

Case Studies – Water Quality

Identifying Watershed Sources of Contaminants

The CALFED Water Quality Program works toward continuous improvement of Delta water quality for all uses and to advance efforts to provide safe, reliable and affordable drinking water to millions of Californians. CALFED's strategy for cost-effective improvement of drinking water quality at the tap includes source water quality improvement, better water management and advances in treatment technology. This case study describes a CALFED grant funded project that is investigating the sources of contaminants in a typical Sacramento Valley watershed. Once sources are clearly identified, cost effective source control strategies can be developed.

Management of DOC, DBPP and Nutrients Loads from Major Agricultural Land Uses and Development of BMPs **United States Geological Survey (USGS)**

This major source investigation is a joint project of USGS and UC Davis scientists working at multiple levels in the watershed from soil studies to watershed scale modeling. The project was funded through a \$4.2 million grant but is currently on hold.



Willow Slough Bypass

Little is known about the effects of management practices on drinking water constituents of concern (DWCC) from agricultural systems, and whether active management in watersheds will help. Confounding our understanding of the importance of agricultural activities in producing DWCCs is the dearth of information regarding potential export and influence on aquatic processes leading to the production of water quality constituents of concern. This project is investigating in detail the processes and pathways resulting in the export of drinking water constituents, including primarily nutrients and organic carbon, from the Willow Slough watershed in Yolo County.

Although work is currently suspended due to the state budget crisis, early results suggest that organic carbon spikes occur in winter storms (7-8 mg/L) and this organic carbon has a higher aromatic content from terrestrial sources. Rather than coming from field runoff, irrigation season organic carbon is largely from plant/algal growth in drainage channels. These findings will help in development of targeted source control measures that are effective without creating an undo burden on farmers.