

PG&E Constructed Treatment Wetland

Description

The PG&E treatment wetland covers 18 acres of land in the Moro Cojo watershed. It is designed to reduce nutrients and other NPS pollutants, provide wildlife habitat, and help with flood control. Inlet water is pumped from the Castroville Ditch which drains approximately 800 acres of land farmed predominantly in artichokes and brussel sprouts, as well as a portion of the storm-water runoff from Castroville. Water is gravity fed through a 1.25 km sinuous channel that includes depressions and ponds that support wetland plants and sediments that denitrify agricultural water. The treated water then flows into the Castroville Slough about 200m downstream of the inlet, and out to the Moro Cojo Slough before joining Old Salinas River and flowing into the Pacific.

Water Quality Issues

Nutrient concentrations within the Castroville Ditch have been documented between 10-45 mg/L Nitrate as N. The Castroville Ditch flows into the Moro Cojo Slough where the endangered tide-water goby is found along with rainbow trout and other fish species. The Moro Cojo Slough is on the 303(d) list for high ammonia, sediment and low dissolved oxygen.

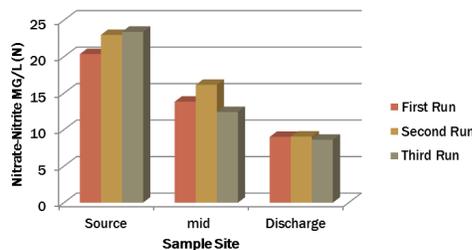
PROJECT LOCATION



Nutrient Removal

Load and concentration removal are estimates based on 2 months of monitoring and will increase as the wetland matures:

Area contributing runoff: 800 acres
 Bioreactor land area: 18 acres
 Water volume: 12,000 yard³
 Capacity: 141,000 gal/day
 HRT: 7 days
 Nitrate-N Load Reduction: 4200 lbs/yr
 Nitrate Removal: 50%
 Orthophosphate Removal: 86%
 Ammonia Removal: 60%



Partnerships

The Central Coast Wetlands Group (CCWG) provided the conceptual design, coordinated with the owners and contractors, obtained permits and oversaw the construction. PG&E provided the land and project support. Waterways Consulting provided the technical design and Durden Construction Inc. completed construction. Coastal Conservation and Research grew the 30,000 native wetland plants that were planted. Monterey County Mosquito Abatement and SeaMist Farms provided earthmoving and on-site support to establish ditches around perimeter. The project was funded by SWRCB Prop 84 grant # 12-414-553.

Prop 84 Grant Funding

State Water Resources Control Board's Proposition 84 Agricultural Water Quality grant paid for biological monitoring, wetland construction, and water quality monitoring. A Department of Water Resources (DWR) Integrated Regional Water Management Plan Implementation grant covered the engineering designs and permitting costs. Matching funds were provided from NRCS and UCCE as professional services. PG&E dedicated land use and paid for west end Frog Ponds. Monterey County supported installation of new pumping infrastructure.

Planning & Engineering: \$100,000
Permitting & Preparation: \$7000
Land: \$92,000
Construction & Mgmt: \$480,000
Total Cost: \$679,000

FOR MORE INFORMATION

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