COASTAL CONSERVANCY

Staff Recommendation
October 23, 2003

HABITAT CONVERSION MODEL

File No. 02-009
Project Manager: Amy Hutzel

RECOMMENDED ACTION: Authorization to disburse up to $200,000 to the Point Reyes Bird Observatory to refine and implement a Habitat Conversion Model that will help guide decisions on the design of the South Bay Salt Pond Restoration Project.

LOCATION: San Mateo, Santa Clara, and Alameda Counties (Exhibit 1)

PROGRAM CATEGORY: San Francisco Bay Area Conservancy

EXHIBITS

Exhibit 1: Project Map

Exhibit 2: Letters of Support

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31164 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes disbursement of an amount up to two hundred thousand dollars ($200,000) to Point Reyes Bird Observatory to refine and implement a Habitat Conversion Model."

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 project is consistent with the purposes and criteria set forth in Chapter 4.5 of Division 21 of the California Public Code (Sections 31160-31164) regarding the Conservancy's mandate to address the resource and recreation goals of the San Francisco Bay area.
2. The proposed project is consistent with the Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001.
3. Point Reyes Bird Observatory is a nonprofit organization existing under Section 501(c)(3) of the U.S. Internal Revenue Code and subject to the Nonprofit Public Benefit Corporation Law

(commencing with Section 5000 of the California Corporations Code*)*, and whose purposes are consistent with Division 21 of the Public Resources Code."

PROJECT SUMMARY:

The proposed authorization would provide up to $200,000 to enable the Point Reyes Bird Observatory (PRBO) to refine and utilize their already created Habitat Conversion Model. The enhanced model will be used as a decision support tool to evaluate and improve restoration alternatives for the South Bay Salt Pond Restoration Project (see Exhibit 1) and other salt pond restoration projects throughout the San Francisco Bay. PRBO will work closely with the South Bay Salt Pond project management team, made up of the Conservancy, U.S. Fish and Wildlife Service, and California Department of Fish and Game, on model refinement and model runs.

The model is similar to physical hydrodynamic or geomorphological models that are used to predict and evaluate the outcome of planned wetland restoration. However, this model will predict the effects of converting various amounts of salt pond habitat to tidal marsh habitat on the suite of bird species that use both habitats, as well as evaluating the features within tidal marsh and managed pond habitat that benefit bird species, such as water levels and salinities in salt ponds and channel size and density within tidal marsh.

The information produced by the Habitat Conversion Model will further PRBO's mission to preserve existing and enhance future additional bird habitat in the San Francisco Bay. In addition, the model results will enable the Conservancy, U.S. Fish and Wildlife Service, and California Department of Fish and Game to design and implement the South Bay Salt Pond Restoration Project to minimize negative impacts and maximize benefits for birds. Other restoration projects throughout the Bay Area can also benefit from the information generated.

The project is particularly timely, since the South Bay Salt Pond Restoration Project will begin formulating and evaluating restoration alternatives during 2004. The South Bay Salt Ponds comprise approximately 15,100 acres of habitat, a significant proportion of the remaining wetlands around San Francisco Bay. More than 100 species of birds use the salt ponds and nearby environments, along with an array of other species ranging from microscopic diatoms to marine mammals. Birds that currently use salt pond habitat include special status species, in particular western snowy plovers and least terns, along with resident and migratory shorebirds and waterfowl, such as western and least sandpipers, American avocets, black-necked stilts, phalaropes, canvasback, ruddy ducks, and other waterbirds such as white pelicans. Birds that use the tidal wetlands include songbirds, such as the Alameda song sparrow, shorebirds and waterfowl, other waterbirds, such as egrets and herons, birds of prey, such as northern harriers, and the endangered California clapper rail, which live only in the tidal marshes of San Francisco Bay. The transformation of salt ponds to tidal wetlands is expected to provide important long-term benefits to the regional ecosystem. However, in the short term, it *could* have serious impacts on resident and migratory species. These impacts may be mitigable by maximizing the habitat values of tidal wetlands and managed ponds for birds.

Bay Program staff confronted similar issues in the planning effort for the Napa-Sonoma Marsh Restoration Project (the North Bay salt ponds). Staff and other project team members wrestled with design issues related to habitat conversion in the absence of useful decision-making tools. This model will help fill this knowledge gap and assist project designers to make informed

choices on the South Bay Salt Pond Restoration Project and other wetland restoration projects in the San Francisco Bay. If the information derived from the model assists project planners to maximize benefits and avoid impacts, it will have generated a very high rate of return on the Conservancy's investment.

PRBO is exceptionally qualified to undertake this effort and the work will further PRBO's mission to protect birds and their habitats. Founded in 1965, PRBO is dedicated to conserving birds, other wildlife, and ecosystems through innovative scientific research and outreach. Nearly 120 staff and seasonal biologists at PRBO study birds to protect and enhance biodiversity in marine, terrestrial and wetland systems in western North America.

Conservancy funding, which will be more than matched by Moore Foundation funding, will allow PRBO to:

- Conduct additional data collection efforts on birds in the salt ponds, tidal marshes, and tidal mudflats of the South Bay;
- Identify characteristics of tidal marshes that support maximum bird species diversity and productivity;
- Identify optimal salt pond characteristics (such as depth, size, and salinity) so that pond types and configurations can be determined;
- Determine how much pond habitat is needed to support the U.S. Fish and Wildlife Service's recovery plan objective of maintaining 500 western snowy plovers in the South Bay;
- Model predicted bird densities for restoration alternatives as they are proposed; and
- Based on modeling results, make recommendations on the amount and configuration of tidal marsh and managed ponds in the South Bay that will maximize bird species diversity and density.

Project History: This Habitat Conversion Model first came to the attention of the Conservancy in 2002 through a proposal from PRBO and was quickly ranked as a priority by Conservancy staff due to its: 1) region-wide applicability; 2) value as a conservation planning tool in multi-million dollar projects that the Conservancy is leading; 3) innovation; and 4) use of matching funds. On May 14, 2002, the Conservancy authorized expenditure of up to $40,000 to complete the creation of the Habitat Conversion Model. Data needed for the model was collected over a number of years by PRBO and others. PRBO consulted with ornithologists from U.S. Geological Survey, U.C. Davis, and the San Francisco Bird Observatory on the initial model design. Following the development of the first draft model, PRBO conducted some preliminary model runs, using the *San Francisco Baylands Ecosystem Habitat Goals Report* as a starting point for alternative formulation. PRBO presented the model development and results at conferences and at meetings with resource managers. Feedback from these audiences will be incorporated into the next phase model.

PROJECT FINANCING:

Coastal Conservancy	$ 200,000
Moore Foundation *(pending)*	800,000
Total Project Cost	**$1,000,000**

It is anticipated that the Conservancy's funding will come from the FY 03/04 appropriation from the "Water Security, Clean Drinking Water, Coastal and Beach Protection Fund of 2002" (Proposition 50), which can be used for coastal watershed protection pursuant to Division 21. Pursuant to Section 31162(b) of Chapter 4.5 of Division 21, this project furthers the San Francisco Bay Area Conservancy Program's goal to protect, restore, and enhance natural habitats. This project is consistent with the recommendations in the *San Francisco Baylands Ecosystem Habitat Goals Report* (1999), a local plan recognized in Proposition 50 as appropriate for selection of restoration projects in San Francisco Bay. The project is also consistent with the San Francisco Bay Regional Water Quality Control Board's goal to protect beneficial resources, as described in the Water Quality Control Plan for the San Francisco Bay Basin (1995).

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

This proposed project is consistent with the Conservancy's San Francisco Bay Area Conservancy Program enabling legislation codified at Chapter 4.5 of Division 21 of the Public Resources Code (Sections 31160-31164). That chapter directs the Conservancy to address the resource and recreational goals of the Bay Area in a "coordinated, comprehensive, and effective way."

Pursuant to §31162, the Conservancy may undertake projects and award grants in the nine-county San Francisco Bay area that will help to achieve specified program goals. Section 31162(b) describes one of these goals: "to protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas, and other open-space resources of regional importance." The proposed project will directly assist the Conservancy and its partners to implement ecologically sound wetland restoration projects, in particular the South Bay Salt Pond Restoration Project, that will impact the entire San Francisco estuary.

The proposed project satisfies the criteria for determining project priorities under §31163(c) in the following respects: 1) The project is multijurisdictional in that the Habitat Conversion Model will be used for the South Bay Salt Pond Restoration Project, which spans three counties and multiple cities, as well as for other restoration projects; 2) It serves a regional constituency via increased effectiveness in preserving and restoring the San Francisco Bay's wetlands, which are resources of state-wide value; 3) The project can be implemented in a timely way since the Habitat Conversion Model has already been created and tested and the technical staff are already in place; 4) It provides an opportunity for benefits that could be lost since the South Bay Salt Pond Restoration project is entering the long-term planning phase in the immediate future; and 5) It includes significant matching contributions from the Moore Foundation.

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

Consistent with **Goal 10 Objective B** of the Conservancy's Strategic Plan, the proposed project will help the Conservancy develop plans for approximately 15,000 acres of wetlands in the Bay.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is 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:** The project is supported by the U.S. Fish and Wildlife Service, California Department of Fish and Game, the Moore Foundation, and the U.S. Geological Survey. See Exhibit 2 for letters of support.
4. **Location:** The proposed project is within the nine-county San Francisco Bay Area, in San Mateo, Santa Clara, and Alameda Counties.
5. **Need:** The Habitat Conversion Model is a needed tool that can be used during the planning process for wetland restoration projects in the San Francisco Bay, in particular the South Bay Salt Pond Restoration Project, to refine restoration alternatives and improve restoration design for the bird species that use the Bay.
6. **Greater-than-local interest:** The project will serve to further refine a tool for modeling the impacts of wetland restoration. This will broadly benefit the San Francisco Bay in general and the South Bay Salt Pond Restoration Project in particular. The San Francisco Bay is a resource of national significance, particularly for migratory shorebirds and waterfowl that feed and rest in salt ponds as they migrate along the Pacific Flyway and for endangered species, such as the California clapper rail, that depend upon tidal marshes in the San Francisco Bay. The restoration of a portion of the South Bay salt ponds to tidal wetlands will have significant impacts (both positive and negative) on the bird species that use the South Bay.

Additional Criteria

7. **Urgency:** PRBO has an interest in quickly providing scientific information that will further their mission of preserving birds and their habitats in the San Francisco Bay. There is an urgent need to communicate wildlife trade-offs to stakeholders and resource planners in order to inform restoration decisions in the San Francisco Bay. In particular, application of the Habitat Conversion Model is needed in the next two years to produce and analyze alternatives for the restoration of the South Bay Salt Ponds that will best serve wildlife.

9. **Leverage:** See the "Project Financing" section above.
10. **Conflict resolution:** The Habitat Conversion Model will assist in the communication of effects of restoration alternatives for the South Bay Salt Ponds and in the communication of trade-offs between bird species in each of the restoration alternatives. Stakeholders will better understand the positive and negative impacts of the restoration alternatives due to results of the Habitat Conversion Model, which will assist with conflict resolution.
11. **Innovation:** Habitat Modeling is a relatively new tool and this particular Habitat Conversion Model is completely unique and specific to salt pond and tidal marsh habitats in the San Francisco Bay.
12. **Readiness:** PRBO has already created the Habitat Conversion Model and tested it. Their technical staff is ready to work on this project.

13. **Realization of prior Conservancy goals:** See the "Project History" section above.

14. **Return to Conservancy:** See the "Project Financing" section above.

CONSISTENCY WITH SAN FRANCISCO BAY PLAN:

The South Bay salt ponds are within the permit jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC). The proposed project is considered project planning and exempt from permit requirements.

The project is consistent with the following policies of BCDC's San Francisco Bay Plan and adds to the science needed to implement Bay Plan recommendations:

Part III: The Bay as a Resource

Marshes and Mudflats

To offset possible additional losses of marshes due to necessary filling and to augment the present marshes: (a) former marshes should be restored when possible through removal of existing dikes; (b) in areas selected on the basis of competent ecological study, some new marshes should be created through carefully placed lifts of dredged spoils; and (c) the quality of existing marshes should be improved by appropriate measures whenever possible.

Part IV: Development of the Bay and Shoreline

Salt Ponds and Other Managed Wetlands Around the Bay

As long as is economically feasible, the salt ponds should be maintained in salt production and the wetlands should be maintained in their present use. Property tax policy should assure that rising property taxes do not force conversion of the ponds and other wetlands to urban development. In addition, the integrity of the salt production system should be respected (*i.e.,* public agencies should not take for other projects any pond or portion of a pond that is a vital part of the production system).

If, despite these provisions, the owner of the salt ponds or the owner of any managed wetland desires to withdraw any of the ponds or marshes from their present uses, the public should make every effort to buy these lands, breach the existing dikes, and reopen these areas to the Bay. This type of purchase should have a high priority for any public funds available, because opening ponds and managed wetlands to the Bay represents man's last substantial opportunity to enlarge the Bay rather than shrink it. (In some cases, if salt ponds are opened to the Bay, new dikes will have to be built on the landward side of the ponds to provide the flood control protection now being provided by the salt pond dikes.)

COMPLIANCE WITH CEQA:

This project is statutorily exempt from the California Environmental Quality Act (CEQA) pursuant to Cal. Code of Regulations Section 15262 because it involves only feasibility and planning studies for possible future actions and will not have a legally binding effect on later activities. To the extent that the project also consists of data collection, research and resource evaluation activities for future activities that have not yet been determined or funded, it is categorically exempt under §15306. Staff will file a Notice of Exemption upon Conservancy approval of this project.