SWAMP
Surface Water Ambient Monitoring Program

Urban and Agricultural Sources Study of Pyrethroid Insecticides to the Sacramento-San Joaquin Delta (Central Valley Region)

What is it?

The purpose of this study was to better understand sources of pyrethroid insecticides to the Sacramento-San Joaquin River Delta, and to examine their effects on the local waterbodies. Pyrethroids are commonly used in commercial and household insecticide products. California agriculture uses 355,000 lb/yr, and nonagricultural uses comprise another 567,000 lb/yr.

Water samples were taken at different locations throughout the Delta to characterize pyrethroid inputs from urban runoff, municipal wastewater and agriculture as well as levels in the Sacramento and San Joaquin Rivers. Samples were analyzed for pyrethroids and water toxicity testing was conducted with a native crustacean, Hyalella azteca.

Why is it important to the State?

This was one of several recent studies investigating the toxic effects of pyrethroids at very low levels. This new information on pyrethroid effects and sources can be used in developing control programs to protect aquatic life in the Delta and to direct future studies.

Why is it important to me?

The health of the Sacramento-San Joaquin River Delta is important for many Californians. California's largest estuary, the Delta is a unique ecosystem that provides habitat for numerous species. The Delta is also the hub of the State's water distribution system, providing water for two-thirds of all Californians and millions of acres of irrigated farmland.

How will this information be used?

The findings from this report are being used to inform the development of control programs and NPDES permit requirements in the Delta. Follow-up studies are being conducted in the Delta and lower American River watershed to better understand sources and impacts of pyrethroids. The data will also be used in the Integrated Report [Clean Water Act Sections 305(b) and 303(d)] assessing Central Valley water ways and identifying impairment.