



Meeting the
Collective
Goals of Our
Community



Hidden Valley

Wetlands Enhancement Project



City of Riverside



HIDDEN VALLEY-HIDDEN TREASURE FOR RIVERSIDE

Hidden Valley Wildlife Area is truly the hidden treasure of Riverside. Suffering for years from unrealized potential, the area consists of over 1500 acres of park land. Through the cooperative efforts of several agencies and citizen groups the Hidden Valley Wetlands Enhancement Project has become an environmental jewel that promises to provide our community with years of recreation, education, research, and water quality improvements.

The project is a unique example of inter-agency cooperation meeting the collective goals of our community. The project enjoys multiple benefits:

- Restoration of high quality riparian habitat (supporting native and transient migratory wildlife)
- Reliable water supply for wetlands ecosystem
- Local groundwater recharge
- An interpretive center for environmental education
- Trails for recreation and equestrian activities
- Mitigation of non-native vegetation, wildlife protection, all with the coordination of local agency resources.

UNREALIZED POTENTIAL

As a result of an unreliable water supply, ponds completely evaporated, or, when partially wet, became mosquito breeding grounds. Poor habitat, caused by the infestation of a non-native giant cane called *Arundo donax*, adversely affected the habitat of endangered and sensitive species of birds such as the Least Bell's Vireo. Due to funding constraints, road and pond maintenance was limited.

NITROGEN REMOVAL

The project was first conceived in 1990 by the City of Riverside after a study by University of California at Riverside provided strong evidence for the potential of the constructed wetlands to remove nitrogen compounds from City's reclaimed water.

Nitrogen removal was a new regulatory requirement for water discharged into the Santa Ana River. The construction of facilities to remove nitrogen was costly. However, the natural capabilities of wetlands to simultaneously purify and upgrade the quality of treated wastewater not only would provide water for recharge locally, but save millions of dollars for the City residents.

INTER-AGENCY COOPERATION

The City of Riverside was the lead agency in the project, which was designed to benefit our community by pooling agency resources to meet the multiple ideals presented by the diverse shareholders.

The coalition consists of the City of Riverside Public Works, the Riverside County Parks and Open Space District, and the California State Department of Fish and Game. The City and County operate and maintain the Hidden Valley Wetlands Enhancement Project under a long term cooperative agreement. CALTRANS provided partial funding for the project. The U. S. Army Corps of Engineers and the U. S. Fish and Wildlife Service are federal proponents of the project. Also, several advisory groups participated in the conceptual design of the project.

Coalition partnering resulted in:

- Improved resource management in Hidden Valley Wildlife preserve
- Consistent water source to Hidden Valley
- Removal of nitrates from tertiary treated effluent
- Environmental education opportunities for citizens
- Water reclamation and local groundwater recharge
- Native habitat restoration and environmental enhancement
- Scientific research and development

THE PROJECT

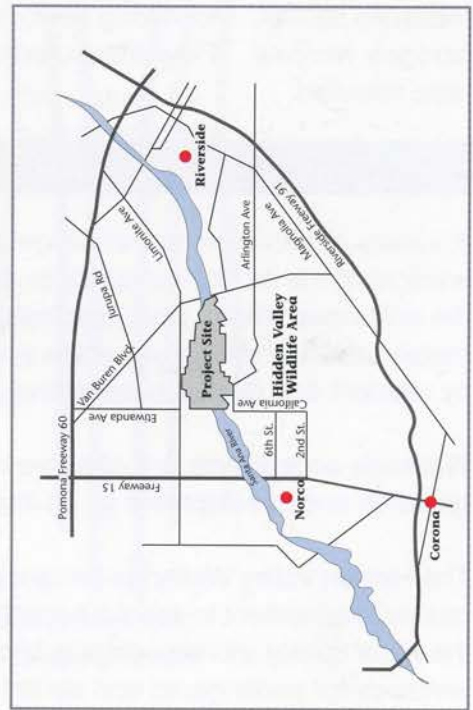
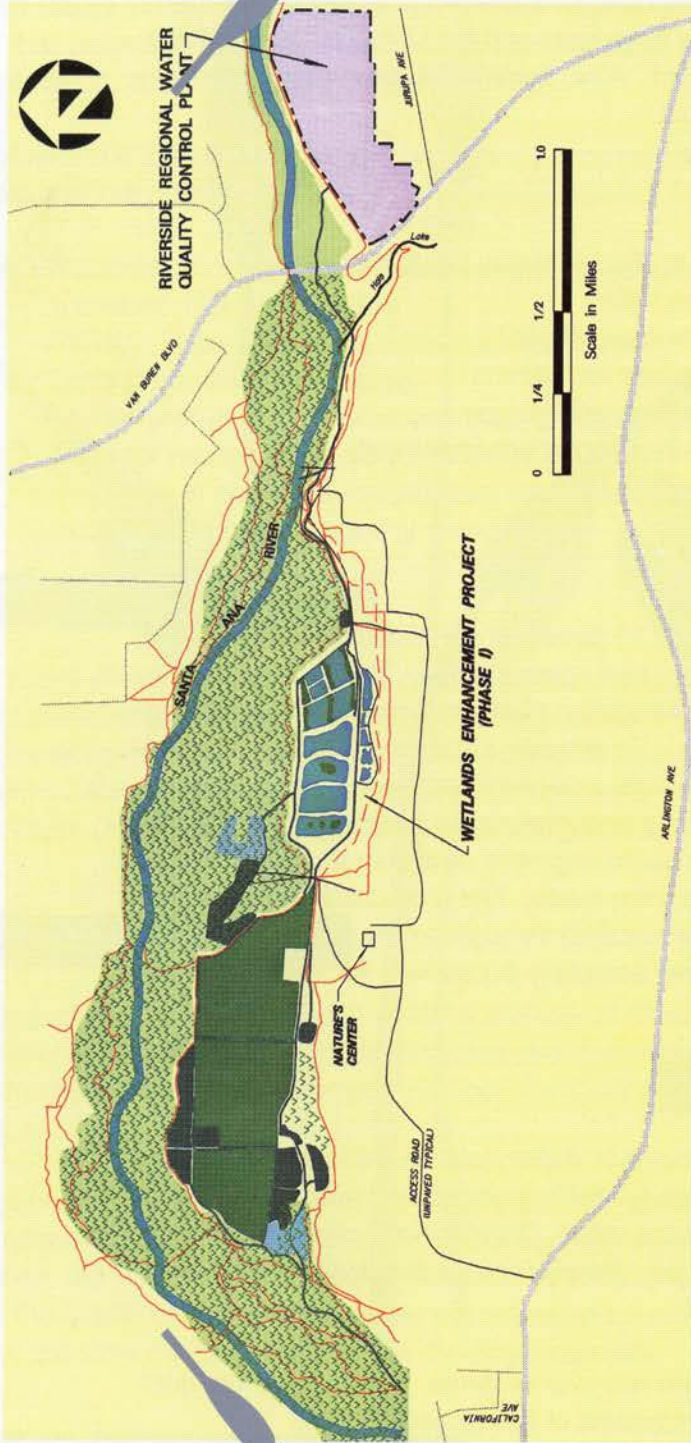
The 70 acre project constructed and restored 15 ponds, and installed an array of flow collection and distribution structures, piping, and control gates. The removal of numerous acres of giant cane was required. Mitigation measures consisted of planting native vegetation in and around the ponds. To provide a center for public use and interpretive education, the dilapidated duck club underwent major renovation and was transformed into a nature center. Educational and interpretive programs were developed to include a water quality and conservation segment, available to area schools. Improvements to roads, trails, and signage were made. The project also provided for mosquito control. Monitoring devices were installed throughout the area to measure nitrogen removal. Flow measurement and sampling equipment for research was also installed.

ENVIRONMENTAL ENHANCEMENT

A variety of sensitive and endangered species is dependent on wetland habitat. By eradicating the exotic *Arundo donex* and subsequently re-vegetating with native plants, the enhanced wildlife area has higher habitat value. Greater floral diversity will ultimately increase wildlife use of the site as well. Newly constructed ponds will be used by resident and migratory waterfowl.

Wetlands ecosystems are effective nitrogen removal systems. Experts will conduct research and development as an important aspect of this project.

The Hidden Valley Wetlands Enhancement Project is an outstanding example of community involvement to solve a sensitive environmental issue. Now, we have improved the water quality, increased the public recreational opportunities, and provided needed wetlands for endangered and sensitive species.



For tours or more information, please call:
 (909) 351-6140 *Wetlands Project*
 (909) 785-7452 *Park Information*

Engineering Consultant:



MONTGOMERY WATSON

301 N. Lake Ave. Suite 600
 Pasadena, CA 91101
 (818) 796-9141



Printed on
 recycled paper