

## **Executive Summary**

The Hydrilla Program's goals are to eradicate every hydrilla plant from California and to find any new invasion when it is small and easy to eradicate. 2012 found the CDFA Hydrilla Eradication Program continuing toward those goals, with three projects reaching eradication this year.

Hydrilla is an invasive, non-native water plant and has been called the world's worst submersed weed. It reduces water storage and water movement, chokes water control structures and hydroelectric generators, ruins boating and fishing, damages fish and wildlife habitat, and produces good mosquito habitat. Hydrilla once heavily infested canals in the Imperial Irrigation District in Southern California, and reduced water flows as much as 85 percent. In highly infested states such as Florida, control efforts cost tens of millions of dollars each year.

Some of what makes hydrilla such a successful weed are its excellent survival and dispersal capabilities. It breaks apart easily, and fragments no more than one inch long will grow new plants. It also develops "tubers" on its roots. Each tuber produces a new plant, and a single tuber can lead to several hundred new tubers in one season. Tubers survive for four to seven years and present the major challenge in eradicating the plant.

### **Key developments of 2012:**

- After declaring eradication in the Chowchilla River / Eastman Lake infestation in 2010, three more hydrilla projects reached that threshold this year. At the end of the 2012 season, eight years have passed with no plants in the Mokelumne Hill and Bear Creek infestations in Calaveras County, and in the Springville Lakes infestation in Tulare County. Eradication is being declared this winter.
- Hydrilla plant numbers remained low at the Clear Lake Project although there was an increase over 2011, from six to 26 plants. There were just five locations that had hydrilla this year, but three of them were small colonies of plants, with three to 11 plants each. Apparently, a few plants were missed in 2011, were shredded by boats or other means, and the fragments started new plants. In fact, one of the 2012 clusters was in the same location as a single plant that was found in a new area in 2011. Some misses like this are likely, given the difficulty of finding every plant in a 43,000 acre lake.
- Six seasons with no plants have now passed for Shasta County's Riverview Golf Course and Anderson City River Park infestations. The ponds were under treatment with herbicide through the 2011 season. In 2012 the ponds entered the no-treatment eradication-confirmation survey phase of the projects.
- CDFA disbanded its longtime weed programs in 2011 due to declines in the State's General Fund, and with them went the six District Weed Biologists. The Weed Biologist in the Northwest District, Ed Finley, had been taking care of the infestations around Redding, but that ended with his retirement. His role has been picked up by staff out of Sacramento. The change led to a modified strategy. Rather than surveying the ponds lightly many times during the season, there were fewer visits but they were more intense. Crews visited the ponds only twice, in the first weeks of July and September. However, the crews had five to seven people rather than one or two, and they spent several days surveying the ponds each time, rather than a few hours.

- Two of the three separate infested ponds in Nevada County also had no plants for six years this year. They entered the no-treatment eradication-confirmation phase this year. The third pond, the smallest, also entered the confirmation phase this year, but three plants popped up in July. Treatments resumed.
- Inspired by the concrete lining of the infested section of the Oregon House canal in 2008, the Sutter/Yuba County Weed Management Area, the Agricultural Commissioner's Office and the Resource Conservation District undertook the lining of another 1,500 feet in 2009, with contributions from CDFA. Undaunted by the experience, they initiated new efforts in 2010 and lined 3665 feet in October 2011, with another 930 feet this October, bringing the total to about 10,400 feet.
- Dredging for plants in Clear Lake occurred for the first time in 2012. Dredging is intended to remove occasional straggler plants in areas that have been under treatment, as a complement to herbicide treatments and to avoid prolonging them. By 2012, the Hydrilla Program had contracted with a Lake County biologist to put in place all the regulatory and permitting requirements for dredging and had identified a contractor to do the dredging. We attempted dredging six plants near shore in one of this year's new colonies, in a situation that provided relatively good conditions for dredging. Unfortunately, the contractor had trouble containing the spoils, which is a major requirement of the permits and contract. We will have to ensure better performance on this issue before dredging can proceed much further.
- No new infestations of hydrilla were found in California this year. The number and extent of detection surveys are down from previous years especially north of the Sacramento-San Joaquin Delta, due to the pressures of Clear Lake and limited resources. However, two crews were able to spend two weeks surveying the Delta.

Hydrilla was first found in California in 1976, and it has been introduced on roughly 30 separate occasions. The Hydrilla Program has eradicated 25 of those infestations and several other infestations are approaching eradication. The prime requirement for eradication is persistence. A single eradication of a large infestation requires six to 20 years of continuous attention, due to plant's excellent growth, dispersal, and survival strategies. In addition, infestations are easier to eradicate when they are small. Finding small infestations requires routine, vigilant, widespread survey. The progress on the projects is satisfying, but the losses suffered in detection surveys are a concern.