



Golden Sands  
Resource Conservation  
& Development Council, Inc.



# Aquatic Invasive Species Quick Guide

## Water Lettuce (*Pistia stratiotes*)

**Description:** Water lettuce is a non-native, freshwater perennial plant in the *Araceae* family. It forms floating rosettes of fuzzy, light green leaves with distinct parallel veins running from base to tip. Water lettuce leaves are spongy and can be 2-35cm in length. Water lettuce has numerous finely-divided roots which appear almost feather-like when in the water. These roots are very effective at taking up nutrients from the water, and act as a counterweight against the buoyant leaves. Water lettuce prefers to grow in slow-moving waters, like the backwaters of large rivers or protected bays of lakes.



Water lettuce rosette floats at the water surface with dense roots to filter below.

Photo credit: Sue Graham

**North American Distribution:** First described in Florida in 1765, it is unknown if it is a native to Florida or if it was brought in from commerce trade between North and South America in colonial times. Water lettuce has historically been a popular water garden plant, acting as a natural filter for the water. Some water gardeners have allowed this plant to escape into natural areas, where it threatens native plants and wildlife. In the northern states, there is debate over whether water lettuce can survive the harsh winter conditions.



Water lettuce covers the water surface in slow-moving systems. This was part of a removal effort in Wisconsin in 2015.

Photo: Sue Graham

**Dispersal Vector(s):** In the Midwest, water lettuce usually spreads by short stolons connecting daughter plants to the parent. These stolons can break apart or eventually disintegrate, letting the plants drift apart and spread to new areas. In ideal conditions and without competition, water lettuce populations can double in less than three weeks.

In climates with a longer growing season, water lettuce can produce flowers. The seeds can resist light freezes experienced in the southern United States and have a high germination rate; it is unknown yet if the seeds can survive in northern states.

**Ecological Impact:** Water lettuce can cover an area so densely that the leaves and roots block out sunlight from the plants below them. The dense vegetation can also block irrigation canals and other waterways. These floating mats can cause oxygen depletion in the water as they shade out and kill submergent plants. Water lettuce is considered one of the worst invasive plants in the world.

**Control Options:** In smaller populations, hand removal of the rosettes followed by several years of monitoring is a viable solution. They can also be raked or seined from the water surface. For large populations where removal is not practical, chemical herbicide control is used, but it usually impacts other, non-target species and can cause oxygen depletions. There has been some research into biological controls using exotic moths or weevils.



Small daughter plants easily break off the parent plant, floating away and starting new populations.

Photo: Sue Graham

### Additional Information:

<http://bc4weeds.tamu.edu/agents/waterlettuceleafmoth/>

<http://bc4weeds.tamu.edu/agents/waterlettuceleafweevil/>

<http://aquaplant.tamu.edu/management-options/water-lettuce/>

<http://www.eddmaps.org/species/subject.cfm?sub=3064>

<http://nas.er.usgs.gov/queries/greatlakes/FactSheet.aspx?SpeciesID=15&Potential=Y&Type=2&HUCNumber=>

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