



U.S. Fish & Wildlife Service  
Sweetwater Marsh Unit Site  
Operable Unit 1 (Burn Ash Areas)  
Chula Vista and National City, CA

**US Fish and Wildlife Service Requests  
Public Comments on Sweetwater Marsh Unit  
Site, Operable Unit 1 (Burn Ash Areas),  
Engineering Evaluation/Cost Analysis**

**INTRODUCTION**

The U.S. Fish and Wildlife Service (FWS) will be conducting a Non-Time Critical Removal Action (NTCRA) to clean up residual contamination from the historical disposal of burn ash at Operable Unit 1 (OU1) of the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge located in Chula Vista and National City, California. This fact sheet is intended to provide a brief explanation of the proposed cleanup and to solicit public comment on the Draft Engineering Evaluation and Cost Analysis (EE/CA). The overall objective of the EE/CA is to evaluate various cleanup alternatives and to select the best alternative to provide a long-term, effective remedy that will reduce potential risks to human and ecological receptors at OU1. The FWS is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) § 300.415(b)(4)(i), to prepare an EE/CA when conducting a NTCRA.

**Public Comment Period**

**September 1, 2017 to October 16, 2017**

The FWS is interested in hearing from the public and is accepting written comments on the EE/CA document. A copy of the administrative record which includes the EE/CA may be found at the information repositories listed below and online at

[https://www.fws.gov/refuge/san\\_diego\\_bay/wh\\_at\\_we\\_do/resource\\_management/Sweetwater\\_Marsh\\_Restoration.html](https://www.fws.gov/refuge/san_diego_bay/wh_at_we_do/resource_management/Sweetwater_Marsh_Restoration.html)

**Information Repositories**

San Diego Bay National Wildlife Refuge, USFWS

1080 Gunpowder Point Drive  
Chula Vista, CA 91910

**Comments should be addressed to**

Andrew Yuen

Project Leader

San Diego NWR Complex

P.O. box 2358

Chula Vista, CA

91912

Pursuant to 40 CFR §§ 300.415(n) and 820(a), a public comment period will be held from September 1, 2017 through October 16, 2017 during which the FWS will accept written comments from the public on the OU1 EE/CA. After public review and comment, the FWS will issue an action memorandum to identify the selected removal action.

## **BACKGROUND**

The Sweetwater Marsh Unit (Unit) of the San Diego Bay National Wildlife Refuge (the Refuge) is managed by the FWS as part of the National Wildlife Refuge System. The 316-acre Unit is located along the eastern edge of San Diego Bay in an area that extends from just north of the 24th Street Flood Control Channel in National City to about G Street in Chula Vista. Sweetwater Marsh NWR is home to different State- and federally-listed endangered and threatened species including: the California least tern; the light-footed Ridgway's rail; the western snowy plover; the Belding's savannah sparrow; and the salt marsh bird's beak, an endangered plant species (FWS, 2006).

Three operable units are present with the Unit and separate investigations and response action selection were conducted for each OU. OU1 includes Paradise Marsh, Connector Marsh, portions of Sweetwater Marsh, and properties adjacent to the Refuge that have become contaminated with burn ash created at a now-defunct burn dump located north of the Site. Operable Unit 2 (OU2) includes a natural upland area commonly known as Gunpowder Point, which was the site of intensive industrial activity from 1916 until the early 1930s. Operable Unit 3, which is also known as the F and G Street Marsh, is not contiguous with OU1 and OU2 and includes a marsh area that was filled with contaminated materials in the 1960s and 1970s. The FWS is performing a separate EE/CA for each operable unit with the Unit. This fact sheet focuses on the EE/CA for OU1.

Development in the vicinity of OU1 began in the 1800s with the construction of a rail line. Businesses, including railroad support offices, slaughterhouses, manufacturing shops, and a burn dump deposited waste into Paradise Marsh, which is located at the north end of OU1. The burn dump was known as Davies Dump and was in operation from the 1920s to the 1950s, at which time the area was graded and leveled. In 1949, the State of California acquired the land along the eastern edge of OU1 for the construction of what is now the I-5 freeway. This construction altered the Site's local geography and likely contributed to the dispersion of burn ash debris and increased erosion in the marsh channels.

From 2002 to 2015, various environmental investigations were conducted to identify contaminants and assess the immediate and/or potential threat that hazardous substances contained in historic burn ash debris may pose to human health and/or the environment. Five different remedial cleanup efforts have occurred from 1991 to 2017, removing areas of contaminated soil and stabilizing upland contaminated soil to minimize erosion into the marsh. Chemicals of potential concern that were identified included metals, dioxins and furans, pesticides, polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons (PAHs) in soil and sediment. Chemical concentrations generally decreased with depth and were associated with the burn debris disposed in the marsh. Metals and organic chemicals of potential concern

(COPCs) are generally well correlated with elevated lead concentrations. Thus, total lead concentrations can be used as the primary COPC, risk driver, indicator of contamination, and for characterization of appropriate waste disposal or remediation options.

## **CLEANUP LEVELS**

Human health and ecological risk assessments conducted as part of the EE/CA evaluated potential exposures of human and ecological receptors to COPCs present in upland soil and wetland soil/sediment. The risks of several COPCs were predicted by quantitative human health and ecological risk models to be present at levels potentially in exceedance of acceptable levels, and preliminary remediation goals (PRGs or Cleanup Levels) were developed to achieve the removal action objectives (RAOs).

The RAOs for OU1 are to: (1) prevent potential exposure of ecological and human receptors to unacceptable concentrations of COPCs in soil and sediments; and (2) attain all Federal and State applicable or relevant and appropriate requirements (ARARs). Removal action areas are based on soil and sediment areas with concentrations that exceed the final cleanup levels (or PRGs), as well as the visible burn ash debris and municipal solid waste areas.

## **REMOVAL ACTION ALTERNATIVES**

The primary objective of an EE/CA is to evaluate various cleanup alternatives and provide a basis for recommending a removal alternative that addresses the presence of lead and other COPCs in soil and sediment at OU1.

The scopes for the removal actions focus on surface and near-surface soils and sediments containing COPCs that exceed the cleanup levels (i.e. PRGs). Alternative removal and disposition methods were identified based on site-related contaminants, characteristics, and removal action objectives. Each option was then screened for effectiveness, implementability, and relative costs. Four primary cleanup alternatives were evaluated in the EE/CA:

1. No action;
2. Excavation and off-site disposal of upland soil and sediments;
3. Excavation of soil and sediments with off-site disposal; upland soil capping in select areas; and
4. Excavation of upland soil and in situ treatment of sediments.

The first alternative, no action, is used as a basis to compare the other alternatives. The latter three alternatives are further split into three implementation options each, which are detailed below.

- Alternative 2 – Excavation of Upland Soils and Sediments with Off-Site Disposal. This removal action alternative provides for the removal of the contaminated soils and sediments at the areas where COPC concentrations exceed the final cleanup levels and off-site disposal thereof. Alternative 2 would utilize mechanical equipment such as a backhoe, off road dump trucks, spider hoe or excavator to excavate the contaminated

soils/sediments. The volume of material to be excavated to final cleanup levels and disposed at a permitted facility to final cleanup levels is approximately 44,000 cubic yards (61,600 tons). Finally, excavations would be backfilled where determined appropriate and necessary by the Refuge Manager with certified weed-free clean soil from an off-site borrow source and replanted with native vegetation. Revegetation costs were estimated for approximately 14 acres, the sum of the removal action areas considered for excavation. The estimated cost for this option is \$12,970,000 (The dollar amount for each alternative is estimated in 2015 dollars net present value (NPV) with a performance period of 30 years).

- Alternative 3 – Excavation of Upland Soils and Sediments with Off-Site Disposal. Use of Soil Capping in Select Upland Areas. Alternative 3 is substantially similar to Alternative 2; however, Alternative 3 allows for the capping of select upland soil areas. A number of the upland remedial action areas are located along a rail line or a bike path. Depending on geotechnical limitations, it is possible that certain areas may not be accessible for treatment via excavation. In these areas, a soil cap would be installed as the remedy. Soil cover would consist of a 2-foot thick soil cover that would be seeded with native vegetation or other suitable cover. As for Alternative 2, revegetation costs were estimated for approximately 14 acres. This alternative would have a functional lifespan of 30 years. Operations and maintenance (O&M) costs are based on semi-annual inspections and repairs of capped areas as needed for the first 5 years, and then every 5 years for 30 years. Annual repairs would be required to potentially re-grade portions of soil cover, place additional soil or seeding where needed. The estimated lifetime cost for this option is \$11,020,000.
- Alternative 4 – Excavation of Upland Soils with In-situ Treatment of Sediments. Under Alternative 4, upland soils would be excavated, as discussed in Alternative 2. In total, approximately 44,000 cubic yards of upland soils would be removed and disposed of at a permitted facility. Sediments would be treated using an in-situ binding agent/reactive cap (AquaBlok<sup>®</sup> with Sorbster<sup>®</sup>) to immobilize the contaminants of interest (COI). Areas within the designated wetland areas would also be treated with AquaBlock/Sorbster<sup>®</sup>, which creates a 2 to 6-inch reactive cap over the contaminated sediments. Based on the residual risk calculations, assuming a 2-inch cap, approximately 1,050 tons of AquaBlok/Sorbster<sup>®</sup> will be required to cover the approximately 3.5 acres of sediment areas where COI are present. O&M costs are based on semi-annual inspections and repairs of capped areas as needed for the first 5 years, and then every 5 years for 30 years. Annual repairs will include re-grading portions of the soil cover, placing additional AquaBlok<sup>®</sup> to maintain the cover and bind up contamination. This Alternative also includes revegetation costs for approximately 14 acres. The estimated lifetime cost for this option is \$11,540,000.

## **RECOMMENDED REMOVAL ACTION**

The recommended removal action is the excavation of upland soils and sediments with off-site

disposal (Alternative 2). This was the highest rated alternative for addressing the existing soil and sediment contamination. This alternative includes mechanical excavation and disposal of the soils at the appropriate off-site facility. The completed excavation would be backfilled with clean borrow soil and the affected areas to be replanted with native vegetation and reclaimed for unrestricted future land use in accordance with the Comprehensive Conservation Plan (“CCP”). The time to complete the removal action at the Site is estimated to take about 4 to 6 months. The methods for excavating and removing the soil and sediments are technically and administratively feasible, and are commonly used. Cleanup activities and trucking will be coordinated with local events to reduce potential traffic impacts.

### **INFORMATION REPOSITORY**

Hard copies of the administrative record, which includes all documents upon which the FWS relied or otherwise considered in selecting a removal action for OU1, are available at the repository listed below:

#### **Sweetwater Marsh National Wildlife Refuge**

San Diego Bay NWR, USFWS  
1080 Gunpowder Point Drive  
Chula Vista, CA 91910

#### **On The Web:**

[https://www.fws.gov/refuge/san\\_diego\\_bay/what\\_we\\_do/resource\\_management/Sweetwater Marsh Restoration.html](https://www.fws.gov/refuge/san_diego_bay/what_we_do/resource_management/Sweetwater_Marsh_Restoration.html)

### **HOW TO COMMENT:**

The FWS invites your comments on the OU1 EE/CA. Comments must be received or postmarked by October 16, 2017. Please submit written comments about the OU1 cleanup alternatives to MaryAnn Amann, CERCLA Project Manager at U.S. Fish and Wildlife Service, Division of Engineering, 911 NE 11th Avenue, Portland, Oregon 97232, or email [SWMOU1OU2@fws.gov](mailto:SWMOU1OU2@fws.gov).

The FWS will consider all public comments received by October 16, 2017 and prepare written responses for significant comments.

### **For More Information, Contact:**

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