



NJ Invasive Species  
**Strike Team**

**FoHVOS**  
FRIENDS OF HOPEWELL VALLEY OPEN SPACE

## Join Us for the Annual Strike Team Conference!

We hope that you'll join us at our annual conference being held at Duke Farms on October 5<sup>th</sup>. This all day conference features lots of great speakers and is an excellent way to connect with colleagues from around the state. There are also lots of CEU's available from the NJDEP Pesticide Control Program, PA Pesticide Program, and NJ Urban and Community Forestry Program.

[Click here to see the conference agenda, available CEU's, and registration.](#)

This month's Live and Learn was contributed by Emily Mayer from the Raritan Headwaters Association. Emily provides a great guide on the biology, identification and threats posed by three emerging aquatic invaders – Hydrilla, Waterwheel, and Water Soldier. Emily will also be sharing her expertise on a panel of experts at our upcoming conference!

Mike Van Clef, Ph.D.  
FoHVOS Stewardship Director  
Strike Team Program Director

Lisa Wolff  
Friends of Hopewell Valley Open Space  
Executive Director

## Strike Team In The News



News12 Heads Out  
With The Strike Team



New Jersey Monitor reports on  
Invasive Species Legislation

Click on the images above to check out what we've been up to!

# Live and Learn

## Emerging Threats of Aquatic Invasive Species to our Water Resources

Emily Mayer, M.S., Watershed Scientist, Raritan Headwaters Association

We've seen invasive species' negative effects in gardens, forests, preserves, and impacting farmlands from a land management perspective. But have you thought about the plants in your lakes, streams, canals, rivers, and ponds? Emerging threats of invasive species are lurking beneath the surface that can cause negative impacts such as decreased dissolved oxygen levels, clog water intakes, a refuge for mosquitos to breed, impede upon recreational activities, impacting aesthetics, and reducing property values. While there are a variety of aquatic invasive species, here are three aquatic invasives you should be on the lookout for this summer.

Common Name: Hydrilla

Scientific Name: *Hydrilla verticillata*

For many years botanists were not concerned about Hydrilla (*Hydrilla verticillata*) becoming a threat to the Northeast. However, over the years, climate change altered those predictions. It is unclear the specific pathway in which this species came to the USA; However, we know it originated from Asia. According to documentation from the 1960s, Hydrilla was utilized in the aquarium trade in Florida. Like many other invasive species in Florida, it was likely released into the environment and took home to many ponds, lakes, and canals within the area. In the 1980s, it was confirmed in the Potomac River, and since then, through various pathways, recreational activities, wildlife, and



natural storm events progressed the spread of Hydrilla throughout the Northeast. This species, often confused by the native species Common Waterweed, can be identified by the following characteristics: serrated leaves in whorls of 3-6 thin (2-4 mm wide, 6-20 mm long). Some of the Northeastern sites have been documented in New Jersey's backyard and state neighbors, recent finds include the Delaware and Raritan Canal (NJ), the Delaware River (NJ/PA), Croton River (NY), and New Croton Reservoir (NY).

What makes this highly invasive species detrimental to the environment is its ability to replicate through multiple forms. For example, potato-like structures at the root system can stay dormant for up to 10 years or longer in the sediment through tubers. Another form is through turions, a bud-like structure that

appears from the plant's stem, which will develop and fall off into the sediment to establish another plant. Lastly, a common reproductive strategy of many aquatic invasive species is fragmentation. Broken pieces of the plant can float to other water bodies, re-root, and thrive along various shorelines.

In addition to the advanced replication structures of Hydrilla, there are multiple biotypes, often referred to as strains, of Hydrilla within the USA. Historically, two biotypes have been documented in the United States being monoecious and dioecious. A third biotype identified as clade C has been discovered in the tidal Connecticut river system recently confirmed through genotyping in 2021. This serves as a significant threat to other major waterways, tidal systems, and water resources as not much information is known on this biotype yet.

Common Name:  
Waterwheel Scientific  
Name: *Aldrovanda vesiculosa*

A new aquatic plant species emerged in New Jersey called Waterwheel (*Aldrovanda vesiculosa*). This free-floating species is on the invasive species watch list in New Jersey. The Waterwheel was initially discovered in 1699 by Leonard Plukenet in India, and many years later,



under observations by Charles Darwin, hypothesized the carnivorous behaviors of this species. Genetically related to the Venus flytrap, this carnivorous species feeds on zooplankton and small larval prey that venture into their traps. With old vegetation dying back as new vegetation grows from the opposite end of the strand, this species grows in acidic or lower pH environments. During the winter months, Waterwheels form turion buds that become detached from the main plant and will remain dormant at the bottom of the water until suitable conditions allow for new growth. This species is often confused with bladderwort species but can be identified by the following characteristics, 4-to-8-inch stems with leaves in a whorl around the stem and may produce a white flower protruding from the water.

One of the potential positives with this species are that it may be limited by water chemistry, meaning this plant's survival rate is limited by environmental conditions- until it could adapt. While we can only assume the negative impacts of this species, as it is unclear what ecological impacts Waterwheel will have on our water resources; monitoring this species is key to determining what consequences it may have. Read more about how this species was introduced to New Jersey and New York in the [New York Times](#).

Common Name: Water  
Solider Scientific  
Name: *Stratiotes aloides*

Water Solider (*Stratiotes aloides*)



has been managed over several years in Ontario, Canada. In 2008, it was first found outside its native range in the Trent River in Ontario, Canada. Water Soldier's current distribution in North America is known only in Ontario. Water Soldier can appear in two different forms, emergent and submergent. During the summer months, water soldier becomes buoyant at the surface and can

produce white three-petal flowers mid-summer. Through various forms of reproduction, the flowers eventually will develop fleshy berries that contain up to 24 seeds, turions, and offsets that support the spread of this invasive. The rosettes are sword-shaped brittle leaves with sharp, serrated leaf margins and can reach an average of 2' in length. It resembles the appearance of a pineapple top or aloe plant. During the fall months, this invasive becomes submerged sinking below the water's surface where it can overwinter in a rootless state. This plant remains alive throughout the winter, even in icy conditions based on plant cell properties. This invasive species can outcompete natives, potentially altering surrounding water chemistry, impacting aquatic biota, and inhibiting recreational activities. Be sure to keep a lookout for this invasive along shorelines in your rivers, ponds, streams, and lakes.

## Save the Date!

### **October 5, 9:00am-4:00pm, Strike Team Professional Conference, Duke Farms**

- Our annual all day event at Duke Farms. This year will feature speakers covering eDNA, aquatic invaders, forest pests and pathogens, climate change impacts and regional species listings, and a history of New Jersey forests.

[Register For the Professional Conference!](#)

### **October 22, 12:00p-4:00pm, Potluck Social, Private residence**

- Bring your favorite wild collected foods. If you are new to foraging, please bring your favorite non-foraged dish and enjoy all the great food!

[Register For the Potluck Social!](#)

## Upcoming Events

Please contact [Mike](#) if you are interested in attending any of the following scheduled events.

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**October 5, 9:00am-4:00pm, Strike Team Professional Conference, Duke Farms**

Share and learn new ideas at this all day conference! -- [Register Now!](#)

**October 22, 12:00p-4:00pm, Potluck Social, Address shared upon registration**

Strike Team Potluck Social -- [Register Now!](#)

**November 1, 9:30am-3:00pm, Duke Farms, Hillsborough**

Deer Management, co-taught with Michael Bellaus of Duke Farms

**November 2, 9:30am-3:00pm, Duke Farms, Hillsborough**

Invasive Species Management and Soils/GIS, co-taught with Michael Bellaus of Duke Farms and Edwin Muniz of NRCS

[Register for the Duke Farms Short Course on November 1-2](#)

**November 3, 9:00am-1:00pm, Rutgers Cooperative Extension of Mercer County, Ewing**

Mercer County Master Gardeners - Invasive Species Identification and Control

**November 10, 11:00am-12:00pm, Pinelands Commission, New Lisbon**

Pinelands Speaker Series - Invasive Species Threat, Identification and Control

**November 12, 8:30am-2:30pm, Lord Stirling Park, Basking Ridge**

PA/NJ Chapter of the American Chestnut Foundation Annual Conference - Invasive Species Identification and Control

**January 9, 2023, 12:30 pm-1:30pm, Rutgers Cooperative Extension of Mercer County, Ewing**

Mercer County Master Gardeners Annual Meeting - Impacts of Deer and Native Plant Gardening

**January 18, 2023, 6:15 pm-7:15pm, Switlik Park, Hamilton**

Nottingham Garden Club - Invasive Species Threats, Identification, and Control

## Volunteer with us!

Looking for a volunteer opportunity?

The NJ Invasive Species Strike Team is the organization for you!

Visit our sign up genius below to share your interests with us.

Contact [mvanclief@fohvos.org](mailto:mvanclief@fohvos.org) for more information.

[I'm Interested!](#)

[Volunteer Stewardship Teams Information](#)

## Consider a Membership Donation

The Strike Team needs your help to fight invasive species throughout New Jersey. By making a membership donation, you directly fund our efforts to keep invasive species at bay and protect our native plants and wildlife. Donate through the link below!

[Donate](#)

[Our website](#)

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## Contributing Partners



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