COASTAL CONSERVANCY

Staff Recommendation
October 5, 2006

LAKE MERRITT BIRD ISLANDS RESTORATION AND DEMONSTRATION WETLANDS
05-015.
Project Manager: Maxene Spellman

RECOMMENDED ACTION: Authorization to accept $1,000,000 in Wildlife Conservation Board funds and to disburse up to $1,000,000 to the City of Oakland to restore bird habitat on the lake's five bird islands, and to create a demonstration wetland along the lake's shoreline; to analyze the potential for inter-island marsh habitat, and to refine designs and cost estimates for implementation.

LOCATION: The 145-acre Lake Merritt is located on the eastern edge of the urban downtown of the City of Oakland in Alameda County.

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

Exhibit 1: Regional and Project Area Map

Exhibit 2: Site Plan for Bird Islands

Exhibit 3: Potential Marsh Concept (Inter-Island)

Exhibit 4: Concept Diagram of Demonstration Marsh Project

Exhibit 5: Letters of Support

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution under Chapter 4.5 (Sections 31160 through 31165) of Division 21 of the Public Resources Code, regarding San Francisco Bay Area resources:

"The State Coastal Conservancy hereby authorizes acceptance of one million dollars ($1,000,000) in funds awarded to the Conservancy by the Wildlife Conservation Board ("WCB"), and disbursement of up to $1,000,000 to the City of Oakland ("the City") to restore bird habitat on the lake's five bird islands, and to create a demonstration wetland along the lake's shoreline; to analyze the potential for inter-island marsh habitat, and to refine designs and cost estimates for implementation.

Prior to the Conservancy's disbursement of funds:

1. The Conservancy and WCB shall enter into a memorandum of understanding authorizing the Lake Merritt Channel and Bird Islands Restoration as an approved project under WCB Agreement WC-3032BT.
2. The City shall submit for the review and written approval of the Executive Officer of the Conservancy a detailed work program, schedule, and budget and the names and qualifications of any contractors to be employed in carrying out the projects."

Following the completion of constructed projects, the City shall maintain them for their reasonable life but no less than twenty years."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed authorization is consistent with the purposes and objectives of the San Francisco Bay Area Conservancy Program, Chapter 4.5 of Division 21 of the Public Resources Code, Sections 31160-31165.
2. The proposed project is consistent with the Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001."

PROJECT SUMMARY:

The City of Oakland ("the City") is undertaking three activities at Lake Merritt and requests funding assistance from the Conservancy to accomplish them. These activities are briefly listed here and described in more detail below:

1. Bird Islands: For a project within the lake the City requests funding to restore roosting, nesting and foraging bird habitat on the lake's five bird islands.
2. Study Inter-Island Marsh Creation: The City also requests funding for preparing designs and cost estimates, and an evaluation of the condition of lake bottom sediment for creation of inter-island marsh habitat.
3. Shoreline Demonstration Marsh: The City requests funding to create a demonstration wetland along the lake's shoreline across from the islands.

See Exhibit 1, "Project Location", and Exhibit 2, "Regional and Project Areas Map" showing the project locations on an overview of Lake Merritt.

Once completed, these Lake Merritt projects will likely increase the numbers and diversity of birds utilizing the newly developed tidal marsh, mudflats, and upland riparian habitat. Shorebirds, herons, egrets, and ducks will be able to choose between new feeding areas at the new demonstration marsh across from the islands, and will benefit from enhanced nesting, roosting and foraging habitat on and between the Bird Islands. The improvements at the bird islands will also provide increased habitat for landbirds.

1. Bird Islands (See Exhibit 3, Site Plan for Bird Islands)
Between 1925 and 1956 five bird islands were built within Lake Merritt to provide nesting and

roosting sites for hundreds of herons, egrets, Canada geese and other bird species. Today the birds continue to use the islands but in greatly reduced numbers due to habitat degradation. An irrigation system that supplied freshwater for island ponds is now deteriorated and in need of renovation. Non-native plant species threaten to displace shrubbery that provides needed shelter, and nesting and roosting habitat for the birds. Of greatest concern, however, is that in recent years, excessive amounts of guano (bird feces) from cormorants appears to have caused most of the large nesting trees on the islands to die.

With the Conservancy's assistance, the City proposes to improve habitat on the islands by carrying out the following steps: 1) remove the guano and apply dolomite lime to the surface; 2) replant with native species and fast growing trees; 3) place wood chips below the nesting trees; 4) remove the wood chips following the nesting season in order to remove the accumulated guano without disturbing the topsoil; 5) remove invasive plants such as pampas grass and English ivy; 6) replant fast growing trees; 7) install a new freshwater irrigation system; and 8) manage vegetation to achieve optimum plant establishment.

2. Study Inter-Island Marsh Creation In addition, this recommendation includes design of inter-island marsh habitat. The City's initial analysis of the potential for creating inter-island marsh habitat indicates that the conditions will be suitable for establishment of inter-island marsh habitat once the tidal range changes as a result of the proposed channel widening. The proposed design work involves an analysis of Lake Merritt sediment to determine if fill obtained from the lake bottom meets the standards necessary for creating inter-island marsh habitat, and a refinement of designs and cost estimates for implementation. (See Exhibit 5 "Potential Marsh Concept".) Construction of inter-island tidal marsh will occur in the future and is not part of this recommendation. The proposed sediment study and refinements will generate a realistic cost estimate enabling the City to seek new funding sources for its implementation.

3. Shoreline Demonstration Marsh
The proposed demonstration marsh project element includes completion of engineering drawings, replacement of existing bulkheads with a short retaining wall, grading and smoothing the slope down from the shoreline, relocation of a lamppost from the proposed marsh site, and planting of native plants in the upland habitat demonstration area. This project also includes the installation at the upper edge of the marsh of a 4-foot high see-through fence and railing, educational signage, viewing scopes, and benches. See Exhibit 6, "Concept Diagram - Shoreline Demonstration Marsh".

The demonstration marsh, besides providing inter-tidal marsh habitat, is intended to educate and inspire urban populations that enjoy viewing the variety of birds at the Refuge as seen from this shoreline location. Activities for all ages currently occur year- round at the Aviary, the Rotary Natural Science Center (Rotary Center), and the Junior Center of Art and Science, all of which are located at the lake's edge close to the project site. The shoreline tidal marsh zones would serve to demonstrate types of estuarine habitats that are widespread in the region, but not currently within the Oakland urban environment. Interpretive signs would focus on the plants and invertebrates that occur in tidal mudflats and marshes, and the relationship of these habitats to other aquatic habitats. The proposed signage, scope and benches are intended to enhance the educational experience for those participating in programs at these institutions, as well as others

who are expected to visit the marsh.

Site Descriptions:

Bird Islands

The five bird islands are located at the northern end of the 145-acre Lake Merritt, ranging in distance from the shore from the closest at about 25 feet to furthest at 300 feet. The five islands range in size from the smallest at approximately 1,950 square feet to the largest, which is also the furthest from the shore, at about 9,000 square feet. The islands rise several feet above the lake water surface, with shallow water depths in the vicinity of the islands. The irrigation system, connected underwater from the mainland and proposed for renovation, replenishes bird island ponds made of concrete debris and rock. The island edges are bolstered by wooden bulkhead walls and riprap that provide roosting and foraging habitat for herons and egrets. In several locations there is no bulkhead wall, having either failed or been removed, where waterfowl, herons, egrets and shorebirds have easier access to the islands' roosting and foraging and habitat.

Each of the five islands is home to a similar assemblage of non-native trees, shrubs, including a small amount of native ones, and dead snags of Eucalyptus trees and foliage. They provide nesting and roosting habitat for herons, egrets, Canada geese, cormorants, black-crowned night herons, and one Great blue heron. Waterfowl utilize the islands for roosting and wading. Sparrows, warblers, jays and humming birds forage on the islands' shrubs. There is a predominance of elm-leaf blackberry plants that provide cover for American coots, and roosting habitat for herons and egrets. Large trees on some of the islands provide nesting habitat. Of the seven tree species on the islands, the most noticeable are the Eucalyptus trees of which several stand as dead snags with double-crested cormorant nests. Open areas provide habitat for Canada geese, mallards, ducks, and white crowned and golden crowned sparrows. Much of the open areas and trees are covered with guano which appears to have killed many of the trees. Through the proposed project the City will address excessive guano problem with the four-step plan described under "Project Description", followed by replanting of fast growing trees and native vegetation.

Shoreline Demonstration Marsh

The 100-foot stretch of shoreline proposed for the demonstration marsh is muddy on the shore side of a wooden bulkhead. Vegetation is intermittent with patches of salt cedar and other non-native plants. The landward side of the shoreline consists of a parking lot for the Lake Merritt Sailboat House. The parking lot is currently the only access to this segment of the shoreline. However, adjacent shoreline areas include a pedestrian trail that circles the lake and borders the nearby Aviary, the Junior Center of Art and Science, and the Rotary Center. The trail is used for running and walking, and passive recreation such as wildlife viewing of the Bird Islands at this lakeside location. The two centers provide environmental programs for adults and children. Many people utilizing these educational and recreational activities park in the lot next to the proposed demonstration marsh site.

To create the demonstration marsh, the City proposes to significantly alter the site by removing the wooden bulkhead and lamppost, constructing a short timber retaining wall, and smoothing the resulting sloped shoreline to the appropriate inter-tidal elevation necessary to establish a

fringe marsh. Installation of a low, see-through fence with a guardrail would allow viewing but exclude people and dogs from the marsh.

Project History: The 145-acre Lake Merritt originally existed as a marshy, brackish tidal slough at the confluence of the San Francisco Bay and four creeks originating in the Oakland hills. The lake was created in 1869 with the construction of a tide gate to provide flood protection by restricting tidal flows. One year later Dr. Samuel Merritt, the then mayor of Oakland and after whom the lake is named, convinced the state to pass legislation making it the first State Wildlife Refuge in California. Later the installation of box culverts and a dam further restricting tidal circulation. Park areas were subsequently added along the lakeshore. Over time, residential and commercial enterprises have grown around the lake.

There had been a series of dredging projects (every 10 to 20 years beginning in 1891 and ending in 2001) to improve the water quality of the lake. Since the creation of the last four of five bird islands in the 1950's, their embankments eroded, leading to salt water intrusion that threatened the vegetation on the islands. This downward trend was reversed in 1985 through a Conservancy-funded enhancement project that repaired the embankments, thereby protecting the island habitats.

In 1992 the Conservancy funded the preparation of the Lake Merritt Resource Enhancement Plan, which in 1996 was adopted by the Oakland City Council. In October 1999 the Conservancy authorized a grant to the City to implement the Lake Merritt Resource Enhancement Plan's recommendation concerning the creation of marsh habitat. The Conservancy's grant provided funding for the preparation of plans, cost estimates and environmental documentation for the restoration of tidal marsh at or in the vicinity the five bird islands. The 1999 staff recommendation noted that a separate Conservancy authorization would be required to fund implementation. The City developed site-specific plans, cost estimates, and environmental documentation for enhancement of the bird islands and the creation of a demonstration tidal marsh along the shore across from the islands. With the Conservancy's assistance, the City will now implement this project.

PROJECT FINANCING:

Coastal Conservancy (Prop 50 WCB Funds)	$1,000,000
Total Project Cost	$1,000,000

The Conservancy's financial contribution is expected to come from the Wildlife Conservation Board (WCB) Proposition 50 funds as has previously been agreed in an Interagency Agreement. Under the Interagency Agreement with WCB, the Conservancy may use these funds for wetland habitat restoration projects within the nine-county San Francisco Bay Area that implement the restoration goals of the *San Francisco Baylands Ecosystem Habitat Goals Report* ("Goals Report") and that meet the priorities of the Conservancy as described in Section 31162 of the Public Resources Code, a provision of the Conservancy's enabling legislation pertaining to San Francisco Bay projects. Any proposed project, under the WCB Interagency Agreement, must be

authorized as a "high priority" project listed as identified in the Interagency Agreement or otherwise be authorized as a priority project by WCB in the "Memorandum of Understanding" between WCB and the Conservancy that is required before any project may move forward. This project is authorized as a "high priority" project in the Interagency Agreement.

The WCB grant funding, in turn, is derived from an appropriation from the Water Security, Clean Drinking Water, Coastal Beach Protection Fund of 2002 (Proposition 50). The Proposition 50 funds, allocated to WCB under Water Code Section 79572(c), may be used for acquisition, protection and restoration of coastal wetlands (among other uses). The proposed projects will create new inter-tidal marshes along the Lake shoreline and restore avian habitat at the Bird Islands.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed projects are consistent with Section 31162 of the Public Resources Code which authorizes the Conservancy to undertake projects and award grants in the nine-county San Francisco Bay area to public and private agencies and organizations.

Consistent with the Public Resources Code Section 31162, the project sites are located within Alameda County, one of the nine counties in the San Francisco Bay Area, and will help achieve the goals of the San Francisco Bay Area Program by restoring tidal marshes, which are natural habitats that are of regional importance, Section 31162(b), and by promoting and enhancing projects that provide open space and natural areas that are accessible to urban populations for educational purposes, Section 31162(d). The proposed projects will restore tidal marsh along the lake's shoreline. This is expected to increase the diversity and quantity of birds utilizing tidal marsh habitat in the Bay region. Restoration of the Bird Islands will enhance roosting and nesting habitat. The proposed signage, scopes and benches adjacent to the demonstration tidal marsh and across from the Bird Islands are intended to enhance the educational experience for urban populations that visit the lake in such large numbers, as well as for the participants of the educational and recreational activities offered close to the project site.

Consistent with Public Resources Code Section 31163(c), the projects are assigned high priority for the San Francisco Bay Area Conservancy Program because they are supported by adopted local plans, serve a regional constituency, can be implemented in a timely way, and provide opportunities for benefits that could be lost if the project is not quickly implemented. The City of Oakland adopted the Lake Merritt Enhancement Plan supporting the projects. Lake Merritt serves the urban population of Oakland as well as visitors from around the region. The City is poised to begin bird island restoration work and marsh construction right away with completion scheduled for 2008.

CONSISTENCY WITH CONSERVANCY'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 10, Objective A** of the Conservancy's Strategic Plan, one element of the proposed projects will create approximately 100 feet long by 45 feet wide demonstration tidal marsh including adjacent upland plantings, along the north shore of the lake; and another

element will enhance roosting, nesting and foraging habitat on the five Bird Islands ranging in size from 1,950 square feet to 9,000 square feet, located in clear view of the demonstration marsh site.

Consistent with **Goal 11, Objective A**, the proposed projects will provide recreational/ educational facilities by installing interpretive signage, benches, viewing scopes, and see-through railing at the landward side of the demonstration tidal marsh along Lake Merritt's shoreline.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed projects are consistent with the Conservancy's Project Selection Criteria and Guidelines adopted January 24, 2001, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** All elements of these projects are supported by Senator Don Perata and Assemblywoman Wilma Chan, the Oakland City Council, the Lake Merritt Institute, the Lake Merritt Junior Center for Arts and Science, the Golden Gate Chapter of the Audubon Society, Waterfront Action, the Coalition of Advocates for Lake Merritt, and the Association for Bay Area Governments.
4. **Location:** Although located in urban downtown Oakland, Lake Merritt is connected to the San Francisco Estuary and is subject to tidal influence. The addition of tidal marsh will increase shorebird habitat for the same birds that utilize other Bay marshes, the enhancement of the Bird Islands will improve roosting and nesting habitat.
5. **Need:** Without the Conservancy's participation, the City would not have sufficient funding to complete the projects.
6. **Greater-than-local interest:** The projects will provide natural resources to the region as well as to the residents of Oakland. Located at a nexus of public access routes, cultural and educational institutions, and within the Pacific Flyway, the Lake will attract a range of visitors and likely a greater number and diversity of birds.

Additional Criteria

7. **Resolution of more than one issue:** The different aspects of these projects will address the issues of solving the problem of excessive guano that appears to be killing the trees on the Lake's Bird Islands; returning historical tidal marsh to a small site along the Lake Merritt shoreline; and demonstrating to urban populations the types of estuarine habitats that are widespread in the region, but not currently within the Oakland urban environment.
8. **Innovation:** The City will implement an innovative approach to solve the problem of excessive guano on the Bird Islands by removing it without disturbing the topsoil, thereby

avoiding harmful runoff into Lake Merritt. The City will also use adaptive management to evaluate and determine the best vegetative species to plant on the Bird Islands over time.

9. **Readiness:** The City of Oakland will begin construction immediately.
10. **Realization of prior Conservancy goals:** "See "Project History" above."
11. **Return to Conservancy:** See the "Project Financing" section above.

COMPLIANCE WITH CEQA:

The Bird Island project involves 1) removal of excessive bird feces currently killing of the large nesting trees; 2) planting of fast growing trees; 3) removal of invasive plants; and 4) installation of a new freshwater irrigation system. The shoreline demonstration marsh component of the project involves 1) reconstruction of a shoreline retaining wall; 2) grading of the slope down from the shoreline; 3) planting an upland area with upland plant species; and 4) installation of a railing, educational signage, viewing scopes and benches on the landward side of the proposed demonstration marsh.

The City of Oakland found that the proposed project is categorically exempt from CEQA under 14 Cal. Code of Regulations Section 15333 in that it is a small habitat restoration project not exceeding five acres in size with the goal of restoration of habitat for wildlife, and a) will not adversely impact endangered, rare or threatened species or their habitat; b) there are no hazardous materials in or around the project site that may be disturbed or removed; and c) the project will not result in impacts that are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

The proposed study of the condition of Lake Merritt sediment and refinement of cost estimates is statutorily exempt from CEQA under 14 Cal. Code of Regulations Section 15262 in that it involves only planning for possible future actions which have not been approved, adopted, or funded. The results of the study will inform the next phase of restoration for the creation of inter-island tidal marsh habitat.

Staff will file a CEQA Notice of Exemption upon Conservancy approval of the project.