STOP THE INVASION
PROTECT NEW YORK FROM INVASIVE SPECIES

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

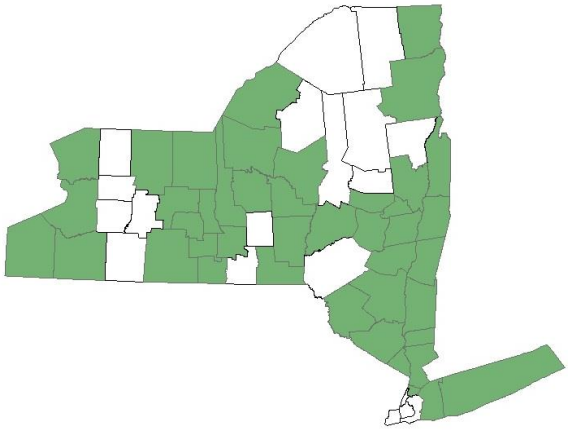
WATER CHESTNUT

Trapa natans

Water chestnut is an aquatic invasive plant that is native to Eurasia and Africa. Introduced in the United States in the mid-1800s as an ornamental plant, water chestnut was soon found growing in Collins Lake near Scotia, NY. Water chestnut colonizes areas of freshwater lakes, ponds and slow-moving streams and rivers where it negatively impacts aquatic ecosystems and water recreation.

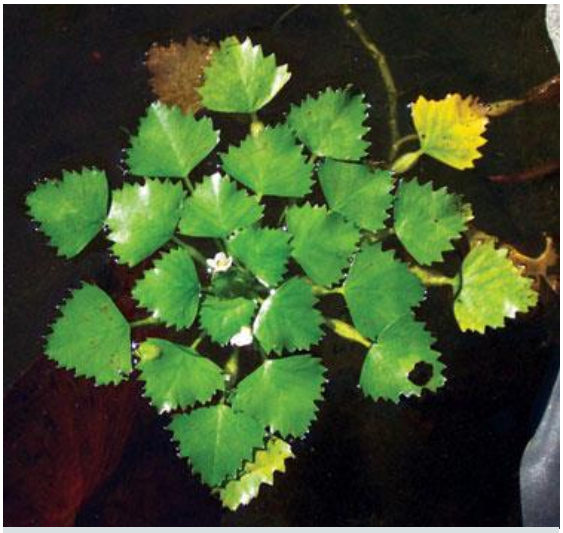
Where is water chestnut found?

Water chestnut is found in forty-three counties in New York. Many of the infestations are reported in or near the Hudson River. No water chestnut has been reported in the following counties: Allegany, Cortland, Delaware, Franklin, Fulton, Genesee, Hamilton, Herkimer, Kings, Lewis, Livingston, New York, Orleans, Queens, Richmond, St. Lawrence, Tioga, Warren, and Wyoming.



How do I identify water chestnut?

Water chestnut is an annual plant with a submerged stem 12-15 feet long with fine roots that anchor it to the soil. Its floating leaves are triangular with saw-toothed edges and hollow, air-filled stems. Leaves form a rosette around a central point. Its four petaled, white flowers bloom in June. The fruits are hard nuts with four-inch barbed spines. Seeds within these fruits can remain viable for up to 12 years.



Mike Naylor, Maryland Department of Natural Resources

How does it spread?

Water chestnut spreads by rosette and fruits detaching from the stem and floating to another area on currents. They also spread by clinging to floating objects, including recreational watercraft, the pads of boat trailers, and fishing equipment.

What are its impacts?

Water chestnuts form dense mats of rooted vegetation that can be very difficult to get through in a boat, kayak, canoe, or when swimming. Water chestnut fruits are often found along the shoreline and bottom of waterways: their very sharp spines can cause painful wounds when stepped on. The dense mats of vegetation shade out native aquatic plants that provide food and shelter to native fish, waterfowl, and insects. Decomposition of these mats reduces dissolved oxygen levels and may impact fish. Property values along shorelines of infested waters may decrease.

What are the tools for management?

Water chestnut can be controlled using manual, mechanical, and chemical methods. As with all other infestations, early detection is key for containing and controlling spread. The smaller the size of the infestation, the more easily it can be eradicated and its economic and ecological impacts reduced.

Hand-pulling when rosettes first appear (mid-June to early July) is an effective way to control spread and reduce the size of infestations. This method is impractical if the infestation covers a large area.

For larger infestations, as in Lake Champlain, harvesting machines are used.

Applications of aquatic herbicides approved for use in New York can also be effective. Because the fruits remain viable for up to twelve years in the sediment, it will take several years for both mechanical and chemical methods to be fully effective. NYS DEC is currently funding a study of the effectiveness of predator insects from water chestnut's native range.

Angela May and Beth Walker, Marion Elementary School

What can I do to help?

Prevention is the most effective method for dealing with invasive species. If they are never introduced, they never become established.

- Clean, drain, and dry your watercraft, trailer, and equipment before and after each use. Regulation 6 NYCRR Part 576 (http://www.dec.ny.gov/animals/99141.html) requires everyone who uses watercraft on public waters to follow this protocol.
- When possible, use the following methods to fully decontaminate your equipment. (Consult DEC's website regarding this protocol: http://www.dec.ny.gov/animals/48221.html)
  - Clean the outside of the watercraft and trailer with high pressure (2500 psi) hot water (140°F) for 10 seconds.
  - Flush the inside of the motor and all compartments (bilge, live well, bait buckets, ballast, etc.) with hot water (140°F) for two minutes.
  - Soak fishing gear and equipment in hot water (140°F) for two minutes.
- Dump bait bucket water where it came from or on land.

Become a Chestnut Chaser!

Early detection of infestations helps to reduce removal costs and ecological impacts. We know that water chestnut is underreported in New York State. Each summer we encourage folks to survey their favorite swimming holes, lakes, ponds, and nearby waterbodies for water chestnut. If you think you've found water chestnut please take several photos and submit a report to iMapInvasives www.imapinvasives.org.

CONTACT INFORMATION

Invasive Species Coordination Unit
Division of Lands and Forests
Bureau of Invasive Species and Ecosystem Health

New York State Department of Environmental Conservation
625 Broadway, 5th Floor, Albany, NY 12233-4253
P: (518) 402-9405 | isinfo@dec.ny.gov
www.dec.ny.gov