

**10 Invasion of a watershed: Comprehensive surveillance and control efforts for mosquitoes and *Ludwigia* in the Laguna de Santa Rosa**

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In 2003, intensive surveillance for mosquitoes was initiated in the Laguna de Santa Rosa watershed. Increased numbers of mosquito populations (both West Nile virus vectors and nuisance species) were being documented in association with extensive monocultures of *Ludwigia*, an invasive aquatic plant. During a 5-yr span, a comprehensive monitoring plan was implemented to include weekly trapping for adult mosquitoes, larval surveillance, water quality testing and characterization of plant population dynamics. More than 50 local scientists, agency representatives, elected officials and environmental activists collaborated on a plan for controlling both the mosquitoes and the *Ludwigia*. The plan's initial strategy focused on vast portions of the 14 mi rural main channel and as well as several of its suburban tributaries, with over 150 acres of waterway being 100% covered by the invasive weed. While this plan still continues to be modified, several problems have been addressed and solutions are being applied toward mosquito surveillance and control in the Laguna de Santa Rosa, coastal California's second largest freshwater wetland.