



United States Department of Agriculture
Natural Resources Conservation Service

Bay Delta Initiative

Walker Creek

“This program demonstrates the effectiveness of intensive outreach coupled with management practice implementation to protect water quality in watersheds with irrigated agriculture.”

— Pamela Creedon

Conservation Goals

- Improve Water Quality
- Prevent Pesticide Runoff
- Eliminate Water Toxicity
- Help producers achieve regulatory compliance

Conservation Practices

- Cover Crop
- Nutrient Management
- Integrated Pest Management
- Sprinkler Irrigation System
- Micro Irrigation System
- Drip Irrigation System
- Irrigation Water Management
- Fish and Wildlife Structure

Programs

- Environmental Quality Incentives Program Bay Delta Initiative
- Agricultural Water Enhancement Program

Eliminating Toxicity and Chlorpyrifos Exceedances in Walker Creek

Water in Walker Creek is now safer for residents, farmers and wildlife due to the hard work of conservationists, with funding made available through the Bay Delta Initiative (BDI), a Farm Bill conservation program administered by the Natural Resources Conservation Service (NRCS).



BDI funds facilitated a watershed management plan to prevent chlorpyrifos from entering the creek through agricultural runoff. Chlorpyrifos is an insecticide that is widely used in agriculture. It is toxic to aquatic organisms, and exposure has been linked in humans to neurological effects, persistent developmental disorders, and autoimmune disorders.

Walker Creek is a small waterway in Glenn County, California, that is monitored by the Colusa Glenn Subwatershed Program (CGSP), a landowner coalition, to determine compliance with water quality regulations. Between August 2007 and July 2009, testing revealed that water quality standards for chlorpyrifos were exceeded three times in Walker Creek. These exceedances triggered a regulatory requirement for landowners to develop a management plan to prevent the chlorpyrifos contamination.

To develop and implement the plan, CGSP secured technical and financial assistance from NRCS, initially through the former Agricultural Water Enhancement Program (AWEP) and then through BDI. Along with irrigation system improvements, Integrated Pest Management and other management practices were implemented under these programs. No chlorpyrifos exceedances have been detected since the plan was initiated.

“This program demonstrates the effectiveness of intensive outreach coupled with management practice implementation to protect water quality in watersheds with irrigated agriculture,” said Pamela Creedon, executive officer of the Central Valley Regional Water Quality Control Board, in a 2014 report announcing completion of the management plan to eliminate chlorpyrifos exceedances in Walker Creek.

BDI uses a focused approach, targeting funding to specific resource concerns. It was a good fit for Walker Creek, enabling CGSP to expand extensive educational outreach efforts to farmers, including numerous targeted workshops on Best Management Practices and conservation options, field days, farm tours, newsletters, and announcements of cost-share opportunities.

“The success of Walker Creek is due to the incredible leadership of our partner, the CGSP,” said NRCS District Conservationist Rob Vlach. “Their outreach and education effort was fundamental to getting the word out about the BDI program. But the true measure of success is the fact that their water monitoring has shown zero exceedances since we implemented the program.”



Agriculture was determined to be a probable source of the observed chlorpyrifos exceedances in August and September 2007, based on the timing and methods of application and irrigation.



A variety of crops are grown in the Walker Creek watershed. The primary use of chlorpyrifos is on walnut and almond orchards. Above is an almond orchard with a micro irrigation system.



CGSP conducted extensive outreach and education to its members and agricultural producers. Growers were provided up-to-date information on pesticide use, Best Management Practices, and conservation technical and financial assistance programs.



Irrigation management and practices to protect water quality, such as cover crops, field borders, integrated pest management helped to eliminate chlorpyrifos exceedances in Walker Creek. Above is an almond orchard where cover helps to prevent runoff.

Multiple water samplings have been conducted since the Walker Creek management plan was initiated, including during periods of high chlorpyrifos use, and no chlorpyrifos exceedances have been detected.



Micro irrigation in an almond orchard.



Many workshops were held where management practices to minimize the risk of exceedances were discussed and experts provided information to growers and answered questions.



Special tours continue to be a part of CGSP's educational outreach to growers to encourage the use of good conservation management practices.