater have impacted Mountain Lake and, if so, to identify the potential source of the contaminated runoff.

The 2001 sediment sampling results found that antimony, cadmium, copper, lead, mercury, nickel, vanadium and zinc occur above cleanup levels in the upper 4 feet of sediment along Highway 1 (west side) and in west-central portion of lake. Lead, zinc and cadmium occur at the highest concentrations, and would likely drive any required cleanup. High Pb concentrations were also reported for sediment samples taken from the Highway 1 storm drain inlets. Metals concentrations will clearly require some remediation, most likely dredging of the sediment and disposal at a Class II (regulated, non-hazardous waste) landfill. This pattern of occurrence of elevated metals in sediment suggests that Highway 1 was the source. In addition, sampling found local pesticide detections at concentrations slightly above cleanup levels at various locations around the lake. In the absence of metals contamination, the pesticides would probably require no

action. A draft report describing the 2001 sediment sampling is now being prepared, and should be ready in late April 2001.

- 7.12 *Comment: The EA cannot simply assume that the plan being developed by the Presidio Golf Course to reduce contaminated runoff will be effective (NPCA).*

In 1993, the US EPA cancelled the registration of all mercury-containing pesticides. The Presidio Golf Course Draft Integrated Pest Management Plan, which is currently under review by NPS, does not propose the use of any mercury-containing materials, nor are any mercury-containing materials currently being used on the golf course.

8. Tank Removal Project

- 8.1 *Comment: It appears the tank removal project has been improperly separated from the project (NPCA).*

The tank removal project is not a connected action under NEPA. The purpose of removing the open tanks is to reduce a public safety hazard as mandated by the California Department of Health Services. The project is neither justified nor triggered by the MLEP.

- 8.2 *Comment: Appendix A suggests that the tank removal project, even as a stand alone project, should have been the subject of an EA (NPCA).*

NPS resource specialists reviewed the environmental documentation prepared for the project, exercised their independent judgment, and determined that the project met the requirements of a categorical exclusion under the agency's NEPA procedures.

- 8.3 *Comment: There is no information about the degree to which the tank project will or will not contribute to the realization of the Mountain Lake project (NPCA).*

As discussed in Part 5, Alternatives on page 4 of Appendix A, removal of the abandoned equipment to minimize potential liability is consistent with the overall goals of the MLEP.

- 8.4 *Comment: The tank removal project should have been analyzed in the cumulative impacts section (NPCA).*

As discussed in Appendix A, the tank removal project would have cumulatively insignificant impacts on Mountain Lake's resources, and would not add to the value of the cumulative analysis in Section 4.12.

9. Mitigation Measures

- 9.1 *Comment: The EA combines mitigation measures with impact analyses, such that the real impact of project activities is masked. Instead, the EA should present an unvarnished assessment of likely impacts, followed by an analysis of the efficacy of mitigation measures (NPCA).*

Incorporation of mitigation measures into project design so as to "pre-mitigate" the project is in full accordance with CEQ NEPA regulations.

10. Direct and Cumulative Impacts

- 10.1 Comment: The cumulative impacts section should have looked at how efforts to increase visitor use at the Presidio and enhance visitor access at Mountain Lake would result in a significant increase in the current number of visitors to Mountain Lake (NPCA).*

The recommended analysis is not necessary for determining the significance of any added impacts due to the MLEP since the effects of increased visitation to the Presidio (i.e., potential degradation of resources) would be dissimilar to those of the cumulative projects under review (i.e., habitat enhancement).

- 10.2 Comment: The cumulative impact analysis section of the EA is inadequate, as it does not focus on present and future actions with similar objectives within the Presidio and/or the GGNRA (NPCA).*

The analysis focused on other projects within the Presidio and within other boundaries large enough (i.e., San Francisco Peninsula) to include all potentially significant effects on resources of concern (i.e., local marine and freshwater habitats).

- 10.3 Comment: Devoting the affected areas to recreation rather than habitat improvement will have impacts/costs that this document is supposed to reveal (NPCA).*

The areas designated for visitor access in the Mountain Lake Enhancement Plan are areas that are currently used by visitors. No new visitor access will be created into existing habitat areas. Under each of the action alternatives, there would be a net increase in the amount of habitat at Mountain Lake, having a beneficial impact on habitat values at Mountain Lake.

- 10.4 Comment: Impact analysis does not properly distinguish between the two different dredging means contemplated (NPCA).*

Although the two dredging approaches described in the EA are different, neither of the approaches as they would be employed in this project would have an adverse effect on the site or its resources.

- 10.5 Comment: The direct impacts of increased visitation solely as a result of this project on its ecological objectives should have been analyzed in the EA (NPCA).*

As discussed in Section 4.7.1 on page 90 of the EA, proposed improvements resulting from the MLEP would accommodate existing visitors and would not increase visitor use. Proposed improvements would further the project's restoration objective by reducing impacts to habitat from off-trail visitor use and uncontrolled access.

11. Implementation

- 11.1 Comment: Construction should proceed quickly and without interruption (Newmeyer, Vanneman, FMLP).*

The enhancements proposed under the MLEP will have some temporary impacts on the use of the site. However, every effort will be made to implement these enhancement activities as expeditiously as possible.

11.2 Comment: Future phase actions along the east arm should be implemented as soon as possible (LSRA).

Please see response to comment 3.1.

11.3 Comment: There is evidence that an outlet structure connects Mountain Lake to a Cal Trans storm line. Further investigation and/or a contingency plan for encountering an outlet structure should be incorporated into the restoration plan (UWP).

See response to comment 3.9.

11.4 Comment: Since funds from the San Francisco Airport are available only for water quality improvement, information regarding the other, unrecovered costs of each of the alternatives should have been provided in this document (NPCA).

Funding from the San Francisco Airport can be used to achieve any of the Mountain Lake Enhancement Project Objectives, which are consistent with the objectives outlined in the Cooperative Agreement for the Restoration of Mountain Lake as approved by the Regional Water Quality Control Board (Section 1.1.4 MLEP). These objectives include identification of the sources of sedimentation, and recommendations for the reduction in the sources of such sedimentation; identification of contaminants in sediment and recommendations for remediation; recommendations for habitat enhancement; recommendations for public access enhancement; and a mitigation monitoring program.

11.5 Comment: The Trust needs to explain why it has selected the GGNPA to manage this project as well as identify the measures to ensure project managers will have a strong background in ecology (NPCA).

Both the GGNPA and the National Park Service have been jointly involved in planning for the future of Mountain Lake since before the creation of the Presidio Trust. At the request of the National Park Service, the Golden Gate National Parks Association (GGNPA) negotiated with the San Francisco International Airport and received the mitigation funds that are being used to develop and implement the Mountain Lake Enhancement Plan. At that time, GGNPA was invested with responsibility for overall management of the Mountain Lake project. Since the creation of the Presidio Trust, all three agencies have worked together closely on the development of the Mountain Lake Enhancement Plan.

11.6 The Presidio Trust and the City and County of San Francisco should jointly develop a strategy for managing Mountain Lake and its surrounding park lands (SFRPD).

The Trust, NPS and GGNPA will continue to work closely with City and County of San Francisco Recreation and Parks Department Staff at Mountain Lake.

Mountain Lake Enhancement Plan and Environmental Assessment

Section 12.10.2 Hazardous Substances at Mountain Lake (p. 29) – replace with the following paragraph:

As part of the Army-lead investigations in Mountain Lake, three sediment samples were collected from Mountain Lake in 1990. No chemicals were present in the sediment samples at concentrations that exceeded applicable cleanup levels. However, lead, cyanide, and heptachlor were detected in a surface water sample from Mountain Lake in 1990 at concentrations slightly greater than potential applicable cleanup levels. When the Army re-sampled the lake in 1992, total heptachlor and lead concentrations were below analytical method reporting limits. The Army did not test for cyanide in the surface water sample collected in 1992. However, a study performed by University of California at Berkeley (Beutel, 1997) indicated that pesticides and metals may be present in stormwater entering Mountain Lake.

In 1998, the Trust collected composite sediment samples from five boreholes in Mountain Lake. The objective of the sampling was to characterize the sediment that may be removed from the lake as part of the Mountain Lake enhancement project. Slightly elevated concentrations of lead were detected in one of those sediment samples. Additional surface water sampling was conducted by the Presidio Trust in 2000. There were no elevated chemicals of concern detected in surface water samples collected and analyzed by the Trust in 2000.

In 2000, the Trust became aware of sediment data developed by Roger Byrne and Liam Reidy, suggesting that lake sediments may contain higher concentrations of lead and other metals than had been previously thought. In order to evaluate this possibility, the Trust collected additional sediment samples from Mountain Lake in January 2001. The samples were analyzed for metals, TPH, BTEX, MTBE, cyanide, nitrate, and chlorinated pesticides. The suite of analytes was chosen due to concern by various stakeholders that dredging activities may expose unknown chemicals at various sediment layers. The sampling was also designed to help determine if chemicals entering in stormwater have impacted Mountain Lake and, if so, to identify the potential source of the contaminated runoff.

The 2001 sediment sampling found that antimony, cadmium, copper, lead, mercury, nickel, vanadium and zinc occur above cleanup levels in the upper 4 feet of sediment along Highway 1 (west side) and in west-central portion of lake. Lead, zinc and cadmium occur at the highest concentrations, and would likely drive any required cleanup. High Pb concentrations were also reported for sediment samples taken from the Highway 1 storm drain inlets. Metals concentrations will clearly require some remediation, most likely dredging of the sediment and disposal at a Class II (regulated, non-hazardous waste) landfill. This pattern of occurrence of elevated metals in sediment suggests that Highway 1 was the source. In addition, sampling found local pesticide detections at concentrations slightly above cleanup levels at various locations around the lake. In the absence of metals contamination, the pesticides would probably require no action. A draft report describing the 2001 sediment sampling is now being prepared, and should be ready in late April 2001.



Section 3.2.1 Dredging, Second Paragraph (p. 32) – Insert this after the first sentence:

These dredging alternatives were developed based on the assumption that sediment in the lake is not contaminated. Final dredging options may vary somewhat based on the outcome of sediment sampling conducted by the Trust at Mountain Lake in January 2001 (see Section 12.10.2 Hazardous Substances at Mountain Lake, p. 28).

Section 3.2.1 Dredging (p. 40) – Insert new Section 3.2.1.2 Park Presidio Storm Drains:

Storm drains from Park Presidio Boulevard currently drain into Mountain Lake at two locations along the western shore of the lake, directing potentially contaminated runoff into the lake. Under all three alternatives, the Presidio Trust would work with CALTRANS to redirect and/or treat runoff so that no contaminants would be introduced into the lake in the future.

Section 3.2.4 Exotic Tree Removal/Native Plant Community Enhancement, Second Bullet Point (p. 42) – Replace the third sentence with the following:

After removing the first 1.36 acres of exotic trees along the east shore, the community would be consulted about the timing of future tree removals. These removals include the four large eucalyptus trees along the east shore (0.29 acres), exotic trees along the north end of Park Presidio Boulevard (0.75 acres) and exotic trees east of the culvert (2.05 acres). If community concerns about the visual impact of removing the remaining exotic trees can be successfully addressed, their removal would be accelerated.

Section 3.2.4 Exotic Tree Removal/Native Plant Community Enhancement (p. 55) – Insert the new paragraph at the top of the page.

Under all three of these alternatives, tree removals would open up new views to the adjacent Presidio golf course. Views of the manicured greens would temporarily change the visual quality of this area by exposing views of a “manicured” green lawn behind the lake. Along much of this edge, the existing grove of mature cypress trees would mitigate this visual impact by screening the golf course from the lake. However, immediately behind the former tank site, there is a break in the cypress canopy. To minimize the visual impact of tree removal along the east shore, additional Monterey cypress (*Cupressus macrocarpa*) would be planted to fill up this break in the cypress canopy along the edge of the Presidio Golf course behind the former tank site. These trees would be planted as part of phase one implementation of the MLEP/EA.

Section 3.2.5 Tree Planting along Park Presidio Boulevard (p. 58) – Insert at end of paragraph:

In addition, the Presidio Trust would explore with CALTRANS the potential to abate the existing high level of traffic noise from Park Presidio Boulevard through the construction of some type of noise abatement structure or landscape feature.

Section 3.2.9 East Arm Culvert Removal and Bridge Installation (p. 62) – Insert this after sentence 4:

The existing, ivy-covered chain link fence will be cleared of weeds and shortened or replaced with a new fence, to open up views into the restored east arm.

Section 3.3.1 Alternative 1 (p. 64) – Add bullet points:

- Planting of new cypress trees along golf course edge to mask view of fairways.
- Work with CALTRANS to reroute storm drains away from lake and to build some type of noise abatement structure or landscape feature to buffer the lake from Park Presidio Boulevard.

Section 3.3.2 Alternative 2 (p. 65) – Add bullet points under first phase:

- Planting of new cypress trees along golf course edge to mask view of fairways.
- Work with CALTRANS to reroute storm drains away from lake and to build some type of noise abatement structure or landscape feature to buffer the lake from Park Presidio Boulevard.

Section 3.3.2 Alternative 2 (p. 66) – Add bullet points under future phases:

- Shorten or replace fencing to open up views into the restored east arm.

Section 3.3.3 Alternative 2 (p. 67) – Add bullet points under first phase:

- Planting of new cypress trees along golf course edge to mask view of fairways.
- Work with CALTRANS to reroute storm drains away from lake and to build some type of noise abatement structure or landscape feature to buffer the lake from Park Presidio Boulevard.
- Shorten or replace fencing to open up views into the restored east arm.

ATTACHMENT 3: MONITORING AND ENFORCEMENT PROGRAM

IMPACT	MITIGATION MEASURE	REPORTING STAGE (RESPONSIBILITY)	RESPONSIBILITY FOR COMPLIANCE	METHOD OF IMPLEMENTATION	ENFORCEMENT	CHECKOFF DATE/INITIALS
Soils						
Soil Disturbance during tree removal, dredging and other construction activities (Mitigated by SO-1)	SO-1. <i>Storm Water Pollution Prevention Plan (SWPPP)</i> – As directed by the Clean Water Act and other applicable requirements, a Notice of Intent shall be filed with the State Water Resources Control Board prior to initiation of soil-disturbing activities to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). The General Permit requires development, implementation, and compliance monitoring of a SWPPP that prescribes BMPs to control erosion at the construction site. The project shall minimize the discharge of soil during construction by employing BMPs. Prescriptions for monitoring and reporting of BMP performance and conditions before and immediately after the completion of work shall be conducted. Compliance with the BMPs included in the SWPPP shall result in a minimal amount of soil erosion.	Schematic Plan Review Submittal prior to construction	Presidio Trust Construction Manager in Coordination with RWQCB	Presidio Trust Compliance Process and RWQCB General Permit Process	Require as Construction Condition	
Water Resources						
Impact on Water Quality within Mountain Lake (Mitigated by WR-1)	WR-1. <i>Implementation of Best Management Practices</i> – The Mountain Lake Enhancement Project shall incorporate structural and operational best management practices (BMPs) and specific design criteria based upon the California Water Best Management Practice Handbooks into the project design during the preparation of plans and specifications. The project shall minimize the discharge of soil and pollutants during construction by requiring contractors to employ measures to contain disturbances within localized areas, including use of silt curtains, or equivalent measures as feasible and appropriate. Prescriptions for monitoring and reporting of BMP performance and conditions before and immediately after the completion of work shall be conducted. Compliance with the BMPs included in the SWPPP shall result in a minimal amount of soil erosion.	Schematic Design Submittal	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
Biological Resources						
Impact of Potential Accidental	BR-1. <i>Exotic Species Protections</i> – Best management practices (BMP's) shall be employed to ensure that exotic plant and	During Construction Phase	Presidio Trust Construction	Presidio Trust Compliance Process	Require as Construction	



ATTACHMENT 3: MONITORING AND ENFORCEMENT PROGRAM

IMPACT	MITIGATION MEASURE	REPORTING STAGE (RESPONSIBILITY)	RESPONSIBILITY FOR COMPLIANCE	METHOD OF IMPLEMENTATION	ENFORCEMENT	CHECKOFF DATE/INITIALS
Exotic Plant and Animal Species Introductions (Mitigated by BR-1)	animal species are not spread and/or introduced to the lake or the surrounding upland areas during construction. Measures such as steam cleaning of dredging equipment prior to dredging and/or cleaning of grading equipment before moving to a new part of the project area, shall be employed.		Manager		Condition	
Impact of Exotic Species Removal on Habitat (Mitigated by BR-2)	BR-2. <i>Phased Removal of Exotics</i> – Exotic weed species removals would be phased within the project area so that alternate habitat and/or refugia for wildlife are available during removal activities.	During Construction Phase and Ongoing	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
Protection of Native Wildlife Habitat (Mitigated by BR-2, BR-3, BR-4, BR-5, BR-6, and BR-7)	BR-3. <i>Existing Habitat Areas</i> – Existing habitat areas shall be fenced to prevent accidental incursions during construction. Temporary fencing to prevent visitors on the trail and overlooks from disturbing existing and newly planted habitat areas after construction will be installed.	During Construction Phase	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
	BR-4. <i>Raptor Nests</i> – Prior to any tree removal or construction activities, a qualified biologist shall determine whether any birds of prey are nesting in the vicinity and whether they might be impacted by development. Observations shall be made during the nesting season (March 15 through August 15) prior to and during construction activities. If nesting pairs are located in the work vicinity, appropriate buffer zones shall be delineated and the area closed by installation of temporary fencing until it has been determined that nesting activity has ended. Other preventive measures, such as the use of protective signage, implementation of a monitoring program, and establishment of contingency plans may also be implemented as necessary to avoid accidental habitat degradation during the construction phase.	During Construction Phase	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
	BR-5. <i>Nesting Birds</i> – Any removal of vegetation shall follow park guidelines for protection of nesting birds. These guidelines include restrictions on timing of vegetation removal and requirements for searching for active nests prior to removal. Restriction of work areas and education of work crews shall also reduce possible wildlife impacts.	During Construction Phase	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	



ATTACHMENT 3: MONITORING AND ENFORCEMENT PROGRAM

IMPACT	MITIGATION MEASURE	REPORTING STAGE (RESPONSIBILITY)	RESPONSIBILITY FOR COMPLIANCE	METHOD OF IMPLEMENTATION	ENFORCEMENT	CHECKOFF DATE/INITIALS
	BR-6. <i>Buffer Planting to Protect Habitat</i> – Areas immediately adjacent to new visitor overlooks along the east shore shall be planted with dense willow and upland woodland to minimize visitor disturbance of sensitive habitat areas.	Restoration Action Plan Submittal	Mountain Lake Project Manager in coordination with Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
	BR-7. <i>Interpretive Signage</i> – Signs will be posted to protect waterfowl and other bird species during nesting season and to inform visitors that litter and the feeding of wildlife is prohibited.	After Construction Phase	Mountain Lake Project Manager in Coordination with Presidio Trust Natural Resources Specialist	Presidio Trust Compliance Process	Require as Construction Condition	
	CR-1. <i>Archeological Management Assessment and Monitoring Program</i> – The Presidio Trust shall conduct an Archeological Management Assessment (AMA) and Monitoring Program for all undertakings at Mountain Lake. The Presidio Trust shall conduct an inventory study of known archeological sites in the area of each undertaking including test excavations, as appropriate, to determine if significant sites or historic features are extant and if construction might adversely affect archeological resources. Reports of any investigations shall be submitted to the SHPO and the ACHP. A phased inventory, evaluation, monitoring, and treatment program for archeological resources regarding ongoing maintenance and construction in the complex shall be conducted. The discovery of any human remains or associated mortuary items covered under the Native American Graves Protection and Repatriation Act shall be treated in accordance with 43 CFR 10.4 (Inadvertent discoveries). Consultation and work shall be conducted in accordance with the Programmatic Agreement.	Prior to Construction	Mountain Lake Project Manager in Coordination with Presidio Trust Historical Archeologist, SHPO, ACHP and NPS	Review of AMA under the PA	Require as Excavation Clearance Condition Pursuant to the PA	

Cultural Resources

Adverse Effect on Potential Archeological Properties (Avoided by CR-1)

Recreational Resources



ATTACHMENT 3: MONITORING AND ENFORCEMENT PROGRAM

IMPACT	MITIGATION MEASURE	REPORTING STAGE (RESPONSIBILITY)	RESPONSIBILITY FOR COMPLIANCE	METHOD OF IMPLEMENTATION	ENFORCEMENT	CHECKOFF DATE/INITIALS
Temporary Impact of Construction on Trail Use (Mitigated by RR-1)	RR-1. <i>Signage</i> – The portion of the Juan Bautista de Anza National Historical Trail that runs along the east side of Mountain Lake shall be closed to protect visitor safety during construction (see HH-2). Prior to construction, maps and interpretive signage describing alternative trails shall be posted both within the project area and at nearby park sites.	Prior to Construction	Mountain Lake Project Manager in Coordination with Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
Transportation						
Impact of Construction Equipment and Vehicles (Mitigated by TR-1)	TR-1. <i>Construction Traffic Management Plan</i> – Prior to construction, a Construction Traffic Management Plan shall be prepared by the contractor(s) and submitted for Trust approval. The plan shall include information on construction traffic scheduling, proposed haul routes, permittee parking, staging area management, visitor safety, and detour routes. The contractor(s) shall limit the transport of demolition debris and construction equipment and materials to periods of off-peak traffic whenever possible. Construction equipment, including trucks, shall use Presidio roadways to the extent feasible to minimize additional traffic on the surrounding neighborhood roadways and intersections. Any significant alterations to the Construction Traffic Management Plan shall be subject to written approval by the Presidio Trust prior to implementation.	Construction Traffic Management Plan Submittal Prior to Construction	Presidio Trust Construction Manager	Approval of Construction Traffic Management Plan	Require as Construction Condition	



ATTACHMENT 3: MONITORING AND ENFORCEMENT PROGRAM

IMPACT	MITIGATION MEASURE	REPORTING STAGE (RESPONSIBILITY)	RESPONSIBILITY FOR COMPLIANCE	METHOD OF IMPLEMENTATION	ENFORCEMENT	CHECKOFF DATE/INITIALS
Air Quality						
Short-Term Demolition/Construction Impacts (Mitigated by AQ-1)	AQ-1. <i>Bay Area Air Quality Management District (BAAQMD) Control Measures</i> – To reduce demolition- and construction-generated particulate matter (PM ₁₀) emissions, construction contractors shall implement as feasible and appropriate the BAAQMD's recommended control measures for emissions of dust during demolition and construction: 1) water all active construction areas at least twice daily; 2) cover all trucks hauling soil, sand, and other loose materials or require trucks to maintain at least 2 feet of freeboard; 3) pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas; 4) sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas; and 5) sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.	During Construction Phase	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
Noise						
Short-Term Impact due to Demolition and Construction Activities (Mitigated by NO-1)	NO-1. <i>Reduction of Construction Noise</i> – During demolition and construction, contractors and other equipment operators shall comply with the terms of provisions equivalent to the standards in the San Francisco Noise Ordinance. Noise-generating activities associated with construction shall not occur during times of the day in which such construction activities are prohibited under the San Francisco Noise Ordinance. Impact tools shall be equipped with intake and exhaust mufflers. To reduce noise impacts on visitors, construction sites shall be temporarily off-limits to visitors.	During Construction Phase	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
Human Health, Safety and the Environment						
Potential for Identified and Unidentified Contamination (Mitigated by HH-1)	HH-1. <i>Contingency Plan</i> – Prior to excavation, dredging, or other types of soil disturbance at Mountain Lake, a Contingency Plan shall be developed to provide a decision framework for the Presidio Trust to address the potential for unidentified contamination discovered during construction activities. The Trust is preparing a Base-wide Contingency Action Plan that will accomplish this goal. In the event the Base-wide Plan has not been finalized at the time the work occurs at Mountain Lake, a	Contingency Plan Submittal Prior to Construction Phase	Presidio Trust Environmental Remediation Manager	Presidio Trust Compliance Process	Require as Construction Condition	



ATTACHMENT 3: MONITORING AND ENFORCEMENT PROGRAM

IMPACT	MITIGATION MEASURE	REPORTING STAGE (RESPONSIBILITY)	RESPONSIBILITY FOR COMPLIANCE	METHOD OF IMPLEMENTATION	ENFORCEMENT	CHECKOFF DATE/INITIALS
Potential Safety Hazards to Public during Construction (Mitigated by HH-2)	project-specific construction contingency plan will be prepared. The plan shall allow the Presidio Trust and its contractors to manage identified contaminants in a timely manner that is protective of human health and the environment. The Plan shall provide a discussion of the project, applicable regulatory requirements for the contingency activities, appropriate cleanup levels, notification/coordination requirements and plan approval process. The Presidio Trust shall coordinate with the applicable regulatory agencies to obtain their concurrence regarding the proposed approach to and during development of the plan. Additionally, the Presidio Trust shall coordinate with the Presidio Restoration Advisory Board. HH-2. <i>Visitor Safety during Construction</i> – Construction could pose hazards to the public if uncontrolled access is permitted in the project area during construction. During construction, the project area, including the portion of the Juan Bautista de Anza National Historic Trail that runs along the east shore of Mountain Lake, shall be fenced and closed to the public.	During Construction	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	
Visual Resources						
Visual Impact of Tree Removal along East Shore (Mitigated by VR-1)	VR-4. <i>Vegetation Screen</i> – To mitigate the visual impact of eucalyptus tree removal along the east shore, additional trees shall be planted along the edge of the Presidio Golf Course, to mask the view of the golf course from the project area.	During Construction	Presidio Trust Construction Manager	Presidio Trust Compliance Process	Require as Construction Condition	





Western Pond Turtle

Potential Nesting Habitat Areas

(Potential nesting habitat areas are comprised of areas between 17m and 200m from Mountain Lake, on south to south-west facing slopes of not more than 25 degrees)



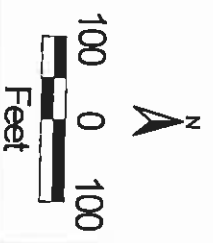
Nesting Habitat

(based on slope, aspect and distance from Mountain Lake)

- Slopes < 15 degrees
- Slopes > 15 & < 20
- Slopes > 20 & < 25
- Current viable habitat

Other Features

- Golf Course Fence
- Tree cover
- 5 foot contours



Paleoecological Investigation of Mountain Lake, San Francisco Co., California

Principal Investigator: Prof. Roger Byrne, U.C. Berkeley, Geography Dept. 501
McCone Hall, U.C. Berkeley, Berkeley, Ca 94720

Research Assistant: Liam Reidy, Graduate Student, U. C. Berkeley, Geography
Dept. 501 McCone Hall, U.C. Berkeley, Berkeley, Ca
94720

Proposal Submitted to:

Andrea Lucas,
Manager of the Mountain Lake Project,
Golden Gate Parks Association,
Presidio, San Francisco.

Purpose of the Investigation

Mountain Lake is one of the few natural lakes in coastal California. Its sediments represent an archive of environmental change from the time of the lake's formation up to the present day. This proposal outlines a research effort designed to reconstruct the history of the lake and its watershed. By analyzing the fossil pollen content of sediment cores recovered from the lake we will reconstruct the history of vegetation change in the

... attention will be given to evidence of

European (Spanish and American) settlement and it's impact on the local environment. It may also be possible to identify evidence of the pre-European settlement as well.

In light of the proposal that the lake be dredged in the near future we feel that it is important that this investigation take place. If the lake is dredged the record of information in the lake sediments will be lost forever.

Proposed scope of work

1. Reconstruct history of the vegetation in the Mountain Lake area by pollen analysis of 65 samples from cores obtained in April 1999. (Sample interval = 10cm for 6.5m total length). Pollen counts will total a minimum of 400 grains/sample.
2. Recover four additional cores (6m+) from other areas of the lake to define spatial variation in stratigraphy and sedimentation rates to be determined by X-radiography and magnetic susceptibility.
3. Date pollen master core with 2 ^{14}C samples and 18 ^{210}Pb samples. The first appearance of non-native pollen types (e.g., Eucalyptus) will also be used as chronological markers.
4. Photomicroscopy of key pollen types.
5. Storage of cores and samples in the U.C. Museum of Palynology Pollen Laboratory. Sub-samples will be provided to other investigators as needed.
6. Review relevant documents in the Bancroft library at U.C. Berkeley to reconstruct the history of the local settlement and land use.
7. Preparation of maps and graphs for the final report and write up.

Budget

Because of the Golden Gate Parks Association's non-profit status the University of California will waive it's usual 49% overhead charge.

I Research Assistantship

Spring Semester 2000 - 50 % time=320 hours @ \$13.47 per hour **\$4310.40**

Employee Benefits 1.8% **\$ 78.00**

Spring Semester Tuition Fees **\$2134.25**

Summer 2000 - 100 % time for 2 months=320 hours @ \$13.47

per hour **\$4310.40**

Employee Benefits 3.4% **\$ 147.00**

II Dates

2 ¹⁴ C dates @ \$300.00 each **\$600.00**

III Field Equipment and Lab Supplies

Plastic tubing \$150.00

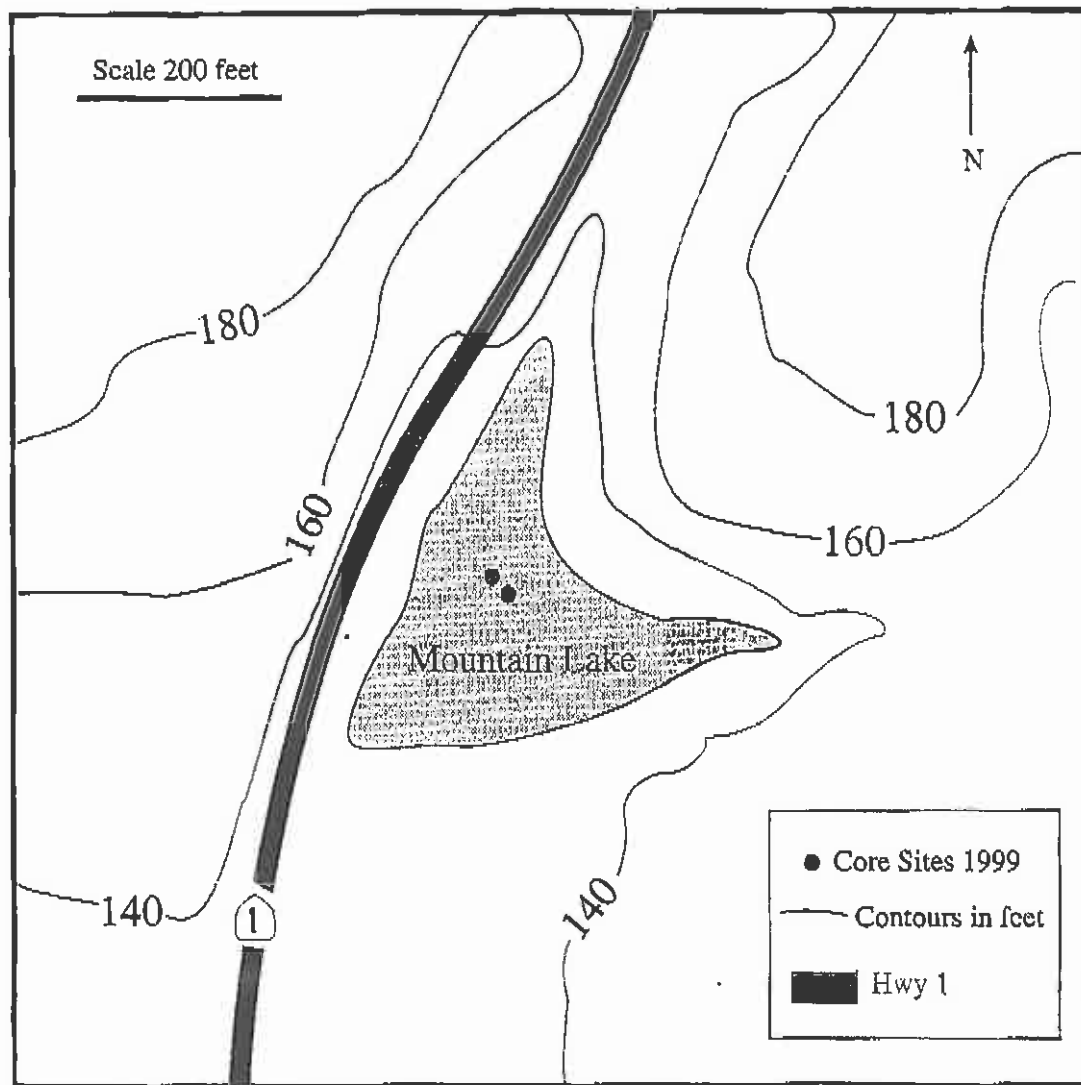
X-Ray and B&W Film \$100.00

Laboratory Chemicals \$25.00

Rental of Dept. Truck (\$50x 2 Days) \$100.00 **\$375.00**

Total \$11,955.05

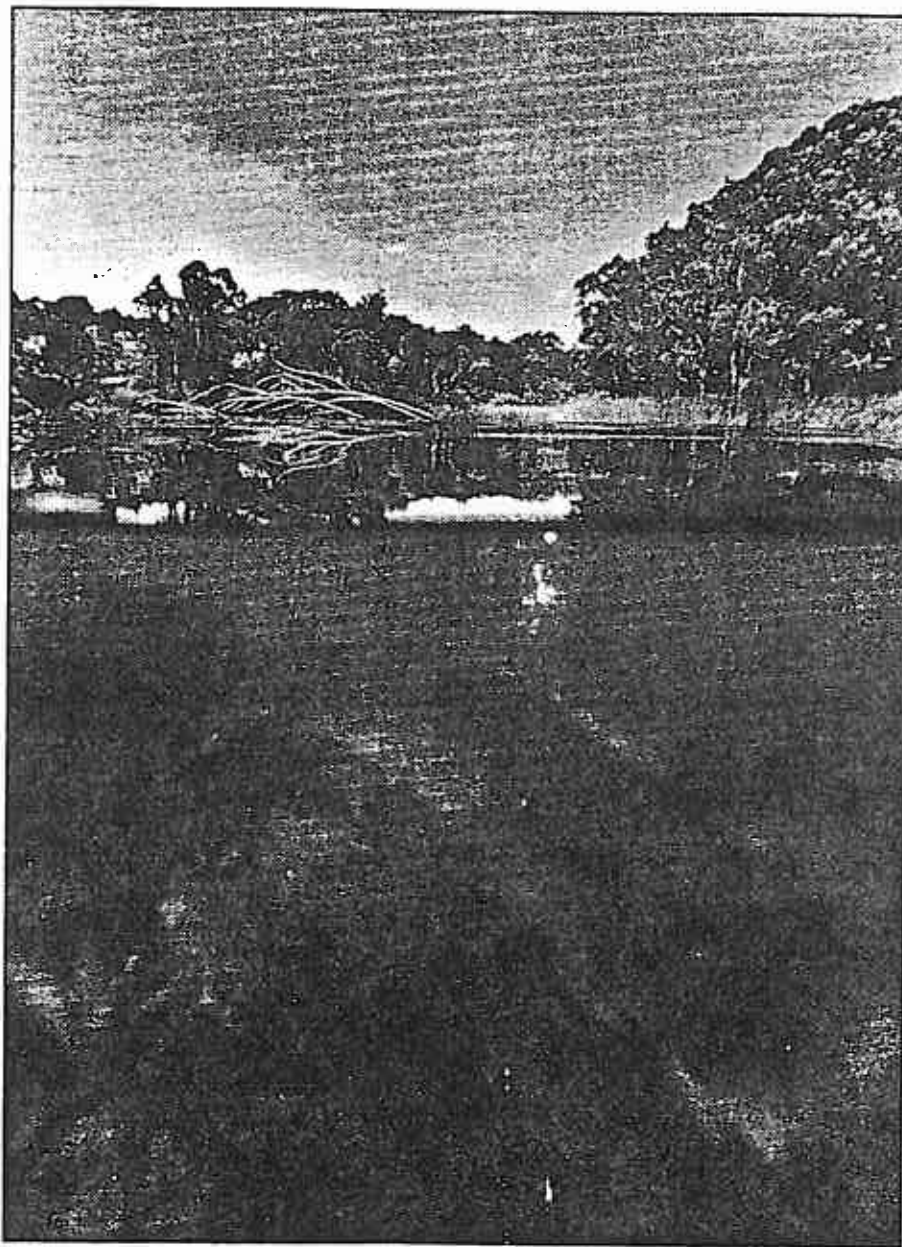
Mountain Lake, San Francisco



Liam Reidy 1999

Mountain Lake's Real Menace

A16 San Francisco
LAKE
From Page
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At left: A camera was placed in an empty aquarium, which was then immersed in the lake, revealing both the water's surface and the murky depths under the surface. Below left and bottom: Thick vegetation offers little protection to aquatic life like ducks. Lead and other contaminants have rendered the lake dangerous to wildlife

It's not the alligator that has neighbors worried, but toxic sludge and muck

*By Alex Barnum
Chronicle Staff Writer*

San Francisco's Great Alligator Hunt has taken a brief hiatus, and Trapper Jim has made his graceful exit back to Florida. Now it's time, say those who live near the Presidio's Mountain Lake, to talk about a more insidious threat lurking beneath its waters.

The four-acre reservoir, a little-known oasis until the 28-inch alligator was discovered there last month, is fast becoming a swamp — and not the kind that any creature would like.

The water, once clear enough to be used as San Francisco's municipal water supply, is murky and polluted. Weeds are rapidly colonizing the lake's bottom. Its shoreline is receding. And every few years, smelly algae blooms kill off scores of resi-

LAKE: Page A16 Col. 1



LAKE

From Page A13

dent carp and catfish.

"It's gotten to the state where it could turn into a marsh overnight," said Alex Horne, a freshwater biologist at the University of California at Berkeley who was recruited by a neighborhood group, the Friends of Mountain Lake Park, to diagnose its ills.

Adding to the lake's problems are high levels of lead that U.S. Park Service officials believe may have come from an old Presidio rifle range and high levels of pesticides that have run off the Presidio's golf course.

The latest cause for alarm came in May when Daisy, one of the lake's two resident swans, died, and a necropsy found high levels of lead in her liver. Biologists cannot say whether the lead caused her death until they can conduct more tests.

For all of these reasons, a growing number of Richmond District residents agree with Horne's assessment that the lake is in need of radical surgery. Horne has proposed draining the lake, now 10 feet deep, and dredging it of tons of toxic mud to its original depth of 30 feet — a project that could cost up to \$500,000.

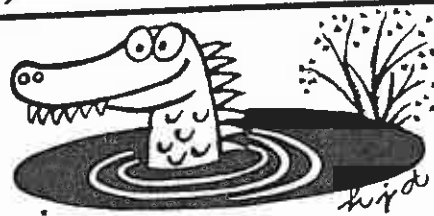
Mountain Lake has played an important role in San Francisco history. It was the site picked by Spanish army Captain Juan Bautista de Anza for a military garrison when his expedition camped there in the spring of 1776.

And during the Gold Rush era, it was the city's municipal water supply. When the city outgrew it at the turn of the century, the lake continued to supply water to the Presidio and its golf course — right up until a few years ago.

The source of Mountain Lake's current problems date to the mid-1900s, when dirt from the construction of Park Presidio Boulevard to the Golden Gate Bridge

GATORWATCH / DAY 29

Twenty-nine days after the first sighting of an alligator in San Francisco's Mountain Lake, the size of the crowds gathering to try to see it began to fall off. "It's just the regulars out here," reported neighborhood resident Dan Bushnell, who first spied the creature. Meanwhile, from Florida, Chronicle gator consultant Jim Long reported that he had captured three gators — six, eight and nine feet long respectively — since returning home from his unsuccessful gator-catching foray to San Francisco.



■ **Gator sightings:** Early yesterday, Bushnell spotted the gator swimming from east to west, with some ducks and grebes following along peacefully, suggesting the reptile was showing none of the aggressive behavior he exhibited last weekend.

■ **Quote:** "He must have caught something," Bushnell said.

CHRONICLE GRAPHIC

and from trench warfare exercises at the Presidio was dumped into the lake, filling in two-thirds of its depth and one-third of its shoreline.

Dredging the lake to its original depth of 20 to 30 feet, Horne says, would prevent light from penetrating to the bottom. That, in turn, would restore the layers of warm and cold water that a lake needs to stay clear, and provide a healthy habitat for an array of aquatic animals.

Once the depth is restored, Horne envisions restocking the lake with native fish and turtles and replanting its shore with native vegetation.

Horne says there are other ways to keep Mountain Lake from becoming an overgrown marsh — including regularly cutting plants that grow on the bottom. But he argues that those are only temporary solutions and would have to be repeated every few months.

At a meeting of the Friends of Mountain Lake Park earlier this month, more than 200 Richmond residents showed up to hear about this issue. And Horne's idea received strong support.

In fact, reaction was so favorable that residents began sugges-

ting other enhancements, such as an island on which wintering waterfowl might feed, and a larger wetland area with cattails and tule grass that could filter out pollutants coming from the golf course.

But the neighborhood group worries about how to finance the project. The Golden Gate National Recreation Area, the Park Service and the city Recreation and Park Department have been identified as possible funding sources, but none has made a commitment.

"We want to keep the lake in the best possible shape," said Judy Miller, who is on the board of Friends of Mountain Lake Park. "Now all we need is someone with half a million dollars who is willing to have a lake named after them."

While the lake's neighbors have endured hordes of tourists and media publicity over the elusive alligator, they say it may be all for the good if it brings a little recognition to Mountain Lake's problems.

"We're very possessive about it," Miller says. "We don't want it to become the most populated park in the city. On the other hand, if the publicity gives us the status that would bring in some money, that would be neat."