

## **7. EDUCATION**

### **Introduction**

Education increases public awareness and appreciation of natural resources; fosters active participation in conservation, restoration, and monitoring programs; and encourages individuals to wisely use natural resources. Education also fosters creative solutions to environmental problems, and is critical to increasing public understanding of the resource issues that led to the development of the ERP (ERP 2001).

### **Applicable ERP Vision**

Although there was no specific vision for Education in ERP Volumes I and II, education was recognized as an important component of ecosystem protection. Education programs should focus on resource issues and activities that foster the goals of the ERP. Where possible, education programs should work with existing educational resources and be coordinated with watershed stewardship groups and other local efforts. ERP environmental education programs should include support for programs for all age groups in rural and/or urban areas (ERP 2001).

### **Stage 1 Expectations**

Specific “targets” or expectations for education projects were not identified in Volumes I or II of the ERP Program Plan (CALFED 2000a, b), but the importance of increasing public awareness of environmental issues is widely recognized in the environmental community, and is fundamental to the ERP’s efforts.

### **Changes Attributable to ERP**

During Stage 1 ERP has funded 43 projects, totaling over \$14 million, which address environmental education.

Accomplishments are vast, and include: building cooperative stakeholder partnerships; enhancing teacher and student knowledge on Delta, watershed, restoration, and fish ecology concepts; evaluating farmer/rancher perceptions on conservation issues and educating them on how to employ wildlife friendly agricultural activities; increasing knowledge and awareness concerning control and prevention of non-native invasive species; conducting education on water allocation, uses, consumption and conservation within the Bay-Delta system; increasing public education and outreach on fish

contamination issues in the watershed; educating farmers, landowners, and general public about fish contamination, health risks, reducing exposure, as well as ways to reduce input in to the system; and increasing overall environmental awareness to the public .

## Project Summary Table

Table 1. Education Project Summary

ERP Project Number	Project Name and Description	End Date	Total Funding	Project Status
ERP-01-N33	<b>Watershed Education, Headwaters to the Ocean:</b> Five outreach programs conducted by the Sacramento River Discovery Center to educate citizens about natural systems.	2/28/2005	\$321,816	Complete.
ERP-01-N34	<b>Estuary Action Challenge Environmental Education Project:</b> Elementary school teachers and students explored, cleaned up, and restored creek and bay habitats, reduced urban runoff pollution and addressed issues of water quality and safe bay food consumption.	12/15/2001	\$50,000	Complete.
ERP-01-N35	<b>Watershed Education Project:</b> Expanded current Watershed Education Program by expanding coordinator functions to other school districts, providing continued training in appropriate curriculum and field study protocols, continuing and expanding restoration activities, and enhancing linkages with watershed education efforts in the region.	8/31/2004	\$100,865	Complete.
ERP-01-N36	<b>Traveling Film Festival/San Joaquin River Oral History Film:</b> An oral history film which enhanced public awareness and understanding of current and planned San Joaquin River restoration projects.	12/30/2003	\$216,550	Complete.
ERP-01-N37	<b>Environmental Stewardship Educational Conferences and Tours:</b> Provided Winegrape Conferences and Tours to raise awareness of farmers, landscapers, and their consultants regarding the implementation of more sustainable farming practices and water quality management.	8/31/2003	\$48,500	Complete.
ERP-01-N38	<b>Delta Studies Program: San Joaquin County Schools:</b> Increased student and teacher knowledge at sixty schools in San Joaquin County through a Delta Studies Curriculum.	6/30/2004	\$306,291	Complete.
ERP-01-N39	<b>Adopt-A-Watershed Leadership Institute:</b> Provided teacher training on environmental education and science focused on long-term restoration of the ecosystem.	9/30/2004	\$592,884	Complete.
ERP-01-N40	<b>Discover the Flyway II:</b> Educated teachers, students, and the general public about wetland ecosystems and habitats primarily in the Yolo Basin Ecological Management Zone.	8/1/2005	\$197,987	Complete.

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ERP Project Number	Project Name and Description	End Date	Total Funding	Project Status
ERP-01-N41	<b>Bay-Delta Learning Initiative:</b> Production and distribution of educational posters directed at boaters and anglers, to teach them about invasive species.	3/31/2004	\$126,668	Complete.
ERP-01-N42	<b>Educating Farmers and Landowners in Biological Resource Management:</b> Educated farmers and landowners about reducing chemical use to improve water quality, including outreach/education on restoration activities and other environmentally beneficial management activities.	1/31/2005	\$1,066,593	Complete.
ERP-02D-P60	<b>Pacific Flyway Center Initial Planning Project:</b> Initial Planning Project for the Pacific Flyway Center (PFC), a proposed educational facility and site intended to serve the general public.	4/3/2009	\$334,021	Project is currently ongoing.
ERP-02-P06	<b>Kids for Our Creeks:</b> Established partnerships with the local K-8 schools and established watershed education programs via an education coordinator.	6/30/2007	\$164,579	Complete.
ERP-02-P10	<b>Estuary Action Challenge Environmental Education Program:</b> Worked with elementary school teachers and students to explore, clean up and restore creek and bay habitats. Project reduced urban runoff pollution and addressed issues of water quality and safe bay food consumption.	7/10/2004	\$120,000	Complete.
ERP-02-P11	<b>Cultivating Watershed Stewardship:</b> Environmental education program for high school students in Bay, Delta, and Valley regions.	6/30/2006	\$1,497,500	Complete.
ERP-02-P43	<b>Tiered Public Outreach Program:</b> Project was a multi-faceted education program about the CALFED ecosystem restoration efforts, included updating the PBS special "To Quench A Thirst"; updated the "Delta Water Map"; journalists' tours of the Bay-Delta system; and continued to provide Water Education Foundation teaching material to instructors.	6/30/2006	\$360,000	Complete.
ERP-97-C08	<b>San Joaquin River Real-time Water Quality Management Program:</b> Increased water user awareness of real time data and its beneficial use.	06/30/2002	\$931,857	Complete.
ERP-97-N06	<b>Butte Creek Riparian Protection and Restoration Project:</b> Acquired the McAmis Property, developed of a management plan for the Ecological Preserve, and incorporated of the site into the Butte Creek Education Project.	12/31/2001	\$187,182	Complete.
ERP-98-B30	<b>San Joaquin Valley "Salmonids in the Classroom" Program Enhancement:</b> Translated the Salmonids in the Classroom curriculum into different languages.	12/31/2001	\$3,000	Complete.

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ERP Project Number	Project Name and Description	End Date	Total Funding	Project Status
ERP-98-B32	<b>Environmental Agriculture Conferences and Field Tours in the Agriculturally Impacted San Joaquin River Watershed Region:</b> Increased local growers, ranchers, agriculture advisors and agriculture industry-related business's awareness of issues involved in maintaining a functional river system.	12/31/2001	\$28,000	Complete.
ERP-98-B33	<b>Expand Bird Monitoring, Develop a Native Grass Plot, and Enhance Public Involvement with Access to Native Plant Garden Surrounding the Discovery Center:</b> Provided public information/ education to ensure that the improvements on the river and the maintenance of a sustainable, balanced, healthy river system are understood and supported by the general public.	9/30/2001	\$49,640	Complete.
ERP-98-B34	<b>Discover the Flyway:</b> Increased student awareness of wetlands and wildlife issues in the Yolo Basin.	12/31/2001	\$49,000	Complete.
ERP-98-B35	<b>The Butte Creek Watershed Educational Workshops and Field Tours Series:</b> Supported the efforts of the Butte Creek Watershed Project (BCWP) by creating education workshops and outreach materials focused on watershed issues.	12/31/2002	\$33,000	Complete.
ERP-98-B39	<b>Water Challenge 2010 Exhibit:</b> A traveling environmental exhibit titled "Water Challenge 2010", which increased public awareness, knowledge and appreciation of Bay-Delta natural resources.	12/31/2001	\$64,500	Complete.
ERP-98-B40	<b>Increase Public Awareness of the Riparian Habitat and Ecosystems of the Tuolumne River:</b> Educational programs which increased public knowledge and awareness of ecological issues and opportunities in Modesto, adjacent to the Tuolumne River.	12/31/2001	\$55,255	Complete. A task involving an overnight camp was not completed due to a lack of enrollment.
ERP-98-E02	<b>Sonoma Creek Watershed Enhancement Plan - Phase II:</b> Restoration, monitoring, and educational outreach actions in the Sonoma Creek Watershed which restored the watershed through collaboration with a combination of public and private organizations.	12/31/2000	\$302,000	Complete. Project succeeded in replanting more than 2000 linear feet of riparian zone and extending stream setbacks to 200 feet on some private property. Capacity building was also enhanced through planning and outreach including BMPs and Invasive species issues.

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ERP Project Number	Project Name and Description	End Date	Total Funding	Project Status
ERP-98-E13	<b>Union School Slough Watershed Improvement Program:</b> Created a model system which provided assistance and services to landowners interested in conducting restoration and conservation activities on their properties along Union School Slough as identified in the Willow Slough Integrated Resources Management Plan.	5/14/2002	\$636,000	Project was implemented, but due to lack of landowner interest and opposition of the project by the Yolo Flood Control Agency, the 3 mile bank restoration project was not completed; the grant did fund the restoration of a 1,000 ft. demonstration area instead.
ERP-98-E17	<b>Alhambra Creek Watershed CRMP Program:</b> Facilitated broad-based local stakeholder groups to develop a watershed plan for the restoration of Alhambra Creek watershed using the Coordinated Resource Management Planning Process.	12/03/2001	\$138,500	Project was successful and all goals were met or exceeded during the grant's term.
ERP-98-F24	<b>Butte Creek Riparian Restoration Demonstration:</b> Restored the Virgin Valley Ecological Preserve by eliminating unauthorized vehicle access, providing walking trails, restoring damaged areas, and providing educational materials at the site.	9/30/2002	\$76,348	Complete.
ERP-99-B20	<b>Expand Bird Monitoring, Develop a Native Grass Plot, and Enhance Public Involvement with Access to Native Plant Garden Surrounding the Discovery Center:</b> Supported on-going educational programs at the Sacramento River Discovery Center by teaching students about managing these resources.	9/30/2001	\$38,400	Complete.
ERP-99-B21	<b>Estuary Action Challenge Environmental Education Project:</b> Educational outreach activities for the Estuary Action Challenge program which promoted environmental awareness of habitat restoration, pollution prevention, and safe bay food consumption.	9/30/2000	\$50,000	Complete.
ERP-99-B22	<b>Water Challenge 2010 Exhibit:</b> An interactive, hands-on environmental education exhibit.	6/30/2002	\$50,500	Complete.
ERP-99-B23	<b>The Learning Watershed Project:</b> Implemented a Learning Watershed Project to educate the public about watershed issues.	9/30/2002	\$55,250	Complete.
ERP-99-B25	<b>River Studies Center Exhibits and Programs:</b> Exhibits for Riverview Ranch which educated the public about natural resource issues of the San Joaquin river from its head waters to the San Francisco Bay.	12/31/2002	\$68,415	Complete.
ERP-99-B26	<b>1999/2000 Bay-Delta Education Program:</b> Increased public awareness and understanding of the issues affecting the Bay-Delta.	11/30/2000	\$32,300	Complete.

## **Other Programs Contributing to ERP Vision**

Various state and federal wildlife refuges in California lead environmental education programs targeted at teaching elementary and high school children about our State's ecology, wetlands, and the environment.

The California Department of Education has an Environmental Education Program that strives to provide information on current environmental education resources, special events, grant opportunities, and a state plan for environment-based education. The Environmental Education Program has the primary purpose of supporting programs and projects which will result in long-term educational benefits to potentially all California educators and/or students.

The Environmental Protection Agency has a program called The California Environmental Education Interagency Network (CEEIN) which is a consortium of environmental educators representing California state departments, boards, and commissions with oversight responsibility to protect California's environment. CEEIN members include:

- California Department of Education
- California Environmental Protection Agency
- California Air Resources Board
- Office of Environmental Health Hazard Assessment
- California Integrated Waste Management Board
- State Water Resources Control Board
- Department of Toxic Substances Control
- Department of Pesticide Regulation
- Department of Food and Agriculture
- The Resources Agency of California
- California Coastal Commission
- California Conservation Corps
- California Energy Commission
- Department of Boating and Waterways
- Department of Conservation
- Department of Fish and Game
- Department of Forestry and Fire Protection
- Department of Parks and Recreation
- Department of Water Resources

### **Status of Topic Today**

As other issues emerged and gained importance (e.g. pelagic organism decline), funding priorities shifted away from education. Educational elements are now included as part of some projects, but education is no longer a single or primary focus of most ERP-funded projects.

### **Planned Projects for Implementation**

There are no planned projects awaiting implementation. However, ERP will continue education and outreach to increase public awareness of environmental issues.

### **Impediments to Implementation**

None.

## **References**

- CALFED Bay-Delta Program. 2000a. Ecosystem Restoration Program Plan - Volume I: Ecological Attributes of the San Francisco Bay-Delta Watershed. Final Programmatic EIS/EIR Technical Appendix. Sacramento, CA.
- CALFED Bay-Delta Program. 2000b. Ecosystem Restoration Program Plan - Volume II: Ecological Management Zone Visions. Final Programmatic EIS/EIR Technical Appendix. Sacramento, CA.
- CALFED Bay-Delta Program. 2000c. Ecosystem Restoration Program – Implementation Plan. Final Programmatic EIS/EIR Technical Appendix. Sacramento, CA. July 2000.