

Curly Leaf Pondweed

Potamogeton Crispus



Curly Leaf Pondweed is an exotic, invasive, submerged aquatic plant commonly found in Minnesota Lakes. It is native to Europe and estimated to have traveled to North America in shipping ballasts, and worm bedding. American discovery is estimated in the middle of the 19th century. Curly Leaf Pondweed is a biannual species which begins its life cycle in mid to late summer. Slowly throughout the fall the plant grows towards the surface and by winter becomes dormant. Early in the spring, Curly Leaf Pondweed rapidly grows toward the surface at an estimated 1 to 2 inches a day. By mid-May dense mats begin to form in depths of water 3 to 15 feet deep. Unlike native plants, this species focuses its growth at the surface of the water. Approximately 80% of the plant is within the first foot of water from the surface. By late May and early June each plant forms hundreds of seed like “turions” (Figure 1). These turions drop to the bottom of the lake and begin to germinate. Turions have an estimated life of 5 to 10 years



Figure 1

Economic Impacts

Curly Leaf has many economic impacts on Property Values, Tourism, Fishing and Recreational uses of an infected waterbody. In the spring, dense mats form at the surface creating a unpleasant view, and odors from decomposing vegetation washed upon shore. Property owners selling lakefront property may not be able to gain the highest dollar value of their property when Curly Leaf Pondweed is present. Buyers are continually educating themselves on lakefront property and are becoming aware of the costs to clean up this plant. Every year resorts and campgrounds adjacent to infected waters lose occupancy due to the problems Curly Leaf Pondweed creates in swimming areas, marinas and natural areas of the property. Tourists will avoid staying at resorts and campgrounds in which they have to battle with Curly Leaf Pondweed. Many fishermen will avoid lakes infested with Curly Leaf Pondweed because of the problems associated with Curly Leaf Pondweed. Boating, Swimming and other recreational activities on lakes suffer while these mats of vegetation are present.



Management

There is three critical goals in a successful management program for Curly Leaf Pondweed.

1. Stop Turion production
2. Reduce biomass
3. Deplete seed bank

Primarily, early season herbicide treatments provide the best solution to reach all three goals. It is important treatment take place before Turion development. The products most commonly used are endothol compounds, however Fluridone has provided excellent results for entire waterbody management as well. Mechanical harvesting has also been effective all though costly and nonselective to native plants.

Environmental Impacts

There are several impacts Curly Leaf pondweed has on the environment, unfortunately, state regulatory and state management agencies are not aware of these devastating impacts. Curly Leaf Pondweed severely impacts the aquatic food web in the lake. Unlike native vegetation, Curly Leaf Pondweed blocks out vital light required for native species growth. This also impacts the food chain of the waterbody. With the lack of light, Phytoplankton can not grow. (Figure 2)

Phytoplankton → Fish

Phytoplankton → Zooplankton → Fish

Phytoplankton → Zooplankton → Insects → Fish

Figure 2