MokeWISE Program Scope of Work:
Project 1c: Mokelumne River Day Use Area Floodplain Habitat Restoration Project

April 2015

Problem Statement and MokeWISE Stakeholder Interests

Water users, water purveyors, landowners, resource managers and environmental groups who use, manage and enjoy the lower Mokelumne River have a common interest in sustaining a productive and robust salmon, steelhead, and resident trout fishery in the river. Beyond a direct interest in maintaining aquatic health to avoid the need for regulatory action, many of these entities share the value that the fishery and its aquatic environment are intrinsically positive and an enhancement of life.

The juvenile lifestage of both salmon and steelhead/rainbow trout is widely believed by resource managers of the Mokelumne River to be their most vulnerable lifestage. Riparian and channel improvements in the lower Mokelumne River can help improve juvenile survival by providing both cover and edgewater habitat.

The Mokelumne River Day Use Area (MRDUA) Floodplain Habitat Restoration Project will reconfigure lands included in the MRDUA to create 1 acre of seasonal floodplain that would also serve as habitat for juvenile salmonids and other native fish species within the lower Mokelumne River. The project would include conducting site excavation and materials screening, which will determine which materials are appropriate for use. Finally, the project will conduct gravel placement and recontouring per work previously conducted by the East Bay Municipal Utility District (EBMUD). Costs for this project are estimated to be $150,000, including $111,000 for implementation and a 30% contingency.

Background Information

Previous Restoration Efforts

Since the early 1990's, EBMUD has been working with the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS) to create salmon spawning habitat in the lower Mokelumne River by placing washed gravel in known spawning areas (EBMUD 2014). Efforts to restore spawning and rearing habitat for salmon and other native fish in the Mokelumne River have been documented in the Central Valley Project Improvement Act and Anadromous Fish Restoration Program Plan (Central Valley Restoration Plan).

Although EBMUD has completed habitat improvement efforts in the lower Mokelumne River, those efforts have focused on the area that is located on approximately the first 0.6 miles of the Mokelumne River below Camanche Dam (**Figure 1**).

Project Information

Project Description

As part of this project, lands included in Mokelumne River Day Use Area (MRDUA) would be reconfigured to create a seasonal floodplain that would also serve as habitat for juvenile salmonids and other native fish species within the lower Mokelumne River. Habitat could be created within existing dredger pools; dredged material would be excavated, screened, and washed to remove the fines and then placed in the dredger pool. As a result of these activities, an area of approximately 1 acre in size would be inundated with seasonal flows, therefore creating habitat. Because this project would reuse materials that are located onsite in existing dredger pools, it would provide for beneficial reuse of materials and resources.

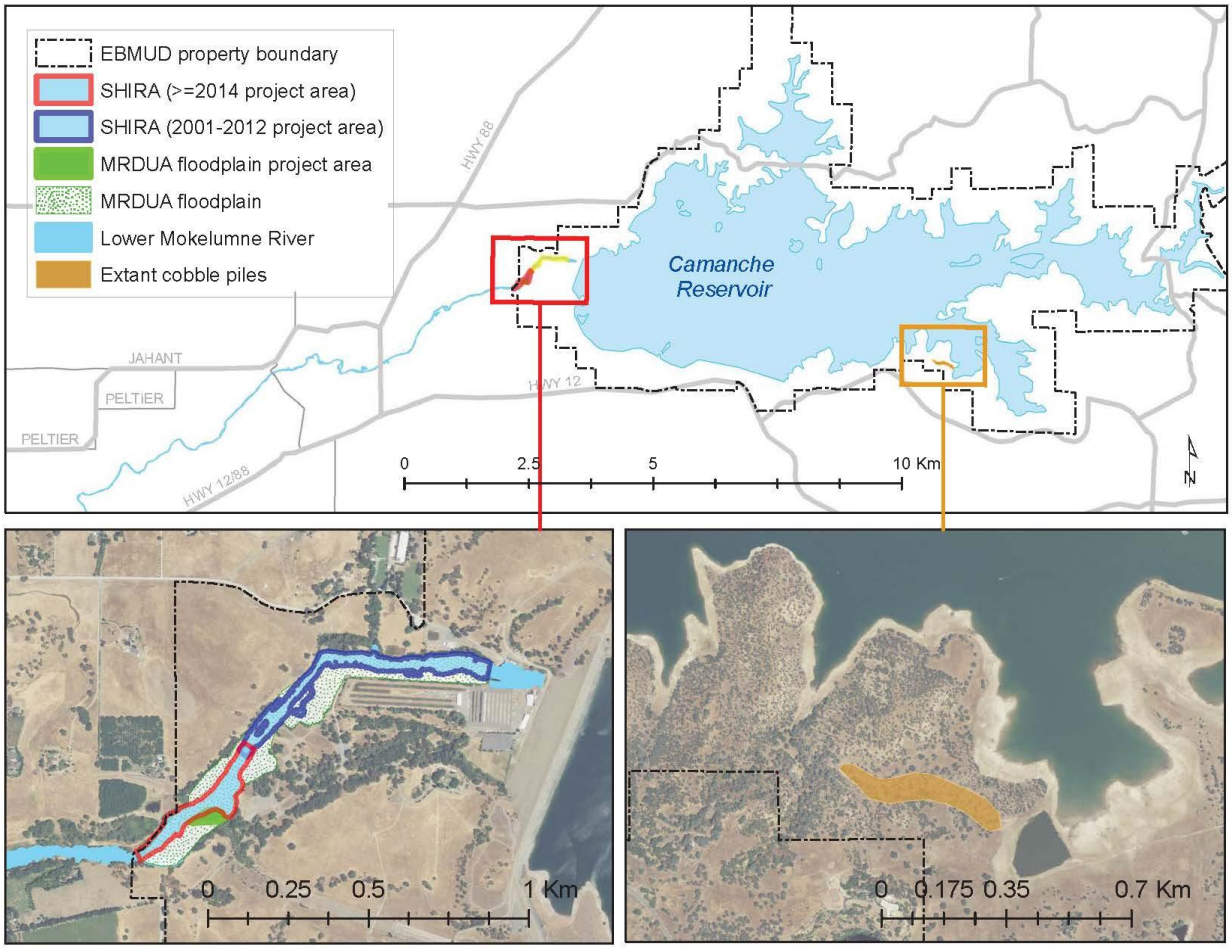
Information from EBMUD suggests that approximately 5,500 cubic yards of material would be excavated and screened. Of this material, approximately 2,500 cubic yards of gravel would be placed and recontoured and 3,000 cubic yards of dredged spoil materials would be placed and recontoured to create a habitat area. The gravel and dredged spoil materials would be deposited in low-lying upland areas and revegetated.

The project would be completed in a manner consistent with the Lower Mokelumne River Watershed Stewardship Plan, which promotes and supports improving spawning habitat for salmon and steelhead trout in the lower Mokelumne River (SJCRCD 2002).

Project Location

East Bay Municipal Utility District (EBMUD or District) owns land immediately downstream of Camanche Dam that it uses to support the District's water supply operations; this land is known as EBMUD's MRDUA (**Figure 1**). MRDUA lands include properties that have deteriorated riparian and aquatic habitat associated with historic human modifications such as mining. There is an opportunity to construct restoration projects on the MRDUA land, which, when implemented would improve existing fisheries habitat and provide a degree of flood management. Efforts will focus on restoring the remaining 0.4 miles of the 1-mile reach of the lower Mokelumne River below Camanche Dam (EBMUD 2014). Specifically, efforts will focus on improving fish rearing habitat by recontouring streambank habitat along the MRDUA to create seasonal floodplain habitat for juvenile salmonid rearing as shown in **Figure 1**.

Figure 1: Map of the Proposed Project Area



Source: EBMUD 2014

Project Sponsor

San Joaquin County Resource Conservation District (SJCRCD) would serve as the lead, the California Sportfishing Protection Alliance (CSPA) would be a co-sponsor.

Scope of Work

Given that EBMUD has conducted restoration efforts in the lower Mokelumne River and has completed planning and environmental documentation, the scope provided below focuses on implementation activities.

Task 1. Implementation

Subtask 1.1 Site Excavation

The first step in the project is to excavate dredge spoil material from existing onsite mine tailings. Similar to previously completed efforts, the dredge materials will be dependent on supply, cost, accessibility, and requisite permitting (EBMUD 2014). It is likely that this task will require driving heavy equipment to excavation sites, and moving dredged materials to the proposed screening site(s). As with previous efforts, it is anticipated that materials will be moved in steam-cleaned trucks to ensure that they are not exposed to additional chemicals or substances and that materials will be stored on disturbed areas within the MRDUA.

Subtask 1.2 Material Screening

The San Francisco Regional Water Quality Control Board (Regional Board) has guidelines for reusing dredged materials for restoration activities (Regional Board 2000). While the project is under the jurisdiction of the Central Valley Regional Water Quality Control Board and these guidelines are specific to dredging and restoration in the San Francisco Bay, they can be used as guidelines to understand how to properly screen materials and ensure that the materials are appropriate for recontouring activities.

The Regional Board's guidelines suggest that materials be treated differently if they will be used for either surface or foundational purposes (Regional Board 2000). In this sense, surface materials refer to those that will come into direct contact with flora and fauna, while foundational materials will be the base foundation that lies underneath the surface materials (Regional Board 2000).

Depending upon the logistics of the dredging sites and restoration sites, it is possible that materials will be cleaned onsite (if necessary). If cleaning is necessary, a temporary processing plant may be located onsite and would be removed after restoration is complete.

Subtask 1.3 Gravel Placement and Recontouring

Previous efforts completed by EBMUD suggest that gravel placement and recontouring should take place during late summer months when flows are low (less than 300 cubic feet per second) and non-resident fish are at their lowest abundances (EBMUD 2014). In past efforts the optimal time period has occurred between mid-August and late-September (EBMUD 2014). Recontouring will take place in a manner consistent with final design work, which will ensure that inundation of the MRDUA takes place as planned and in accordance with permitting. Further, after recontouring takes place, all disturbed areas will be re-vegetated with appropriate plants, which should be native grasses or riparian plants.

It is assumed that the following permits and approvals will be required for this project:

- Section 1600 streambed alteration agreement
- California Endangered Species Act Section 2081 and 2090 consultation
- Section 401 Clean Water Act certification from the Central Valley Region of the California Regional Water Quality Board
- Section 404 Clean Water Act authorization
- Endangered Species Act Section 7 consultation
- Central Valley Flood Protection Board permit(s) (if required)
- Coverage under General Permit for Storm Water Discharges Associated with Construction Activities, Construction General Permit Order No. 2009-009-DWQ

Budget

The budget for this project is anticipated to be $150,000. Costs associated with the project are broken down as follows:

- Implementation Costs: $111,000 + 30% contingency
- **Total Project Costs: $150,000**

References

East Bay Municipal Utility District (EBMUD). 2014. Initial Study and Mitigated Negative Declaration for the Lower Mokelumne River Spawning and Rearing Habitat Improvement Project. Available: http://www.ebmud.com/sites/default/files/pdfs/lower_mokelumne_river_spawning_and_rearing_habitat_improvement_project.pdf

San Francisco Regional Water Quality Control Board (Regional Board). 2000. Draft Staff Report – Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines. Available: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/dredging/beneficialreuse.pdf

San Joaquin County Resource Conservation District (SJCRCD). 2002. Lower Mokelumne River Watershed Stewardship Plan. Available: http://sjcrcd.org/articles/MokP.pdf