



Changes in Vegetation – Tied Integrally to Water and Elevation

The EIS/EIR predicted that vegetation changes in the restored would take 15- to 20 years. But, based on the amount of change we observed even before levees were breached, the transformation from dairy pastures to a mosaic of salt, brackish, and freshwater marsh and riparian habitat was predicted to occur much more rapidly – more along the lines of 5- to 10 years to “mature” marsh communities.

In the first year after restoration, dramatic changes in vegetation communities have already been observed. These changes are integrally tied to the movement of water over the landscape, with the frequency and duration of inundation, and accumulation of salts in the soils creating a zonation pattern along a gradient from low to high elevation. Flood flows also lead to patterning of the landscape, but with a dry winter and spring in 2008-2009, there were no overbank flood flows from Lagunitas Creek.

Sparsely Vegetated with Salt Marsh and Brackish Marsh Species



Densely Vegetated with Salt Marsh and Brackish Marsh Species



Densely Vegetated Brackish Marsh Dominated by Fat Hen (*Atriplex*)



Densely Vegetated Brackish Marsh With Grasses



Salt Marsh Grassland



Moist and Dry Grassland



Plants aren't the only thing establishing in the restored wetlands.....

Nutrients associated with plant die-off and flux from former agricultural soils have encouraged colonization by algae of many different species



3-4 ft NAVD88

Tides

East Pasture near Point Reyes Station

Flood Flows

10-11 ft NAVD88

Lagunitas Creek at Green Bridge

Brass buttons (*Cotula coronopifolia*; Sunflower family); common



Galen Leads Photography

fat hen (*Atriplex triangularis*; Chenopod family); incredibly abundant, even in non-tidal areas; often disappears quickly after initial establishment



Rabbitfoot grass (*Polypogon monspeliensis*; Grass family); less common

Which are the most common brackish marsh plants?

Spurrey (*Sporogularia salina*; Carnation family); common, particularly on old roads

Less Common Species in Tomales Bay Marshes – Markers of Biodiversity?



Which plants are considered salt marsh species?

Dominants in Tomales Bay Marshes

