

APPENDIX D**



Curly pondweed, *Potamogeton crispus L.*, is native to Eurasia and apparently was introduced into the United States in the mid 1800's (Stuckey 1979). Prior to 1900, the distribution of *P. crispus* was the northeastern United States. By 1930 curly pondweed had spread westward to several states of the Great Lakes region. The species has since spread across much of the United States (see distribution map), presumably by migrating waterfowl, intentional planting for waterfowl and wildlife habitat, and possibly even as a contaminant in water used to transport fishes and fish eggs to hatcheries (Stuckey 1979).

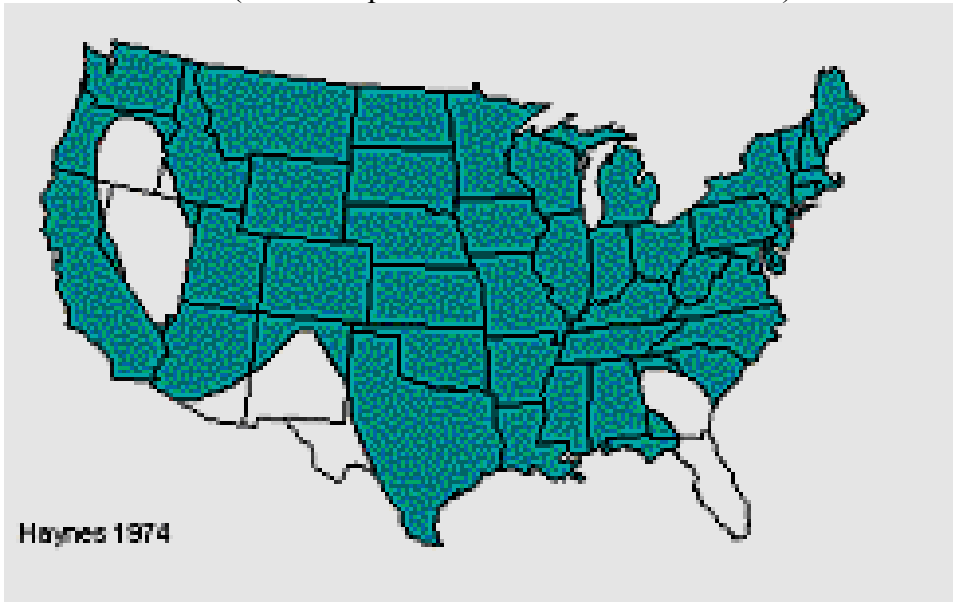
U.S. Distribution (Based on published data collected in 1997):
Potamogeton crispus L. (Curlyleaf Pondweed)

Family: Potamogetonaceae

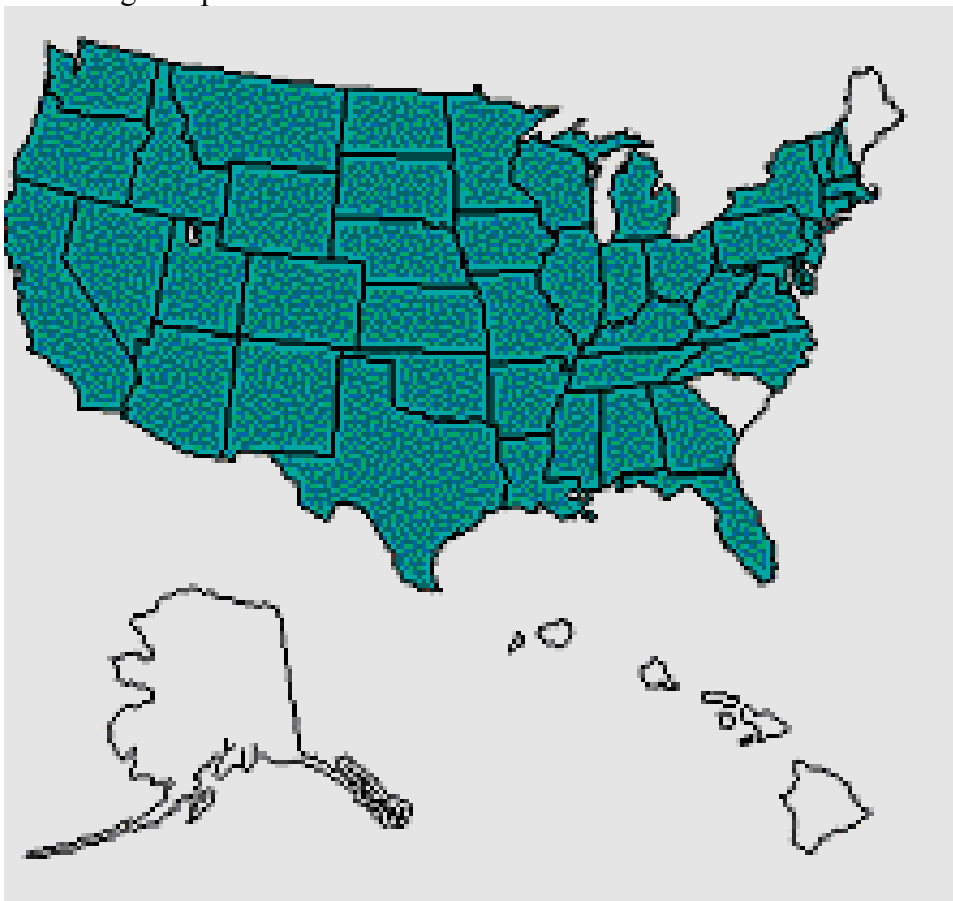
Home Range/U.S. Introduction:

Curly pondweed, *Potamogeton crispus L.*, is native to Eurasia and apparently was introduced into the United States in the mid 1800's (Stuckey 1979). Prior to 1900, the distribution of *P. crispus* was the northeastern United States. By 1930 curly pondweed had spread westward to several states of the Great Lakes region. The species has since spread across much of the United States (see distribution map), presumably by migrating waterfowl, intentional planting for waterfowl and wildlife habitat, and possibly even as a contaminant in water used to transport fishes and fish eggs to hatcheries (Stuckey 1979).

U.S. Distribution (Based on published data collected in 1997):



U.S. Range Map



Species Description:

Curly pondweed is a perennial and has elongate, slender rhizomes that are buff or reddish. The stems of curly pondweed are flattened. Leaves are entirely submersed, sessile, oblong to broadly linear, 3 to 8 cm long and 5 to 12 mm wide. The leaf tip is usually rounded and sometimes minutely cuspidate. The leaf margins are finely toothed, undulate and crisped. Stipules are translucent and soon disintegrating. Bur-like turions that are up to about 5 cm long often form during the spring and late summer months and consist of three to seven small, thickened leaves that project from the stem at a slight upward angle. Flowers are borne on a short spike that extends above the surface of the water. The fruits are flat, 4 to 6 mm long (including the beak) and have a distinct, pointed beak that is erect or somewhat curved and about 2 to 3 mm long.

Habitat/Growth Characteristics:

Potamogeton crispus grows in lakes, reservoirs, ponds, rivers, streams, and springs. It can grow in clear to turbid and polluted waters and in alkaline or brackish waters (Stuckey 1979). Curly pondweed produces seed, but the importance of seed in the spread and maintenance of populations is unknown (Stuckey 1979) and is assumed to be less important than turions (Sastroutomo 1981). In most portions of its range, *Potamogeton crispus* typically reaches peak biomass in the late spring or early summer months, forms turions, then declines and "survives" the warmer months in a dormant state (i.e., as a turion) (Cypert 1967, Stuckey 1979, Sastroutomo 1981, Tobiessen and Snow 1984, Nichols and Shaw 1986). As water temperatures cool during the late summer or fall months, the turions germinate, grow through the winter months with the plants reaching peak biomass in the spring before most other submersed macrophytes begin their growth cycle. Once established, the plants regrow and form colonies from rhizomes.

Problems:

Dense colonies of curly pondweed can restrict access to docks and sport fishing areas during spring and early summer months. Because populations of curly pondweed usually decline during the summer months, it does not directly compete with many of the native submersed species.

References:

Cypert, E. 1967. The curly-leaved pondweed problem at Reelfoot Lake. *Journal of the Tennessee Academy of Science* 42:10-11.

Nichols, S. A. and B. H. Shaw. 1986. Ecological life histories of the three aquatic nuisance plants, *Myriophyllum spicatum*, *Potamogeton crispus*, and *Elodea canadensis*. *Hydrobiologia* 131: 3-21.

Sastroutomo, S. S. 1981. Turion formation, dormancy and germination of curly pondweed, *Potamogeton crispus* L. *Aquatic Botany* 10: 161-173.

Stuckey, R. L. 1979. Distributional history of *Potamogeton crispus* (curly pondweed) in North America. *Bartonia* 46: 22-42.

Tobiessen, P. and P. D. Snow. 1984. Temperature and light effects on the growth of *Potamogeton crispus* in Collins Lake, New York State. *Canadian Journal of Botany* 62: 2822-2826.

**Appendix D is a direct copy of the information section for curly-leaf pondweed from the “Aquatic Plant Information System, Version 2” produced by the US Army Corps of Engineers, Engineer Research and Development Center for the Aquatic Plant Control Research Program, Fall 2001.