

# Steward Program Helps Local Community Learn about Water Chestnut (*Trapa natans*)

In July 2007, the Eastern Lake Ontario Dune Steward program educated private landowners and the public on how to identify the aquatic invasive plant water chestnut (*Trapa natans*), and how to report their findings to the appropriate management agencies. Water chestnut nutlets, or fruits, have been found in their dry, inviable state on Sandy Pond Beach.

Water chestnut is an aquatic invasive species that is native to Africa, Asia, and Europe and was brought to the United States to be used in a Harvard botanical garden in the late 1870's. This aquatic weed escaped into the Charles River and has established itself as far south as Pennsylvania and as far north as the Canadian providence, Quebec. This rapidly dispersing plant blocks waterways, hinders native plant and animal health, and causes a loss of fish and waterfowl for anglers and hunters.

Water chestnut negatively affects plants and animals by causing a loss of wildlife habitat and native aquatic species on all levels of the food chain. Other native plants and organisms that require sunlight to survive cannot compete with water chestnut because its canopy shades the aquatic floor. This can lead to lower concentrations of dissolved oxygen in the water, which starts a chain reaction, killing plants and small fish leaving predators such as carnivorous fish and waterfowl with less food.



The Eastern Lake Ontario Dune Steward program, in cooperation with the Oswego County Soil and Water Conservation District, presented the Friends of Sandy Pond Beach with ways to monitor and control water chestnut, including the Adopt-A-Shoreline program.

The Friends group decided to undertake an initial survey of the Sandy Pond area to determine if and where water chestnut may exist in a viable state, and to to look into options for further public education opportunities.



**Aquatic Invasive Species Outreach Summer 2007** 

Above: Dune Steward Ben Robedee and John DeHollander, manager of the Oswego County Soil and Water Conservation District, show water chestnut plants to the Friends of Sandy Pond Beach. Right: Dune Steward Ben Robedee provides the Friends with

Right: Dune Steward Ben Robedee provides the Friends with information on the life cycle of water chestnut.

# **A Primer on Water Chestnut**

## Identification

- Nutlet (seed) has four sharp spines
- Up to 16-foot-long stem bearing feather-like, oppositely paired leaves
- Floating leaves form a rosette that is waxy on top and hairy on the under surface
- Each petiole of the floating leaves has an air bladder for buoyancy
- Flowers are white and bloom from late June to September

### **Dispersal and Reproduction**

- Each seed can produce 10-15 rosettes
- Each rosette can produce 10-15 nutlets allowing this plant to produce 200-300 nutlets per year
- The nutlets can remain viable for many (8 to 12) years
- Rosettes can detach, float down a body of water and reproduce there
- Currents and waves can move nutlets to new locations

### Control

- · Use mechanical harvesters and/or safe, recommended pesticide applications
- Best method is hand pulling the plants by canoe, wading, or kayak. Remove new nutlets
- Pull in late June to mid-August to be sure that the plant has not produced more nutlets
- Use safe boating techniques, e.g., emptying bilge water before moving to new location
- Compost or dispose of plants in proper trash receptacles

The Eastern Lake Ontario Dune Steward & Salmon River Steward Program is managed by New York Sea Grant in partnership with the New York State Department of Environmental Conservation, New York State Parks, and The Nature Conservancy.









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