

# Aquatic Weed Control - Identification

Adapted from North Central Regional Extension Publication No. 241, Carole A. Lembi, Aquatic Weed Specialist, Purdue University and Aquatic Pest Control, University of California Leaflet 2961

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## Aquatic Weed Identification

Identification is the first and most important step in managing aquatic weeds. Most control methods target specific weeds or groups of weeds with similar growth habits. **Aquatic weeds are divided into two botanical groups; algae and flowering plants.** Algae are usually structurally very simple with no apparent roots, leaves, or stems. However, some (for example, *Chara*) can resemble flowering plants. Flowering plants have roots, shoots, stems, and stems. **You must be able to distinguish between algae and flowering plants to make effective chemical control decisions.**

## Algae



Most species of algae live in the water, where they form the base of the aquatic food chain. They shade the bottom of the pond and limit the depth at which other aquatic plants can grow. **“Blooms” occur when there is a rapid increase in algae.** This usually results from a combination of factors including excess available nutrients, warm temperatures, sunlight, and limited water flow. Blooms should be treated before the water undergoes a noticeable color change. However, a sudden die-off of these algae can deplete oxygen in the water and cause a fish kill.

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**Filamentous algae (or moss)** form floating, mat-like growths that usually begin around the edges and bottom of ponds in the early spring. Moss is common in lakes and ponds in the Midwest. Repeated chemical treatments may be needed during the summer for effective control.

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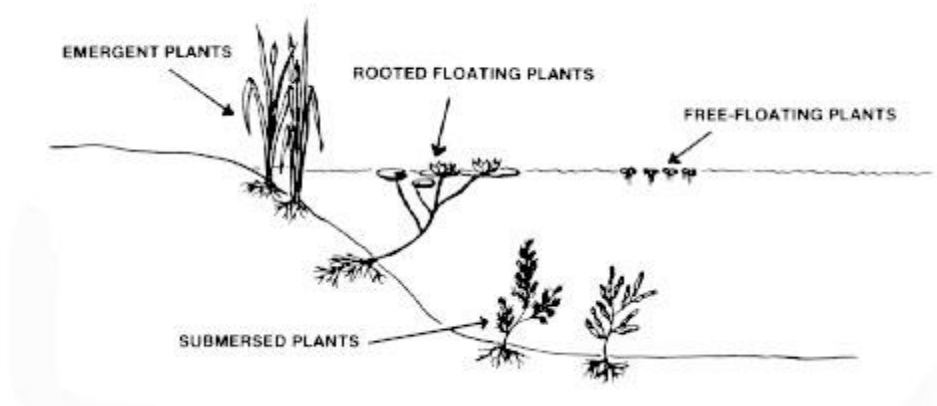


*Jim Rathert, courtesy of Missouri Dept. of Conservation*

**Chara, or stonewort** usually grows in very hard water and is often calcified and brittle. The plant is rooted, and leaves are arranged along the stem in whorls. It grows completely underwater and has a musky smell. Once established, *Chara*, with its heavy coating of calcium carbonate, can be difficult to control. Although this plant resembles some flowering plants, it is an alga.

# Flowering Plants

Flowering plants can be grouped into broad categories according to where they are found in a body of water.



## Emergent Plants

**Emergent (shore or marginal) plants** commonly include cattails, bulrushes, spike rushes, reed canarygrass, and other grass-like perennial plants. Broadleaves include willow trees and creeping water primrose.



*Cattails*  
Ohio State Weed Lab, The Ohio State University, Bugwood.org



*Reed canarygrass*  
John M. Randall, The Nature Conservancy, Bugwood.org



*Spike rush*  
Max Lichner, USDA Forest Service



*Willow*

*Paul Wray, Iowa State University, Bugwood.org*



*Creeping water primrose*

*John Hilty, Illinois Wildflowers*

## Floating Weeds

### Rooted Floating Plants

Rooted floating plants include **water lily, spatterdock, and water lotus**. Spatterdock is very competitive and can completely fill in shallow areas less than 3 to 4 feet deep. New spatterdock plants sprout from massive underground rhizomes. It differs from waterlily in having heart-shaped leaves that come above the surface of the water and a yellow flower. Waterlily has round leaves.



*Spatterdock*

*Rebekah D. Wallace, University of Georgia, Bugwood.org*



*Water lily*

*Becca MacDonald, Sault College, Bugwood.org*



*Water lotus*

*Kelle Sullivan, Florida Fish and Wildlife Conservation Commission, Bugwood.org*

## Free-Floating Plants

Free-floating plants, such as duckweed and watermeal are **extremely small seed-bearing plants that float free on the water's surface**. They **never become rooted** in the soil, and reproduce by sexual and asexual means. They can completely cover the surface of a pond. Both plants are found in nutrient-rich waters so inflow of wastewater from livestock feedlots, septic fields, etc. should be eliminated.



*Duckweed*

*Karan A. Rawlins, University of Georgia, Bugwood.org*



*Watermeal*

*Graves Lovell, Alabama Department of Conservation and Natural Resources, Bugwood.org*

## Submersed Plants

Submersed plants are rooted in the bottom sediments and grow up through the water. Flowers or flowering spikes sometimes emerge above the water surface. The main criteria for identification are leaf arrangement and leaf shape.

### *Common Underwater Weeds*



*Chris Evans, University of Illinois, Bugwood.org*

The leaves of **Curly-leaf pondweed** are somewhat stiff and crinkled, approximately 1/2-inch wide and 2- to 3-inches long. Small teeth are visible along the edges of the leaves, which are arranged alternately around the stem. Leaves become more dense toward the end of branches. The plant appears reddish-brown in the water but is actually green when pulled out and examined closely. Curly-leaf pondweed grows best in the spring and tends to die in the summer. It is common in ponds, lakes, and ditches.

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*John Hilty, Illinois Wildflowers*

**Leafy pondweed** has very narrow leaves with an alternate arrangement. It is more common in ponds than in large lakes

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*Graves Lovell, Alabama Department of Conservation  
and Natural Resources, Bugwood.org*

**Waterthread pondweed** is a perennial plant usually restricted to shallow water. Its relatively small (1-inch long) floating and submerged leaves with distinctive veins distinguishes it from most other pond weeds.

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*Graves Lovell, Alabama Department of Conservation  
and Natural Resources, Bugwood.org*

**Coontail** (also called **hornwort**) is a submerged, free-floating aquatic plant that has branched, spined leaves arranged in a whorl like a bottlebrush. This plant lives mostly in still or slow-moving water and is usually found in areas with moderate to high nutrient levels. Coontail floats in dense masses just beneath the water's surface and can also grow near the bottom in channels and other deep areas.

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*John Hilty, Illinois Wildflowers*

**Brittle naiad** is a submersed annual aquatic plant that spreads by seeds and plant fragments. Its oppositely arranged leaves are 1 to 2 inches long and are toothed, stiff, and pointed. Brittle naiad resembles coontail but its leaves are in pairs while coontail leaves are in whorls of 4 or 5. It can form dense mats that outcompete native species and can interfere with recreational activities.

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*Alison Fox, University of Florida, Bugwood.org*

**Eurasian watermilfoil** is a feathery, submersed aquatic plant that has become a major aquatic invader across much of North America. Plants are rooted at the bottom of still or slow-moving water (3 to 12 feet deep). They grow rapidly creating dense mats. This serious, rapidly spreading invader is found in lakes and ponds throughout the Midwest.