



STATE OF CONNECTICUT  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

U.S. FISH AND WILDLIFE SERVICE



## INVASIVE PLANT ALERT! WATER CHESTNUT (*Trapa natans*)

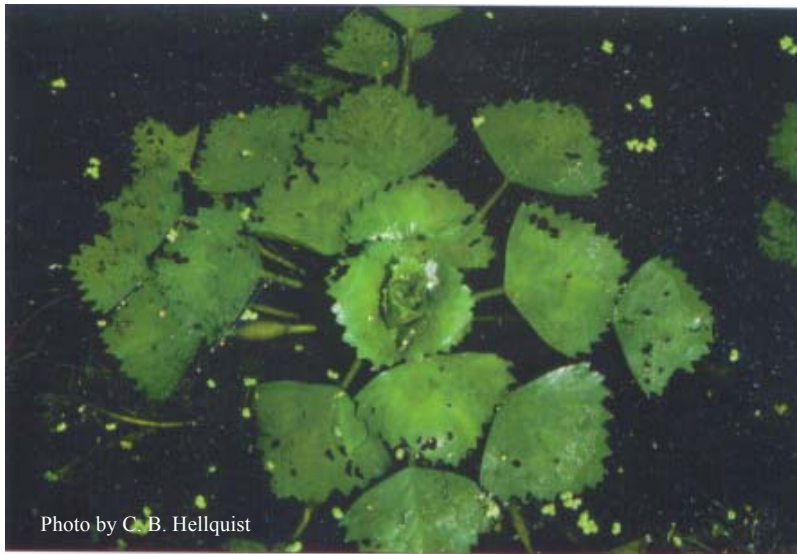


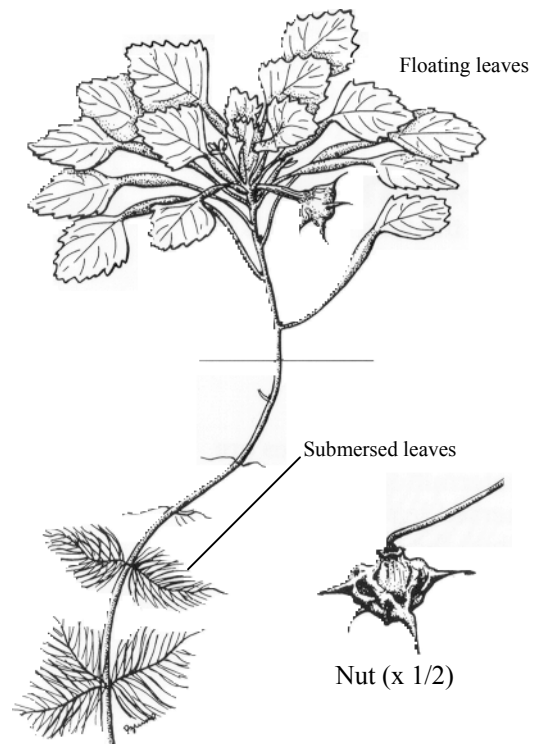
Photo by C. B. Hellquist

Please be on the lookout for this non-native invasive plant, and immediately report any sightings! It has recently been found in Keeney Cove in Glastonbury and in the Hockanum River in East Hartford. There are also dense infestations in two coves along the Connecticut River above the Holyoke Dam in Massachusetts. Early detection is the key to protecting our aquatic ecosystems!

### HOW TO IDENTIFY WATER CHESTNUT

**Description:** Water Chestnut is a rooted, aquatic plant with both floating and submersed leaves. The floating leaves are green, glossy and triangular, with toothed edges. The submersed leaves are feathery, and are found whorled around the stem. Plant stems are cord-like and can attain lengths of up to 16 feet. Water chestnut is an annual, overwintering entirely by seed. The fruit of this plant is a hard nut-like seed with 4 sharp spines; it is green when fresh or black when dry. Seeds may remain viable in the sediment for 5 years or more. (Please note: this plant species is not the same as the 'water chestnut' used in Asian cooking.)

**Habitat:** Shallow areas of freshwater lakes and ponds, and slow-moving streams and rivers.



(Aquatic Plants of New England Series: *Trapa natans*, Crow and Hellquist 1983. Illustration by Pam Bruns.)

**Threats:** The dense growth of water chestnut can effectively choke a waterbody, making boating, fishing and swimming nearly impossible. This weed also shades out native aquatic plants and offers little value to wildlife. The seeds have sharp spines that can inflict puncture wounds. Should chestnut become established in Connecticut, it has the potential to become the dominant plant in the shallow waters of all Connecticut River coves, including the tidal freshwater coves from Hartford to Essex. All shallow (<16 ft) lakes and ponds are also at risk.

**Distribution:** Water chestnut's native range is Europe, Asia and Africa. Since its introduction into North America in the late 1800s, it has become a nuisance species because of its ability to reproduce rapidly and form dense floating mats. Water chestnut is presently found in Massachusetts, Vermont, New York, Pennsylvania and Maryland. It was first identified in Connecticut in July 1999. Two small coves along the Connecticut River in Holyoke, MA have infestations of this aquatic weed. Seeds may have drifted downstream, and ducks and geese may also be responsible for dispersal. Canada geese have been seen with the spiny nuts attached to their feathers.



Seeds of water chestnut

**Control:** Early detection is the key to control since smaller populations are easier to eliminate than larger ones. It also costs less to control a small infestation because plants can be individually hand-pulled. Large populations require the use of mechanical harvesters or application of aquatic herbicides to achieve control. Infested waters must be treated for 5-12 years to eliminate the invading population. However, some infestations are so extensive (e.g. >300 acres in Lake Champlain in Vermont) that complete eradication may never be achieved. Because prevention is so important and control efforts so costly, many states, including Massachusetts, New Hampshire, South Carolina, Florida and Arizona, have adopted laws that prohibit the possession, transport or distribution of water chestnut (*Trapa natans*).

#### **References:**

*A Guide to Invasive Non-native Aquatic Plants in Massachusetts.* C.B. Hellquist, North Adams State College, and Massachusetts Department of Environmental Management, Lakes and Ponds Program. June, 1997.

*Vermont Invasive Exotic Plant Fact Sheet Series: Water Chestnut.* Vermont Agency of Natural Resources and the Nature Conservancy, Vermont Chapter. June, 1998.

---

#### **PLEASE REPORT ANY SIGHTINGS OF WATER CHESTNUT TO:**

Harry Yamalis  
Connecticut Department of Environmental Protection  
Office of Long Island Sound Programs  
79 Elm Street  
Hartford, CT 06106

(860) 424-3034  
harry.yamalis@po.state.ct.us