



Curly Leaf Pondweed

Potamogeton crispus L.

syn. *Potamogeton crenulatus*, *P. crispum*, *P. tuberosus* (Aka crispy pondweed, curly cabbage)

Alberta Regulation:
Fisheries Act



Chris Evans, Illinois Wildlife Action Plan, Bugwood.org



Chris Evans, Illinois Wildlife Action Plan, Bugwood.org

Overview:

Curly leaf pondweed is a submerged aquatic plant whose life cycle acts like a winter annual.¹ It is native to Eurasia, Africa, and Australia.² The first verified report of curly leaf pondweed in North America was in the mid 1800s and in Canada by the end of that century. Today it is spread throughout temperate North America.¹ It forms dense beds which outcompete native aquatic plants, and can interfere with recreational activities as well. It can also increase phosphorus concentrations in the water which increase the incidence of algal blooms.²

Curly leaf pondweed reproduces by seed and, more commonly, vegetatively via rhizomes, plant fragments, and vegetative propagules called turions. *P. crispus* is the first pondweed to grow in the spring and begins dying back by late spring. At this time turions are formed which are dispersed by water movement and sink to the sediment to lie dormant until the end of summer. Once the other vegetation has died back, the turions germinate and actively grow through the winter.

Turions are formed from buds along the stem and at high numbers -" densities from 236-1648 turions per square metre have been reported in the field."¹ Turion germination is controlled by light and temperature and requires a hot or cold period to break dormancy.¹

There are many native species of pondweeds but *P. crispus* is easily distinguished from other pondweeds by its turion production and its leaf margins are uniquely serrate.¹

Habitat:

Curly leaf pondweed occurs in rivers, streams, marshes, and ponds, both freshwater and brackish. It prefers calcareous, alkaline eutrophic waters.¹ It is tolerant of low light and low water temperatures.² It is disturbance tolerant and can grow in highly polluted (high nutrient such as fertilizers) sites. It grows in a wide range of sediment, from gravel to fine sand to loamy mud and clay. It remains evergreen through the winter, even under thick ice.¹

Identification:

Stems: Are branched, flattened and grow up to 1m long¹ or longer in deeper waters.²

Leaves: Are lance-shaped, light to dark green¹ or reddish-green and 0.5-1.5 cm wide and 3-10 cm long.² Leaves are wavy and arranged spirally along the stem. The leaf margins are finely serrate. Lacunae (air chambers for buoyancy) are conspicuous in rows of 2-5 along the midrib.¹

Flowers: Are small with 4 petal-like lobes¹ arranged in a dense spike borne on a curved 2.5-5 cm stalk.² Fruits are reddish-brown, single seeded, measure 6X2.5 mm, and have a recurved beak 2-3 mm long.¹ The short, bur-like turions measure 1.3-3 by 2 cm and are borne in leaf axils or at the ends of stems.¹

Prevention:

Learn to recognize curly leaf pondweed and report new infestations. Curly leaf pondweed can be spread to other water bodies via boats and other water equipment, recreational or otherwise. Clean boats and other equipment of all debris when leaving the wa-

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ter body.

Control:

Grazing: Not applicable. Invasive plants should never be considered as forage.

Mechanical: Raking and hand cutting must be done early in the season to be effective. Raking and hand cutting can remove the plant at the sediment surface. Harvesting the vegetation from the water surface can remove about the top 1.5 m of the plant.² All plant material must be disposed of via landfill-bound garbage.

Chemical: Acrolein is registered for use on curly leaf pondweed. The use of herbicides in water requires permits. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: A few potential species have been identified but none researched to date.



Leslie J. Mehrhoff, University of Connecticut, Bugwood.org



USDA PLANTS Database, USDA NRCS PLANTS Database, Bugwood.org



Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

REFERENCES

- 1 Datasheet report for *Potamogeton crispus*. Invasive Species Compendium. www.cabi.org/isc. Accessed: September 14, 2015.
- 2 *Potamogeton crispus*. Global Invasive Species Database. www.issg.org/database. Accessed: September 14, 2015.