2008 USDA-CSREES National Water Conference
Sparks, NV

California Irrigated Lands (Water Quality Monitoring) Program

Holly George, Ken Tate, Laura Murphy, Mike Singer, Cheree Childers, and David Lile

Abstract Text:

The California Irrigated Lands Program administered by the Regional Water Quality Control Board is designed to protect water quality by helping agriculture meet water quality objectives. The Water Code requires that any person discharging “waste”, or proposing to discharge waste that could affect the quality of the waters of the State, obtain a grower specific permit if not participating in a Coalition. The Board also developed Monitoring and Reporting Plans.

In 2004, Cooperative Extension coordinated with local agricultural landowners in the Upper Feather River Watershed (UFRW) and applied for a ¾ million dollar grant from the State Water Board. The UFRW, in California's northern Sierra Nevada, includes approximately 60,000 acres of upper-watershed irrigated lands (cattle & hay).

Water quality constituents were monitored monthly during the irrigation season plus two storm events at twenty sites across the watershed (above and below irrigated ag) in an attempt to better understand the impacts of irrigated agriculture. A program for outreach to inform members of the community about irrigation discharge/water quality issues, current requirements, and management practices for improving discharge and ambient water quality was undertaken. Demonstrations of management practices to mitigate water quality impacts from irrigated agricultural, and a means to assist in developing ranch management plans were included.

Three years (2005-07) of monitoring UFRW irrigated agriculture systems demonstrate limited water quality impacts in the form of increased temperatures, decreased dissolved oxygen, and increased E. coli concentrations. Recreational uses coupled with low flows late in the season aggravate these measurements. In 2007, more detailed monitoring began within the watershed to pinpoint sources of E. coli and identify management practices which contribute to high in-stream water quality. Hopefully this new information will assist the Regional Board with modifying monitoring requirements for low input agriculture.

Impact Statement:

Local irrigated agricultural landowners are talking openly with each other about water quality, including sampling techniques, monitoring results, and management practices. A number of operators have modified irrigation practices to reduce tailwater, implemented fencing and or off-site water to help mitigate negative impacts. The UFRW Prop 50 Project Team has assisted a number of landowners with completing planning documents to qualify for cost-share programs to assist with implementing management practices. The local watershed group plans to incorporate project results into a request to the Regional Board for an adapted monitoring regime for cattle/hay operations above the Central Valley Floor.