

San Onofre Plant's Marine Enhancement Projects – A Net Plus for Coastal Ecosystems

Two major marine enhancement projects being developed by Southern California Edison (SCE) related to its San Onofre Nuclear Generating Station are producing new science on restoring valued coastal ecosystems. The Wheeler North Reef off San Clemente and the San Dieguito Wetlands Project near Del Mar are helping nature create 174 acres of new ocean kelp forest and 160 acres of new fish spawning and bird habitat. The projects will more than replace the roughly six percent of fish near the San Onofre facility adversely affected by the plant's ocean water cooling system.

San Dieguito Wetlands

This \$90 million restoration project has restored tidal flows, natural habitat and vegetation. It includes construction of the coastal segment of the Coast to Crest Trail along the San Dieguito River, creating an outer perimeter to help protect sensitive habitat and vegetation. All major construction of the project is expected to be completed in early 2010, including part of the San Dieguito River Park, a scenic trail system enhanced by viewing platforms and a visitor's center.

Wetlands Benefits

- 440 acres of enhanced wetlands will be visible to guests, including 160 acres of new Southern California wetlands and 100 acres of tidal salt marsh land.
- Significant increases of fish and wildlife.
- The return of tidal flow to the lagoon.
- The wetlands serve as a fish nursery and a refuge for migratory waterfowl and endangered species, as well as an open space for community recreational activities.



Lagoon Day 2009!!!

Art by a Del Mar School District 3rd grader following a visit by 600 school children to SCE's wetlands project in April 2009.



Wheeler North Reef

Named after the Caltech environmental scientist Wheeler J. North, one of the nation's first kelp restoration experts, SCE's \$46 million, 174-acre artificial kelp reef located a mile off the coast of San Clemente is creating a new habitat for local marine life. The reef was created to offset the relatively minor impact on a nearby kelp bed by the ocean water cooling system of the San Onofre Nuclear Generating Station.

Reef Benefits

- The reef will add a significant amount of new marine habitat to the Southern California coast in an underwater forest protecting and nourishing as many as 50 varieties of fish and invertebrates.
- The reef will increase Southern California recreational opportunities including fishing and diving.

Hubbs Hatchery

SCE provided \$5 million toward the funding of the Hubbs Hatchery in Carlsbad, which is restoring the region's white sea bass population through innovative aquaculture and fishery enhancement techniques. The hatchery is capable of producing more than 350,000 juvenile white sea bass annually.



The California Spiny Lobster common to coastal kelp forests

These projects provide a model for the use of economical ocean water cooling by power plants while effectively offsetting environmental impacts.