

## Case Study: Ludwigia Eradication Paddle, 2009

On July 11th and August 8th, under bright blue sunny skies, volunteers paddled approximately 4 miles of the Peconic River on a quest to find and remove the floating invasive plant, *Ludwigia peploides*. As colleagues, friends, and families carefully searched the river, it quickly became apparent that the hard work was well in the past.



VOLUNTEERS HAND PULLING LUDWIGIA

2009 marked the 4th successful year of the PEP's Ludwigia monitoring and eradication program. Participants at the two 2009 paddle events worked hard to even find the 4 cubic yards of Ludwigia that they removed. Quite an accomplishment when,

in 2003 and 2004 anglers, boaters and local residents expressed concern over a new plant which appeared to be taking over Peconic Lake. Taking a look back, 6 cubic yards were removed in 2008, 60 cubic yards in 2007, and 60 cubic yards in 2006. It's clear that the project has proven to be a success story. Since 2006, the Peconic Estuary Program has held 13 removal events at which 438 volunteers spent 2360 hours removing a total of 130 cubic yards of Ludwigia from the Peconic River.

This year, the PEP also worked closely with the NYS Department of Environmental Conservation to install 5 educational interpretive signs at Peconic River access sites to educate fishermen, boaters and the general public about the Ludwigia eradication effort, the threat this invasive species poses, and the importance of maintaining the project's success.

Without the efforts of the volunteers Ludwigia would have continued to take over large portions of the Peconic River. Due to these efforts, only minor maintenance and monitoring will be necessary to continue this eradication initiative.

For more on the Ludwigia eradication project, please visit the PEP Ludwigia webpage at: [www.peconicestuary.org/InvLudwigia.html](http://www.peconicestuary.org/InvLudwigia.html)

# *Ludwigia peploides* IN THE PECONIC RIVER

PECONIC ESTUARY PROGRAM



LUDWIGIA FLOWER IN BLOOM

Ludwigia poses a major threat to the Peconic River as it acts as unsuitable fish habitat, out competes native plants, reduces biodiversity, blocks sunlight to oxygen producing submerged plants, and severely impedes recreational uses of the river.



VOLUNTEERS AT LUDWIGIA ERADICATION EVENT



LUDWIGIA SIGNAGE AT NYSDEC ACCESS POINT

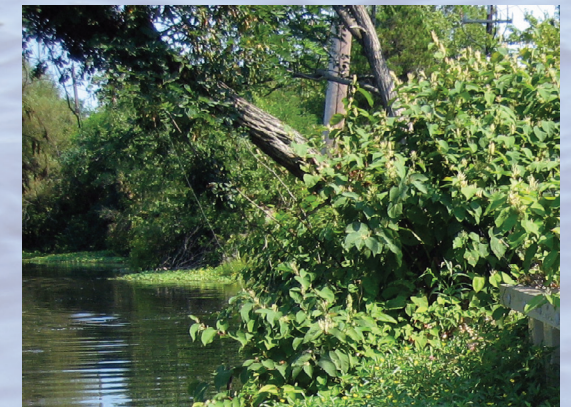
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LUDWIGIA REMOVED BY VOLUNTEERS AND READY TO BE COMPOSTED OFF-SITE



AREA IMPACTED BY LUDWIGIA INFESTATION

## What is a Ludwigia

*Ludwigia peploides*, more commonly known as water primrose, is a South American species that was first detected in the Peconic River in 2003. This aquatic non-native, invasive plant which grows/floats primarily on the waters surface spreads rapidly in warm weather months and can often take over entire slow-flowing waterbodies.

Ludwigia poses a major threat to the Peconic River as it acts as unsuitable fish habitat, out competes native plants, reduces biodiversity, blocks sunlight to oxygen producing submerged plants, and severely impedes recreational uses of the river.

## Description & Biology

**Plant:** Floating aquatic perennial herb of the Evening primrose, or Onagraceae, family, sometimes forms mats. Flower bearing stems are weakly upright with lance-shaped leaves. Stems have little to no hair. The stems are purple in color and are rooted, but most of the stem floats on the surface of the water.

**Leaves:** Leaves occur alternately on the stem, and are net-veined (as opposed to grass-like leaves which are parallel veined). The leaves are elongate with smooth outer margins, and have long petioles.

**Flowers, fruit, and seeds:** Flowers are approximately one inch wide with five petals, yellow in color, blooming in late July and August, and occur on stalks 1 to 5 cm long. Foliage may differ according to growing area. The fruit is a cylindrical capsule containing many seeds, which are yellowish, oval, and less than 1 mm long.

**Dispersal:** Fragmentation of stems is the main mode of dispersal. The role of seeds in dispersal has not been studied extensively, but seeds have been germinated in the laboratory.

## Prevention & Control

Ludwigia was first discovered in the Peconic River by those who used it for recreation. Angels, boaters and residents recognized this aquatic plant as a problem and informed the environmental community.

In 2006, The Peconic Estuary Program, in collaboration with the New York State Department of Environmental Conservation, Suffolk County, The Nature Conservancy, Peconic Lake Estates Civic Organization, Fresh Water Anglers of Long Island, Inc., the US Environmental Protection Agency, and Long Island Bassmasters, initiated a multi-year monitoring and eradication effort in an attempt to rid the Peconic River of the species and prevent spreading to other Long Island waters.

**Habitat:** Ditches, riverbanks, ponds, slow moving streams, and along margins of lakes and reservoirs. The major growth requirement for this species is submerged roots.

**Identification:** *Ludwigia peploides* may be mistaken for swamp loosestrife (*Decodon verticillatus*) when not in flower. The two plants can be distinguished from one another by their leaves. Ludwigia has leaves that alternate up the stem, while swamp loosestrife has leaves that occur opposite one another.

**Native Alternatives:** Unfortunately, the water primrose is still being sold as a decorative species. Never purchase or plant *Ludwigia peploides*. Try a native alternative, such as marsh marigold (*Caltha palustris*) instead, and help protect the Peconics!

Ludwigia reproduces by fragmentation, therefore it is extremely important to fully and carefully remove the entire floating strand. Harsh removal methods are not suggested due to the potential of breaking the stands into smaller fragments. Hand-pulling has proven to be the most effective and control technique in the Peconic River. Pulled and removed strands and patches should be disposed of in NYSDEC Invasive Species Disposal Stations or in the garbage.

Since the initiation of the eradication effort in the spring of 2006, over 438 volunteers have spent over 2360 hours hand-pulling nearly 130 cubic yards of Ludwigia. Although Ludwigia's spread is currently contained, maintenance pulls and monitoring are still necessary to ensure the species does not resurge and once again spread throughout the river. Funding for this effort was provided by a NYSDEC Aquatic Invasive Species Eradication Grant and a Corporate Wetland Restoration Partnership (CWRP) grant.



NYSDEC INVASIVE SPECIES DISPOSAL STATION



LUDWIGIA REMOVAL IN THE PECONIC RIVER



AREA AT UPPER MILLS SPILLWAY IMPACTED BY LUDWIGIA



AREA AT UPPER MILLS SPILLWAY CLEARED OF LUDWIGIA