ER P2 (23 CCR § 5006) Restore Habitats at Appropriate Elevations.

(a) Habitat restoration must be carried out consistent with Appendix 3, which is Section II of the Draft Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions (California Department of Fish and Wildlife 2011). The elevation map attached as Appendix 4 should be used as a guide for determining appropriate habitat restoration actions based on an area's elevation. If a proposed habitat restoration action is not consistent with Appendix 4, the proposal shall provide rationale for the deviation based on best available science.

(b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action that includes habitat restoration.

Note: Authority cited: Section 85210(i), Water Code. Reference: Sections 85020, 85022, 85054, 85300 and 85302, Water Code.

Regional Setting

Sherman Island is located in Sacramento County just to the north of the city of Antioch, California. The island is in the western portion of the Sacramento-San Joaquin Delta (Delta) a nd is located near the confluence of the Sacramento and San Joaquin rivers (See Figure 1-1).

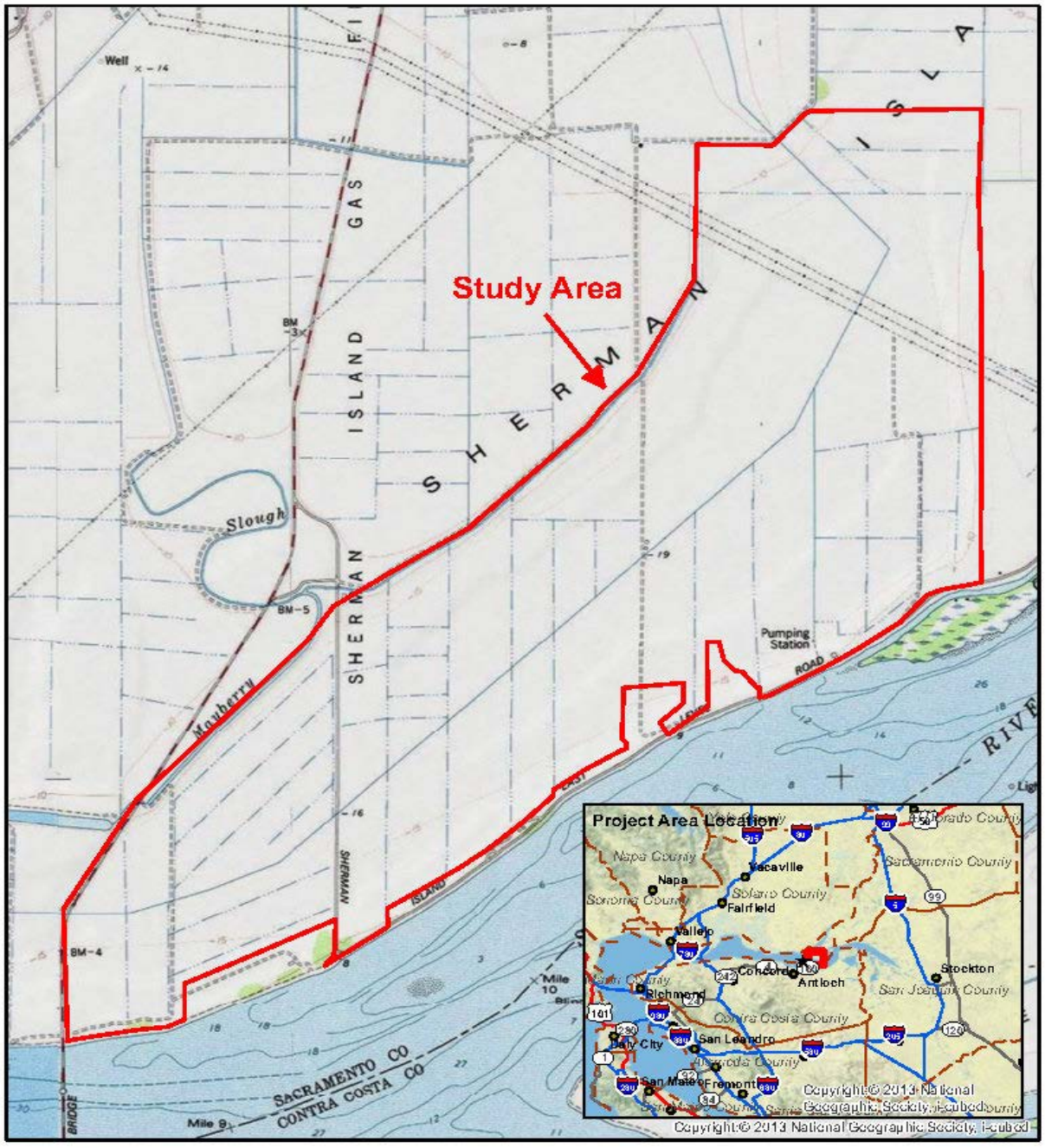

Figure 1-1 Project Site and Vicinity Map

Pre-Project Conditions

Historically, the study area was a marsh that was diked off from the Sacramento River and drained between 1850 and 1860 to facilitate agriculture. As a result of more than 150 years of farming practices, irrigation, and exposure of soils to air, the study area has subsided as much as 15 ft. A high-water table currently makes the project site unsustainable as a long-term agricultural area.

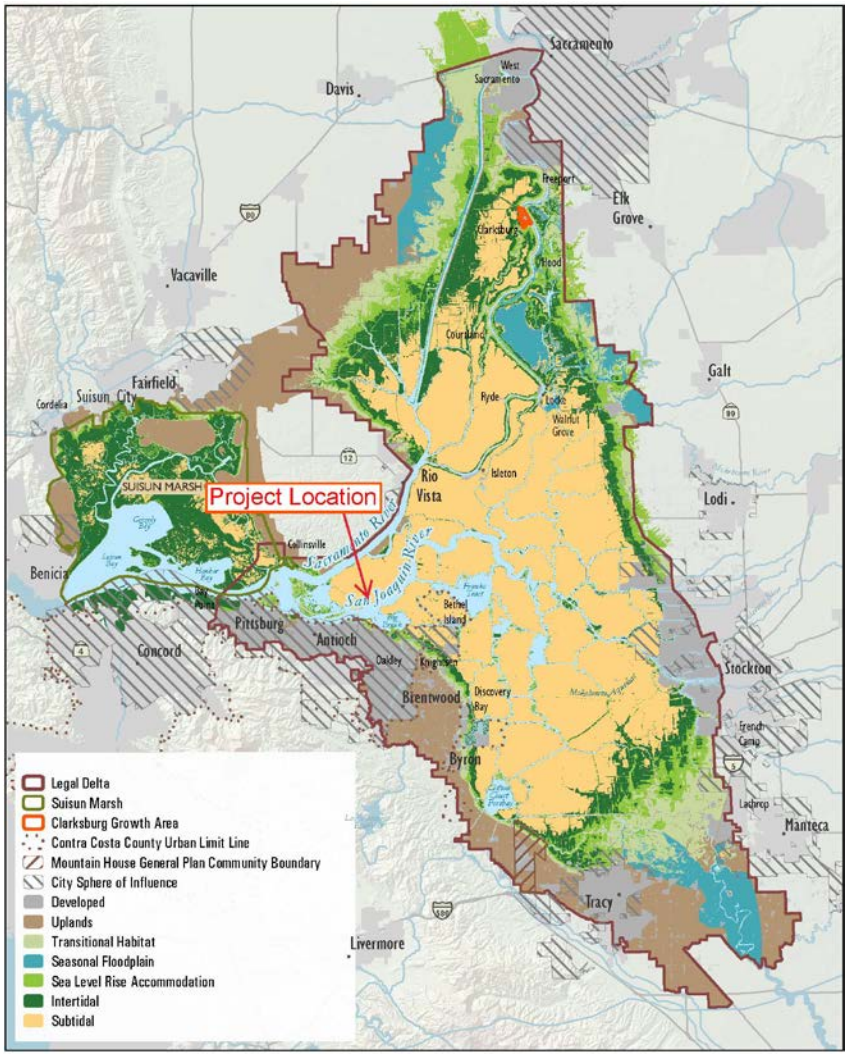

Figure 4-1 of the Delta Plan with Location of the Sherman Island Restoration Project

Before the Delta was diked, drained, and farmed, it was subject to significant seasonal fluctuations in freshwater inflows, which worked in concert with large tidal ranges. Natural levees were formed by sediments deposited during spring floods and stabilized by vegetation. Dominant vegetation within the natural levees included tules - marsh plants that live in fresh and brackish water. Decomposing tules and reed vegetation formed the peat soils over thousands of years. In waterlogged conditions, decaying tules decompose slowly to release carbon dioxide and methane, which is trapped in the soils by water.

Once the soil was diked and then dried, the peat soils decompose, which leads to compaction and subsidence. Subsidence has reduced the distance from the soil surface to the water table. The resulting

high-water table makes the Site unsustainable for crop production, although much of the site is currently used for cropland and pasture.

The project site is located on Sherman Island which is completely surrounded by a levee system. The site has subsided between 10 feet and 20 feet below the adjacent elevations of the San Joaquin River. The site is comprised of a complex network of berms, water delivery and drainage ditches, and water control structures. See the Project Description in the Initial Study, Mitigated Negative Declaration (SCN 2019029126) and attached in Section J, Admin.

According to the Delta Plan Policy ER P2, the location of the restoration site is appropriate for the type of restoration proposed. The proposed project is a semi-permanent wetland, which is appropriate for subsided delta islands as they have been shown to stop and, in some cases, reverse subsidence. This project is consistent with this policy according to Appendix 3 on Page 42 and 43, which states,

> ***Delta Subsidence Reversal.*** *The exposure of the bare peat soils to air causes oxidation and decomposition, which results in subsidence, or a loss of soil elevation, on Delta islands. Flooding these lands and managing them as wetlands reduces their exposure to oxygen, so there is less decomposition of organic matter, which stabilizes land elevations. Wetland vegetation cycles lead to biomass accumulation, which sequesters carbon and helps stop and reverse subsidence (Fujii 2007). As subsidence is reversed, land elevations increase and accommodation space (the space in the Delta that lies below sea level and is filled with neither sediment nor water), on individual islands is reduced (Mount and Twiss 2005). …*

Figure 1-2 demonstrates how the proposed Project Site would likely look after construction is completed and temporary impacts have been recovered. The overall Project will be an improvement of water supply, conveyance, and water management capabilities. Approximately 867.957 acres of existing degraded wetlands occurring in highly disturbed pasture lands will be enhanced through activities mentioned in the Detailed Project Description. The Project will also provide a functional lift by diversifying habitats (varied topography of swales and potholes), allow the site to be more efficiently managed, and will be more productive migratory bird habitat. In addition, approximately 100.757 acres of additional wetland habitat will be created by the implementation of this project.

As demonstrated above the Project will restore habitat at appropriate elevations per Appendix 4 Figure 4-1 of the Delta Plan as the project will stop ongoing subsidence and reverse subsidence. The proposed project does not adversely impact the opportunity to restore habitat as the project is not located within the Priority Habitat Restoration Area per Appendix 5 Figure 5-1 of the Delta Plan. The project was designed in consideration with future potential restoration project and existing surround land uses.

Additional benefits of the Project include stopping and/or reversing subsidence and potentially sequestering atmospheric carbon. By maintaining permanent and adequate water levels, the growth and decomposition of emergent vegetation is expected to grow peat which will raise the surface elevation.

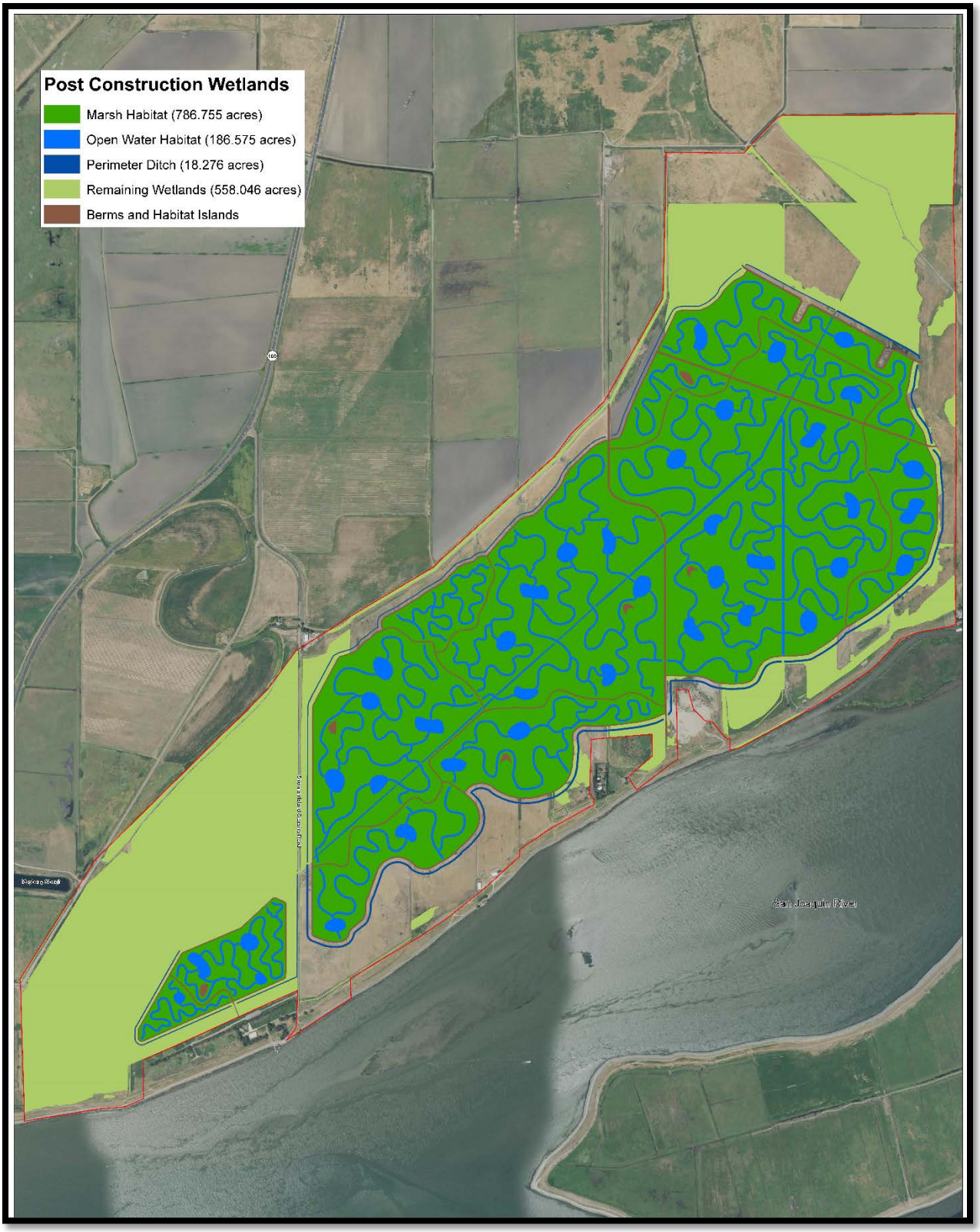

Figure 1-2: Sherman Island Habitat Restoration Project Features and Post-Restoration Habitat.