

**Compost Invasive Plants  
into Fertilizer**

*by New York Sea Grant  
Launch Steward Ashley Regan*

What can you do with aquatic invasive species (AIS) once you remove them from your local waterway? Why not convert AIS into a usable product?

Composting is the process of recycling decomposed organic materials into a rich, crumbly, dark brown soil known as compost.

Anything that was once living will decompose. Composting organic waste, including AIS, into a fertilizer helps return nutrients to the soil.

One aquatic invasive species that can be composted is European water chestnut. Water chestnut when composted into fertilizer can add nitrogen, phosphorus, and potassium nutrients to the soil. For this reason, it is most often considered a soil conditioner that improves the structure and texture of the soil, enabling it to better retain nutrients, moisture and air for the betterment of plants.

In his New York Sea Grant fact sheet on water chestnut, invasive species specialist Chuck O'Neill notes that the invasive aquatic plant (*Trapa natans*) was inadvertently released into the waters of the Northeastern U.S. in the late 1800s and is slowly but unavoidably spreading throughout New York State, clogging waterways and altering aquatic habitats.

Water chestnuts can be uprooted (pulled) by hand and put into personal compost piles or bins in small quantities for decaying. This process is similar to recycling grass clippings. O'Neill's cautions regarding composting water chestnut include the fact that the fruit of this AIS is hard, sharp, and can survive a short period of composting, thus requiring a longer composting time to completely decompose, which is essential before applying. Some water chestnut seeds may remain viable for years so the composting area must be away from surface waters. See reverse for more tips on how to compost AIS.

Some licensed composting facilities accept aquatic plants as "yard scraps." To view the commercial composting facilities nearest you, see the New York State Department of Environmental Conservation's website on Composting Facilities in New York State at [www.dec.ny.gov/chemical/55447.html](http://www.dec.ny.gov/chemical/55447.html).



*Oneida Shores Rotary leader Marvin Reed (left) and NYSG Launch Steward Ashley Regan with the Club's compost.  
Photo: Ashley Regan, NY Sea Grant*



## Six Simple Steps for Composting AIS

### Create Space for Compost Bin

- Most important: the bin should be site so that no AIS will return to the water
- While you can compost successfully in a pile on the ground, a bin keeps the process neater and helps discourage animals if bin also includes food scraps
- The bin's construction can help regulate moisture and temperature
- A good minimum size: 1 cubic yd.; for help sizing, see [www.calculatorpro.com/calculator/compost-use-calculator](http://www.calculatorpro.com/calculator/compost-use-calculator)



*NYSG Launch Steward Ashley Regan (right) and Oneida Shores Rotary leader Marvin Reed (left) with a compost turning bin that should be used well away from any waterbody. Photo: Ashley Regan, NY Sea Grant*

### Balance the Compost Mix

- Include high carbon materials, such as hay, browned leaves or cardboard, in your compost mix; the microbial oxidation of carbon produces heat
- Include high nitrogen materials, such as aquatic plant matter, manure, dried grass clipping or vegetable scraps; to support oxidization of carbon materials
- Add water so compost pile has the consistency of a wrung-out sponge; add water as needed to maintain activity without causing anaerobic conditions

### Layer

- By volume: 75% high carbon dry materials, 25% high nitrogen "green" scraps
- By weight: 50-50% mix of carbon-rich, nitrogen-rich materials, e.g., for every pound of kitchen scraps have one pound of AIS, leaves, etc.

### Turn

- Stir compost mix once a week with a pitchfork or handrake to add oxygen to the decomposition process to help compost break down faster

### Check; Add Material or Water as Needed

- When you turn the mix, look to see if additional material or moisture is needed to continue the composting to completion

### Apply Completed Compost

- Once the composting process is completed, the organic fertilizer can be applied to gardens, etc.; area should be in the same or similar locale and where there is no chance of the compost being washed into any surface waters
- All materials should be completely composted and dry before application; do not spread material on land to dry
- It is suggested that water chestnut compost be plowed or mixed into soil to reduce opportunity for AIS return to nearby waters by runoff, wind or transport by wildlife or human activity



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