

Communicating with the Public

Title: Sand Mounds Accelerated High Marsh Habitat Development - Sonoma Baylands Wetland Demonstration Project, Tidal salt marsh restoration using dredged material

Location: San Francisco Bay, California

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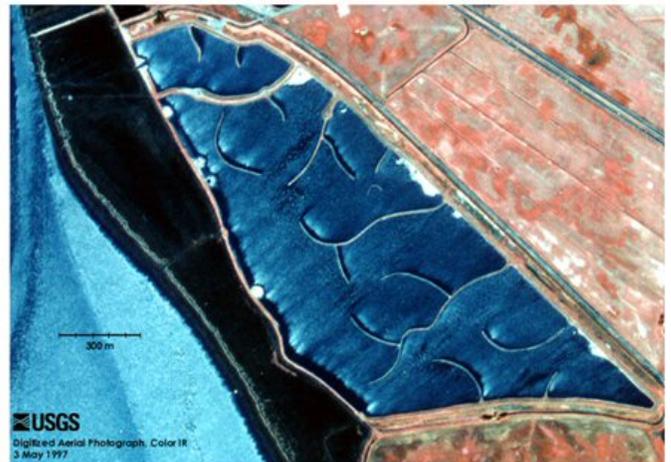
Website: Sonoma Baylands Wetland Demonstration Project

<http://www.cooperativeconservationamerica.org/viewproject.asp?pid=334>

Story: The design of the Sonoma Baylands project was based on experience gained from past tidal marsh restoration projects in San Francisco Bay. Rather than attempting to construct an "instant marsh," the project was designed to allow a tidal marsh system to naturally develop over a relatively short period of time while minimizing construction costs. Dredged material was pumped into the site to accelerate the re-establishment of intertidal marsh elevations on diked lands that had subsided about six feet. The final surface of the restored marsh, including the tidal channel system, is being created by the natural deposition of suspended sediment transported into the site by tidal action.

The biggest concern during design and construction of the project was to avoid overfilling any portion of the site with dredged material. Overfilling could prevent the formation of tidal channels and result in a less natural marsh.

Some of the dredged material used at Sonoma Baylands contained fine sands, which resulted in the formation of mounds at hydraulic pipeline discharge points. The mounds can be seen in the aerial photo as white areas adjacent to the perimeter levees. The Corps immediately directed its



Sonoma Baylands after placement of dredged material and prior to breaching of main unit levee to restore tidal action.



Graded sand mound area at Sonoma Baylands vegetated by pickleweed and some cordgrass after restoration of tidal action (2003 photo).

dredging contractor to grade the mounds down to the expected ultimate elevation of the restored marsh plain.

After the sand mounds were leveled, they were soon colonized by native pickleweed, quickly providing the first vegetated habitat within the restoration area, as shown in the more recent ground photo of a graded sand mound area. Because the sand mounds were all located near the perimeter of the site, they have not interfered with marsh channel formation or the overall development of the marsh.

The unplanned sand mounds at Sonoma Baylands have subsequently been recognized by the Corps' resource agency partners as a beneficial feature of the project. Similar higher elevation fill areas are being included in the design for a current marsh restoration project to allow accelerated establishment of marsh vegetation within a portion of the restoration site.