

COASTAL CONSERVANCY

Staff Recommendation  
June 25, 2015

**BEL MARIN KEYS WETLANDS RESTORATION DESIGN**

Project No. 99-108-01  
Project Manager: Jeff Melby

**RECOMMENDED ACTION:** Authorization to disburse up to \$800,000 for final design, engineering, permitting, and other planning work necessary for restoration of the Bel Marin Keys Unit V component of the Hamilton Wetland Restoration Project.

**LOCATION:** Southeast of downtown City of Novato, adjacent to and between the Bel Marin Keys residential community and Novato Creek to the north and the Hamilton Wetlands (former Hamilton Airfield) to the south, along the western margin of San Pablo Bay, in unincorporated Marin County.

**PROGRAM CATEGORY:** San Francisco Bay Area Conservancy

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**EXHIBITS**

Exhibit 1: [Location and Site Maps](#)

Exhibit 2: [Conceptual Restoration Plans](#)

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**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160-31165 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of up to eight hundred thousand dollars (\$800,000) for final design, engineering, permitting, and other work associated with planning for restoration of the Bel Marin Keys Unit V component of the Hamilton Wetland Restoration Project.”

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 Chapter 4.5 of Division 21 of the Public Resources Code, regarding the San Francisco Bay Area Conservancy Program.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.”

### PROJECT SUMMARY:

This authorization would provide up to \$800,000 for planning work necessary to restore the Bel Marin Keys Unit V (BMKV) component of the Hamilton Wetland Restoration Project (HWRP) located between the City of Novato and San Pablo Bay, Marin County (Exhibit 1). The first phase of the HWRP resulted in conversion of the former Hamilton Army Airfield at the former military base into a restored tidal marsh. Hamilton Airfield's bayside levee was breached in April of 2014, opening the site to the Bay for the first time in over 100 years and resulting in 648 acres (one square mile) of restored wetland habitat. Phase 2 of the HWRP entails restoration of the adjacent 1585-acre Bel Marin Keys Unit V property, owned by the Conservancy, and the 319-acre North Antennae Field (NAF) property, owned by the State Lands Commission. When completed, the entire Hamilton Wetlands Restoration Project will consist of nearly 2,600 acres of wetlands with associated uplands and 3.5 miles of new San Francisco Bay Trail while having provided for beneficial reuse of up to 24 million cubic yards (mcy) of dredged sediment.

Phase 1 of the HWRP was completed by the United States Army Corps of Engineers (USACE) under USACE's ecosystem restoration authority, with the Conservancy acting as the non-federal sponsor and contributing 25% of the cost. The conceptual plan for Phase 2 is described in USACE's 2003 General Reevaluation Report (GRR) and in the Supplemental Environmental Impact Report / Environmental Impact Statement (SEIR/S) for HWRP. (Restoration of the NAF was originally part of Phase 1 but was deferred to Phase 2 for cost and logistical reasons. The NAF is a relatively small parcel and is contiguous with the BMKV property; therefore it is more cost effective to incorporate into Phase 2.) The plan for Phase 2 is to construct a new flood management levee inland of the existing bayfront levee (Exhibit 2) on the BMKV property, and then restore tidal estuarine habitat (salt marsh, mudflats, shallow sub-tidal) on the eastern (bay) side of the new levee, while restoring seasonal (freshwater) wetlands on the western (inland) side of the levee. The restoration work entails raising the elevation of the land east of the levee with dredged sediment and breaching the existing bayfront levee to allow tidal waters from the bay to flow into and out of the site.

Construction of the new levee is a critical first step in enabling the placement onto the site of dredged sediment, if available and economically feasible, prior to breaching the existing bayfront levee. The conceptual plan includes placement of up to 18 mcy of dredged sediment from USACE and non-USACE dredging projects throughout the Bay Area. Similar to the restoration at Hamilton Airfield, placement of sediment on the subsided land prior to tidal inundation would create tidal marsh much faster than could possibly occur due to natural sedimentation processes alone, particularly with ongoing sea-level rise. Conservancy staff is actively evaluating options for delivery of dredged sediment to the site.

In a Conservancy-funded report entitled Conceptual Design Report Proposed Bayfront Levee Bel Marin Keys Unit V Restoration Project (2010), Moffatt and Nichol (M&N) proposed a simplified alignment for the inland levee. While the conceptual plan described in the GRR provides for the levee alignment to follow a sinuous path, M&N developed conceptual designs for a straighter alignment to simplify the design and construction, which would result in relatively lower construction cost compared to a curved alignment. The levee design

recommended by M&N would provide an overall habitat breakdown of 25% seasonal wetlands and 75% tidal wetlands, which approximates the habitat distribution in the GRR. The final designs for the levee will be based on M&N's conceptual designs.

Although Congress has authorized the USACE to implement Phase 2 of the HWRP, the Conservancy and USACE have not yet entered into the necessary cost-share agreement. If the Conservancy were to enter into the agreement, its share of the costs for Phase 2 would be 35%. Under federal law, USACE can agree to allow a nonfederal sponsor of a project to carry out design and construction work and have the costs of such work credited towards its cost-share under an agreement. In 2010, the USACE and the Conservancy entered into a memorandum of understanding that allows the Conservancy to receive in-kind credit for the design of specific site features for Phase 2, including the new levee. If the Conservancy contracts directly for the necessary planning activities, including the final design and preparation of all necessary permits, plans and specifications for the levee, the Conservancy can avoid some of the delay inherent in the federal funding and contracting processes, and help move the project forward. The design work will be conducted in a manner that meets USACE's requirements to ensure that the Conservancy can receive credit for its costs pursuant to the 2010 memorandum of understanding and to ensure that USACE can later contract for construction of the levee.

Following completion of the necessary planning activities, the Conservancy could enter into a cost-share agreement with USACE to construct all of Phase 2, including the levee and delivery of dredged material. However, Conservancy staff is also evaluating whether it would be more cost effective for the Conservancy to construct the levee and then have USACE complete the rest of Phase 2. Conservancy staff has requested that USACE begin development of a memorandum of understanding that would allow the Conservancy to receive credit for construction of portions of Phase 2. For construction, the Conservancy could potentially use Habitat Conservation Funds ("HCF") from the sale of bonds from the Disaster Preparedness and Flood Prevention Bond Act of 2006 (Proposition 1E), in addition to other funding sources.

**Site Description:**

The HWRP site consists of three properties located along the western edge of San Pablo Bay in Marin County totaling nearly 2,600 acres: the 644-acre former Hamilton Airfield (including the former 18-acre Navy Ball Field), the 319-acre NAF (owned by the State Lands Commission) and the 1,585-acre BMKV property (Exhibit 1). All of these properties are historic wetlands that were part of a larger tidal marsh system which extended from Corte Madera in Marin County to Vallejo in Solano County.

The BMKV property is located within the historic margins of San Pablo Bay. During the period 1853 through 1884, hydraulic mining for gold in the Sierra Nevada foothills caused substantial amounts of sediment to enter into the Bay system, resulting in shoreline accretion at BMKV. Around the turn of the last century, marsh lands at the site were diked to accommodate dry land farming. A system of levees and drainage ditches were constructed and pumps were installed to drain rainwater and the naturally high ground-water table. Over the intervening century, oxidation and consolidation of the Bay mud caused the former tidal baylands to subside to an average of five feet below mean sea level.

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In the 1960s, portions of the adjacent Bel Marin Keys residential and lagoon development were constructed. Fill for this development was taken from borrow pits on the BMKV site. These borrow pits have since filled with brackish water, some of which are ponds on a year-round basis and provide limited habitat.

The Bel Marin Keys Community Services District maintains the lagoons surrounding the home development. The water level in the lagoons is kept constant year-round via a system of locks along Novato Creek and a wet weather overflow onto the BMKV property. The plan for Phase 2 is to provide for seasonal wetlands on the inland side of the new levee to manage the wet weather overflow; in this way, the seasonal wetlands will provide habitat while functioning as a flood management corridor.

The BMKV property is leased year-to-year to a farmer for oat hay production, which is of relatively low quality and quantity due to poor soil conditions and lack of irrigation. The farmer uses about two thirds of the land at any one time to grow two crops of organically-certified hay. Construction of wetland features will displace some farming and ultimately farming would cease on the property.

The site includes about 200 acres of seasonal and farmed wetlands. Wildlife that frequent the property are typical for open space of this type and include small mammals, deer, coyote and a large number and variety of raptors.

### **Project History:**

The Water Resources Development Act (WRDA) of 1986 authorized USACE to undertake “ecosystem restoration” projects. In 1996, the Conservancy began its role as the non-federal sponsor in developing a wetland restoration plan with USACE for the former Hamilton Airfield and adjacent properties.

In April of 1999 the Conservancy adopted the Hamilton Wetlands Restoration plan and certified the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for the HWRP. The WRDA of 1999 authorized USACE to carry out the HWRP. The Conservancy acquired BMKV in 2001 for \$16 million. In 2003, the Conservancy and USACE finalized a restoration plan for BMKV. On June 16, 2005, the Conservancy certified the Supplemental Environmental Impact Report / Environmental Impact Statement (SEIR/S) for the HWRP as revised to include BMKV and adopted the revised HWRP. In the WRDA of 2007, Congress authorized USACE to implement the HWRP as revised to include BMKV and authorized, in general, that non-federal sponsors may receive in-kind credit for carrying out design and construction work that is integral to authorized projects.

The first phase of the HWRP (restoration of the Hamilton Airfield) was completed in 2014. From 2006 to 2010, almost 6 mcy of sediment from USACE and non-USACE dredging projects throughout the Bay Area, primarily from the Port of Oakland, was placed on the Airfield to fill the site up to average tidal elevations. In 2014, USACE completed final grading and other construction, including 2.7 miles of the San Francisco Bay Trail, native plant installation, and breaching of the bayfront levee to allow the tides to enter the site, resulting in 648 acres (one square mile) of restored wetland habitat.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$800,000</b>
<b>Project Total</b>	<b>\$800,000</b>

The expected source of Conservancy funds for the necessary planning for Phase 2 of the HWRP is the 2012-2013 fiscal year appropriation to the Conservancy from the Habitat Conservation Fund (“HCF”) established by the California Wildlife Protection Act of 1990 (Proposition 117), Fish and Game Code §2780 et seq. Pursuant to Fish and Game Code § 2786(d), HCF funds may be used for restoration and enhancement of wetlands. The project is for the design and permitting of restoration of tidal and seasonal wetlands, and therefore, the proposed project is an appropriate use of HCF funds.

The 2012-13 appropriation of HCF funds comes from the sale of bonds from the Disaster Preparedness and Flood Prevention Bond Act of 2006 (Proposition 1E), Public Resources Code § 5096.800 et seq. Proposition 1E funds are available for protection, creation, and enhancement of flood protection corridors and bypasses through construction of new levees necessary for the establishment of a flood protection corridor or bypass and setting back existing flood control levees. Public Resources Code § 5096.825(b) & (c). Phase 2 of the HWRP entails the restoration of wetlands primarily through construction of a new levee that in effect sets back the existing bayfront levee. Setting back the existing levee will increase resilience of this area to sea level rise by creating a flood protection corridor on the bayside of the new levee in the form of tidal wetlands. The seasonal wetlands on the inland side of the new levee will provide a flood protection corridor that helps avoid flooding of the Bel Marin Keys development. Accordingly, the planning for Phase 2 of the HWRP is an appropriate use of Proposition 1E funds.

**CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:**

This project is a component of the HWRP, which is being undertaken pursuant to Chapter 4.5 of Division 21 of the Public Resources Code (sections 31160-31165), which established the San Francisco Bay Area Conservancy Program. On June 16, 2005, the Conservancy authorized expansion of the HWRP to include restoration of BMKV. In its findings in support of this authorization, the Conservancy determined that the HWRP, as revised to include BMKV, was consistent with Chapter 4.5, the San Francisco Bay Area Conservancy Program’s resource and recreational goals. Phase 2 of the HWRP remains consistent with the authority, purposes and objectives of Chapter 4.5. By restoring bayfront land to tidal wetlands, related uplands and seasonal wetlands and providing a public trail, Phase 2 will help achieve the Chapter 4.5 goals to restore and enhance natural habitats and connecting corridors, to improve public access to and around the Bay through completion of regional trail systems, including the Bay Trail, and to assist in the implementation of the San Francisco Bay Plan and the adopted plans of local governments (Public Resources Code § 31162). Phase 2 of the HWRP is of high priority under Chapter 4.5 because it meets the following criteria set forth in Public Resources Code § 31163(c): (1) Phase 2 is supported by adopted local and regional plans including the San Francisco Bay Plan, Hamilton Air Force Bay Re-Use Plan of the City of Novato, and the Long-Term Management Strategy (“LTMS”) for the Placement of Dredged Material in the San

Francisco Bay Region; (2) it is multi-jurisdictional and serves a regional constituency, by offering opportunities for beneficial reuse of dredged material throughout San Francisco Bay and providing resource enhancement opportunity of statewide significance; (3) it can be implemented in a timely way; (4) it provides an opportunity to restore wetlands before sea level rise greatly increases the cost of restoration; and (5) USACE is authorized to carry out Phase 2 and to give the Conservancy credit toward the Conservancy's share of the costs of implementing Phase 2.

**CONSISTENCY WITH CONSERVANCY'S 2013  
STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 11, Objective C** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will develop plans for enhancement of 899 acres of wetlands, including tidal marsh, sub-tidal habitat and mudflats, seasonal wetlands, and uplands to serve as buffers and wildlife corridors.

**CONSISTENCY WITH CONSERVANCY'S  
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on October 2, 2014, 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. **Promotion and implementation of state plans and policies:** The proposed project promotes implementation of the following state plans and policies:
  - San Francisco Baylands Ecosystem Habitat Goals Report (San Francisco Bay Area Wetlands Ecosystem Goals Project, U.S. Environmental Protection Agency, San Francisco, CA/S.F. Bay Regional Water Quality Control Board, 1999). The report recommends the restoration and enhancement of tidal marsh in San Francisco Bay.
  - San Francisco Estuary Comprehensive Conservation and Management Plan (approved by the Governor and U.S. EPA Administrator in 1993, updated in 2007). Restoration of the project site will carry out objectives and actions identified in the CCMP to protect, create, and restore habitat critical for special status wildlife, specifically through enhancement and restoration of marsh and transitional upland habitat.
  - 2014 Safeguarding California: Reducing Climate Risk update to the 2009 California Climate Adaptation Strategy which seeks to support hazard mitigation by "investing in green infrastructure and other protective structure to address sea level rise," and "restore and create wetlands ..."

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- California Water Action Plan (approved by the Governor in 2014), which recommends restoration of coastal wetlands.
4. **Support of the public:** The HWRP has the support of the partnering public agencies, USACE, City of Novato, and Marin County Flood Control and Water Conservation District, as well as local environmental and conservation groups.
  5. **Location:** The proposed project is in Marin County, which is within the jurisdiction of the San Francisco Bay Area Conservancy Program.
  6. **Need:** The project will not occur without Conservancy participation. The proposed planning activities are needed in order to construct the project.
  7. **Greater-than-local interest:** The HWRP is the largest wetland restoration project in the United States to beneficially reuse dredged sediment and is contributing to a regional goal of more than doubling the amount of tidal marsh in San Francisco Bay.
  8. **Sea level rise vulnerability:** The HWRP involves restoration of tidal marshes, which are known to buffer wave action adding an additional measure of protection to inland communities. It is assumed that the tidal wetlands will adjust and respond to changing sea level, though this phenomenon is dependent on the supply of suspended sediment in San Pablo Bay and the rate of sea-level rise.

### Additional Criteria

9. **Readiness:** Conservancy staff has selected a consultant team which is ready to start the proposed necessary work immediately.
10. **Realization of prior Conservancy goals:** “See “Project History” above.”

### **CONSISTENCY WITH SAN FRANCISCO BAY PLAN:**

The Project helps implement San Francisco Bay Conservation and Development Commission’s San Francisco Bay Plan (Bay Plan), dated January 2008 (reprinted 2012), which contains policies to protect and restore marshes and mudflats: “to the greatest extent feasible, the Bay’s tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.” [page 16, Policy No. 1]; “Marshes and mudflats should be maintained to the fullest possible extent to conserve fish and wildlife and to abate air and water pollution.” [page 19, Policy No. 1]; “where and whenever possible, former tidal marshes and tidal flats that have been diked from the Bay should be restored to tidal action in order to replace lost historic wetlands [page 23 Policy No. 4]; and, “Dredged materials should, if feasible, be reused or disposed outside the Bay...”; and further, “dredging projects should maximize use of dredged material as a resource consistent with protecting and enhancing Bay natural resources, such as creating, enhancing, or restoring tidal and managed wetlands [Page 38, Policies No.3 and 5, respectively].

Therefore, disbursing \$800,000 for design of the BMKV restoration, a component of the HWRP, is consistent with the San Francisco Bay Plan.

**COMPLIANCE WITH CEQA:**

On April 22, 1999, the Conservancy certified the Hamilton Wetland Restoration Plan Final EIR/EIS and approved the HWRP. On June 16, 2005, the Conservancy certified the Final Supplemental Environmental Impact Report / Environmental Impact Statement (SEIR/EIS) for the BMKV Expansion of the Hamilton Wetland Restoration Project and approved modifications to the HWRP to incorporate BMKV. The proposed design, engineering, permitting and other planning work necessary for Phase 2 of the HWRP, which entails restoration of BMKV and the NAF, does not require any additional environmental review pursuant to the California Environmental Quality Act (CEQA). If the proposed planning work results in any changes, or reveals any changed circumstances, that trigger the need for additional CEQA review, the Conservancy will perform such CEQA review prior to authorizing funding for construction.