

From: The Virginia Forest Landowner Update V. 23 No. 1, Winter 2009

You Ain't From Around Here! Exotic Invasive of the Quarter:

Alligatorweed (*Alternanthera philoxeroides* (Mart.) Griseb.)

by: Jennifer Gagnon, Virginia Tech Forestry

In honor of the [University of Florida's Fighting Gators](#) winning their second National BCS College Football Championship in the past 3 years, I'm featuring alligatorweed this quarter!



Floating mats of alligatorweed

cover portions of a stream.

Photo by: Chris Evans.

Also known as pigweed, alligatorweed made its way to Mobile, Alabama in 1897 in the ballast of a ship arriving from the Paraná River Region in South America. The invasion has spread through the southeastern United States, from Texas to Virginia, and is also found in California, Illinois and Puerto Rico. At the peak of the alligatorweed invasion, in 1963, over 160,000 acres of land in the 8 southeastern United States were infested.

Fortunately, a biological control, in the form of the alligatorweed flea beetle, which feeds on the plant, has reduced the amount of impacted land to about 1600 acres. Unfortunately for Virginians, the beetles are not able to survive this far north, and thus cannot be used for control in the Commonwealth. Currently, alligatorweed is found throughout Virginia. Most often, it is found in canals, ditches, **blackwater rivers**, stream edges and **sloughs**.

Alligatorweed is an herbaceous **perennial** with trailing stems that form dense floating mats (they float because the stems are hollow). These mats can be up to three feet thick and spread over the surface of water for hundreds of feet. Rooting occurs in shallow water or on shore in aquatic or very wet habitats.

Like most invasives, alligatorweed is able to grow under a wide range of conditions - from fresh to slightly **brackish** water. The ability to root on dry land allows it to survive in areas with distinct wet and dry seasons. Subtropical to cool climates can support this weed, however, it will die back in the winter in the more northern part of its range (Virginia).

No seedlings have been found in North America. The plants rarely produce seeds, and when they do, they are typically **non-viable**. So, reproduction occurs vegetatively – small pieces broken off from the main plant are able to float downstream and root – forming new plants. Humans play an important role in the spread. Like our friend hydrilla, pieces get stuck in boats and are transported along waterways.

As you might imagine, this rapidly growing plant causes numerous problems. The dense mats prevent sunlight from reaching native plants growing below the surface of the water,

altering the ecology of the system. They can also alter water chemistry by restricting oxygen levels in the water and increasing sedimentation. Economically, alligatorweed can interfere with irrigation, boating and fishing activities, drainage, and can block entire waterways. Because this plant can also grow on land, it can invade agricultural land and pastures. And if that wasn't enough, the dense mats provide a lovely place for mosquitoes to breed.

How to identify alligatorweed



Alligatorweed plant.

Photo by:
Chris Evans.

Leaves: oppositely arranged, elliptical, 2 – 4” long, thick, but non-succulent, distinctive mid-rib, no hairs or petioles
Stems: Hollow, fleshy and succulent, light to dark green; if stressed, stems can be pink-purple, hairless, except at base of leaves
Flowers: single, very small, white, clover-like flowers, borne on spikes from the leaf axils; bloom in the summer (April – October), pleasantly fragrant
Roots: fibrous, occur at stem nodes, can be free floating in water or rooted in soil, floating or trailing except for tips which turn slightly upward.

Flowering alligatorweed.
Photo by: Gary Buckingham.



How to Control Alligatorweed

Mechanical: According to the literature, mechanical control (pulling plants, mowing or discing) is both expensive and ineffective! If you choose to pull plants, you must be certain to remove all plant pieces and roots.

Biological: Only in more southerly climates.

Chemical: Recent research in Alabama indicates that two herbicides: triclopyr amine (brand names: Renovate, SePro, Carmel, IN 46032) and Imazapyr (brand names: Habitat, BASF, Florham Park, NJ 07932), which have been recently approved for use in wetlands, are effective controls. For immediate control and rapid habitat restoration, apply triclopyr amine at a high rate, in April; if you can wait one year for major habitat improvement, apply either chemical at a high rate in June.

Prevention: You can decrease the chances of being invaded! If you are constructing a pond, follow the proper guidelines – this weed cannot grow in water deeper than six feet; minimizing shallow edges and planting native species around the edges can help prevent an invasion. Also, be sure to check your boats and other aquatic gear for pieces of this plant when you pull them out of the water.

And as always, Go Gators (but not alligatorweed)!



Vocabulary:

blackwater river: a river with a deep, slow-moving channel that flows through forested swamps and wetlands. As vegetation decays in the water, tannins are leached out, resulting in transparent, acidic water that is darkly stained, resembling tea or coffee. Most major blackwater rivers are in the Amazon River system and the Southern United States.

sloughs: a creek in a marsh or tidal flat

perennial – a plant that lives for an indefinite number of years – as opposed to an annual, which only lives through one growing season

brackish: is water that has more salinity than fresh water, but not as much as seawater. It may result from mixing of seawater with fresh water, as in estuaries, or it may occur in brackish fossil aquifers

non-viable: not capable of living or developing