

WEED SCIENCE  
SOCIETY OF AMERICA



WSSA

**For Immediate Release**

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## **WSSA Weed Watch: ‘Shape-Shifting’ Primrose Plant Plagues Communities in Coastal States**

LAWRENCE, Kansas – July 29, 2013 – Three water-loving species in the primrose family are now plaguing communities across the Pacific Northwest and Southern Atlantic — clogging lakes, ponds, canals, rice fields and sensitive wetlands. The exotic invaders are Uruguayan primrose-willow (*Ludwigia hexapetala*), large-flowered primrose-willow (*Ludwigia grandiflora*) and creeping water primrose (*Ludwigia peploides* subsp. *montevidensis*), all natives of South America.

Scientists with the Weed Science Society of America say the *Ludwigia* weeds can wreak havoc. They root in moist sediment with buoyant shoots that form mats on the water surface. They can grow underwater and can even free-float on the water surface. Often they will overwhelm native plants, degrade water quality, increase flood risk and reduce the available habitat for water birds and fish.

One of the world authorities on *Ludwigia* is Brenda Grewell, a WSSA member and research ecologist with the USDA Agricultural Research Service’s Exotic and Invasive Weeds Research Unit at the University of California, Davis. She says *Ludwigia* was imported to the U.S. for use in water gardens and aquariums, but soon escaped into the wild where it grows rapidly and spreads easily.

“One reason *Ludwigia* spreads so quickly is that it goes with the flow,” Grewell says. “Seeds, fruit and shoot fragments can float and readily establish in new locations. They also can be spread into new areas when they catch on boat propellers or on the hull of a canoe or kayak.”

Identifying *Ludwigia* can be complicated thanks to the weed’s “shape-shifting” ability. Like many aquatic plants, it adapts its leaf shape and appearance in response to the environment.

Scientists often must count chromosomes in order to accurately categorize the weed and determine how to best treat it, Grewell says.

Managing a *Ludwigia* infestation is also a complicated process. Hand removal may work for small sites, followed by vigilant monitoring for new plants that sprout from seeds buried in sediment or floating in the water. USDA scientists have explored a number of potential control techniques for larger infestations. While none is a “magic bullet,” all have proved helpful in reducing the overall mass of the plant.

In irrigation canals, an integrated approach to *Ludwigia* management has proven successful. A long-arm excavator equipped with rake attachment is used to remove most of the weed, followed by a draining of the canal. The *Ludwigia* that survive are allowed to regrow new leaves, and then an aquatic herbicide is applied to the fresh canopy. In managed, seasonal wetlands that are dry for portions of the year, scientists have used grazing sheep and tillage for weed control. Early summer tilling in seasonally dry areas has been found to reduce the number of *Ludwigia* seedlings that emerge by more than half. Researchers affiliated with USDA at a lab in Argentina are even exploring the possibility of importing insects that are natural enemies of *Ludwigia* in its native habitat – eager to feast on the plant’s leaves, fruit and stems.

While the best and most appropriate control methods can vary widely depending on where *Ludwigia* is found, Grewell says some of the best successes have involved the use of broad-spectrum herbicides as part of an integrated (multifaceted) weed control strategy. The U.S. Environmental Protection Agency has approved several herbicides for use in these delicate aquatic environments.

That’s the approach Grewell recommended to the city of Eugene, Oregon, where *Ludwigia* has infested the Delta Ponds, a 150-acre waterway that was once a side-channel of the Willamette River. The weed must be totally eradicated to support a fish habitat restoration project that will reconnect Delta Ponds to the river. Grewell and her colleagues suggested the use of herbicides to reduce the dense weed mass. As the area *Ludwigia* covers is reduced and its seed bank is depleted, the emphasis will shift to manual control.

The most important step of all, Grewell says, is continued vigilance. “Prevention of a new invasion is the best management strategy,” she says. “As new plants emerge or spread from an established site, you really have to control them. Contact [area extension agents](#) right away if you think you’ve spotted an infestation.”

For more information on *ludwigia* and some of the research projects underway, visit:

- <http://plants.ifas.ufl.edu/manage/docs/researchreview/2013/NewLudwigia-ColetteJacono.pdf>

## **About the Weed Science Society of America**

The Weed Science Society of America, a nonprofit scientific society, was founded in 1956 to encourage and promote the development of knowledge concerning weeds and their impact on the environment. The Weed Science Society of America promotes research, education and extension outreach activities related to weeds, provides science-based information to the public and policy makers, fosters awareness of weeds and their impact on managed and natural ecosystems, and promotes cooperation among weed science organizations across the nation and around the world. For more information, visit [www.wssa.net](http://www.wssa.net).

*Editor's note: Supporting photos are available for download from the WSSA website.*