

CASE STUDY

Hill Canyon Wetlands Restoration

Overview

The Hill Canyon Wetlands Creation Project is the largest man-made wetland in Ventura County, California, stretching along approximately 15 acres of the Arroyo Conejo Nature Preserve. Multiple state and regional agencies collaborated in the call for a restoration project to mitigate existing and future developments in the city of Thousand Oaks, California.

The Challenge

Restoring an area with the size and diversity of the Hill Canyon wetlands required expertise in developing not only the wetland habitat, but also all surrounding upland vegetation. Large amounts of Arundo had to be eliminated and temporary irrigation was required to encourage new growth. The prospect of seasonal flooding in the creek bed required an embankment planting design that could withstand heavy rains and discourage erosion that might otherwise destroy the habitat.

The Solution

Natures Image, working in conjunction with CH2M Hill and J.F. Shea Construction, created a restoration plan to preserve the native riparian woodland habitat and create an exceptional environment for the many native plant and animal species that should be residents of the preserve. This particularly included the southwestern pond turtle, a listed species of concern.

Natures Image began by removing all non-native plant species, supplying custom-designed grinders that facilitated the efficient and permanent removal of the large amounts of Arundo. Irrigation needs were addressed with the design of a specialized pumping system to temporarily de-water the creek and allow for the construction of an intake structure and pipeline in the creek bed that supplied the irrigation system.

The site was hydroseeded and willow cuttings were installed. Creek embankments were wisely bioengineered for stability using live willow fascine in addition to the commonly used riprap naturalization.

Ultimately, Natures Image provided the expertise necessary to successfully install an estimated 1,600 trees, 7,000 emergent marsh plants, 6,000 low herbaceous wetland plants, and 1,200 riparian scrub plants across this 7 acre site.

The Results

Heavy rains in the winter of 2005 tested the durability of this project's slope design. It was observed that Natures Image thoughtful use of vegetation in armoring the embankments delivered turbulent flow condition protection environmentally superior to the typical riprap armor installation.

Today, this beautifully restored wetland is fully populated with coots, mallards, herons and many other species. Several southwestern pond turtles have been sighted in the area and watchers are optimistic that a colony is being established in the area.

In 2005, the Hill Canyon Wetland Creation Project was awarded the national American Public Works "Project of the Year" award in the environmental category.

"The Hill Canyon Wetlands Creation Project was recognized with the prestigious "American Public Works Association Project of the Year Award 2005". It was a great success and I would be happy to work with Natures Image on future restoration projects."

James N. Gorham, Project Manager, CH2M Hill

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