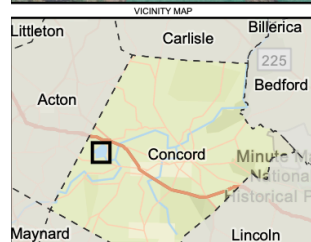
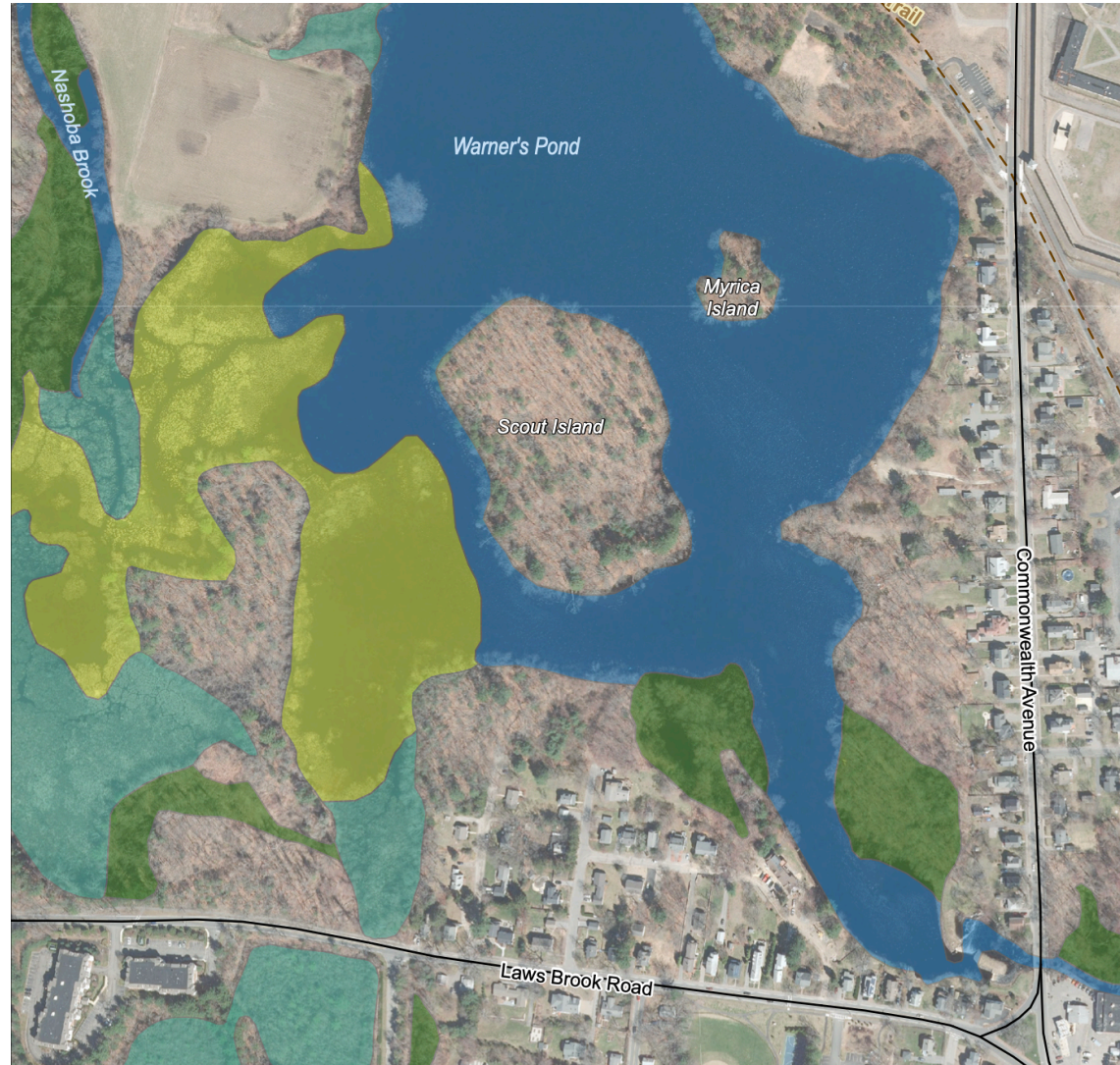


# What We Have Learned

- The pond is fed by an approximately **47 square mile watershed**(which is located primarily outside of Concord and includes portions of the towns of Acton, Boxborough, Carlisle, Littleton, Stow and Westford. Therefore:
  - It is very difficult to control point source nutrient loading(esp. nitrogen and phosphorus levels).
  - The pond will always be on the receiving end of invasive plants from the watershed.
- The two tributaries that flow into the pond, Nashoba Brook and Fort Pond Brook, merge just upstream of the pond inlet on the western shore and form a **broad delta of emergent wetlands** on the western shore.
- The water entering the pond flushes through the pond rapidly. Flushing rate represents the number of times per year the pond volume is replaced; for Warner's Pond:
  - **The flushing rate is nearly 379 times per year.** This is an extremely high flushing rate. The flushing rate indicates that water moves through the pond very quickly and in many regards, **it is more appropriate to view the pond functioning as a large, wide pool within a river system** rather than a pond.

- The 2012 report described **four distinct ecological communities** at the pond that are still valid but the proportions have changed:
  - Shallow marsh on the western side of the pond
  - A scrub-shrub/emergent marsh (water willow marsh) at the inlet of the pond
  - Open water habitat in the eastern and northern sections of the pond
  - Upland habitat on islands within the pond.



**Figure 3-3**  
**Ecological Communities**  
 Warner's Pond Alternatives Analysis  
 Concord, MA

Map Date: 2/21/2023  
 Source: MA DEP 2005  
 Projection: NAD 1983 UTM Zone 19N

- Warner's Pond provides valuable wildlife habitat through the diversity of wetland and open water habitats that occur within the pond. The mix of water depths, variety of water flow regimes, and extensive scrub-shrub/emergent wetland system that border the pond are ecological assets.
- However, the excessive sediment and nutrient load to the pond have fostered the **aggressive expansion of aquatic and emergent plant species that will continue to encroach upon areas of open water habitat.**
- Over the long run, the pond will continue **to fill in with sediment** and gradually transition into a scrub-shrub/emergent wetland through the process of succession (eutrophication) **This will limit the pond's future ecological value as open water habitat and its recreational value to the community.**
- There are other significant developments/events that could have a significant impact on the pond but they have not been clarified.
  - The further development of Gerow Park
  - The future uses of the MCI property
  - The removal of the Talbot dam on the Concord River and that impact on fish migration.

## Key Elements for the Warner's Pond Management Committee

The Warner's Pond Management Committee is established to prepare and support the implementation of an **Adaptive Management Plan**, which aims to improve the ecological health and recreational capacity of the pond.

### The Adaptive Management Plan will seek to:

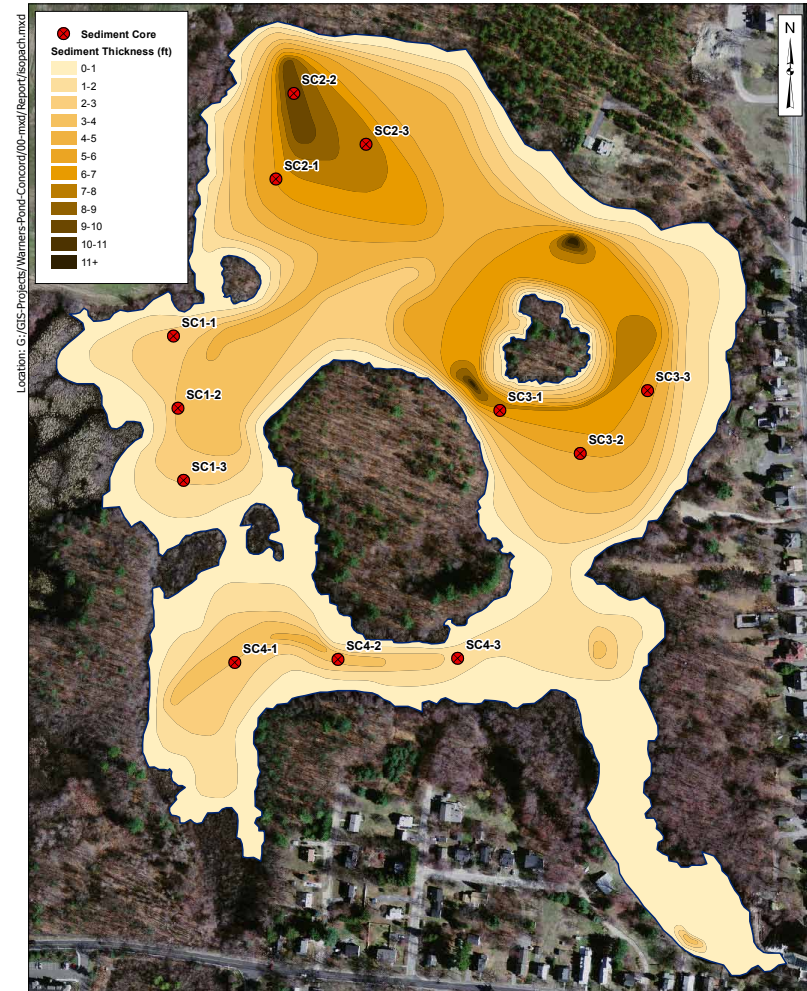
- Significantly reduce the invasive vegetation and, if possible, the sediment accumulation.
- Enhance the environment for wildlife
- Enhance the recreational potential for the community
- Gather wide community involvement.

Significantly reduce the invasive vegetation and, if possible, the sediment accumulation.

1. The thickest sediment is near the deep hole; near a Rt. 2 drain.
2. The least sediment is near the dam.

Opinion:

1. Without dredging, it is unlikely that we can remove the sediment.
2. Sediment may be building on the east side of Scout Island due to excessive milfoil vegetation.
3. The Delta may have an influence on the current placement of sediment from the brooks.



WARNER'S POND WATERSHED MANAGEMENT PLAN

Warner's Pond Isopach Map and Sediment Sampling Locations



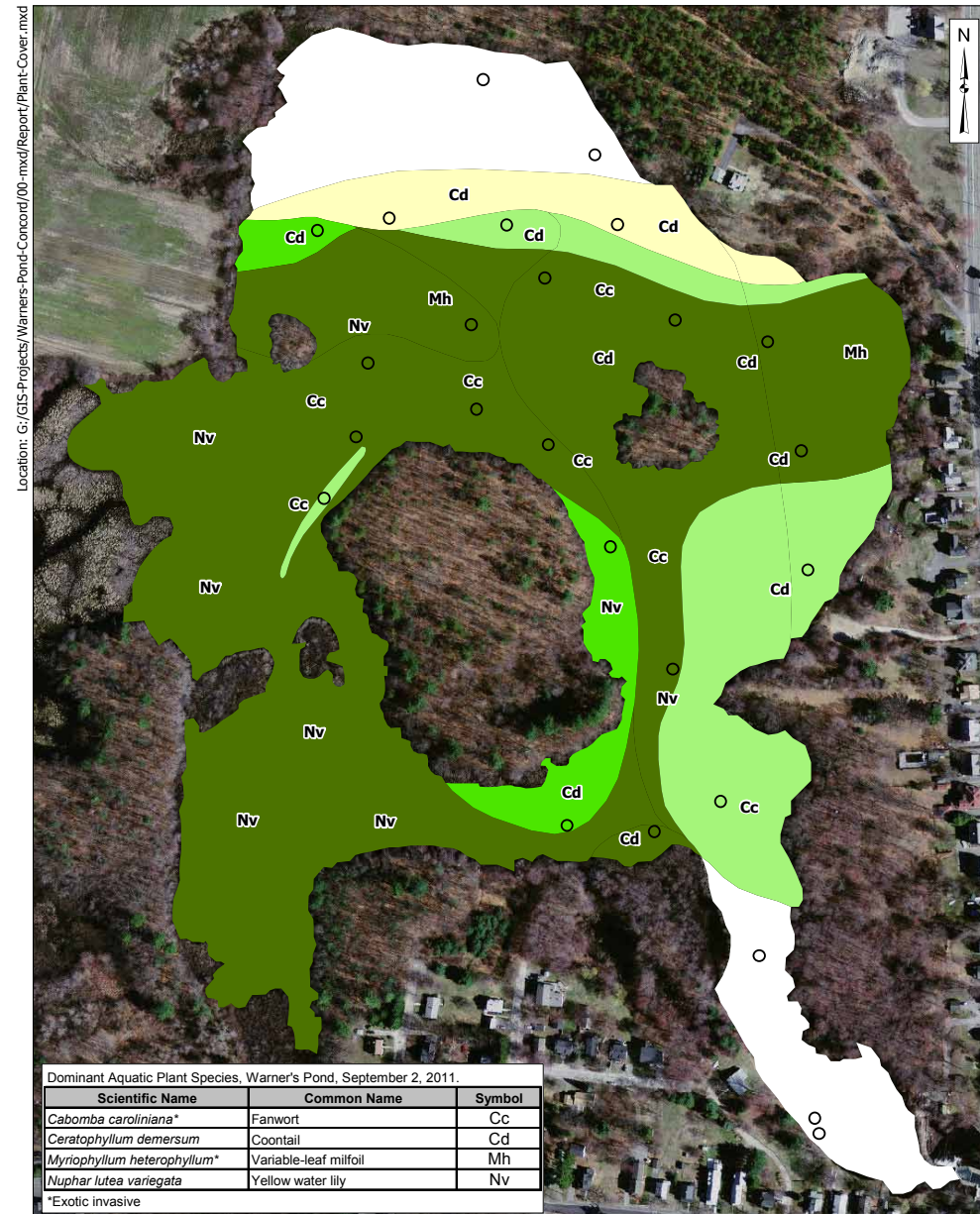
Figure 4

# Significantly reduce **the invasive vegetation**

## Opinion

We discovered that methods to be explored are:

1. Annual (or more frequent) **hand pulling** of Water Chestnuts and Water Lilies.
2. **Herbicidal treatments** for milfoil, coontail and fanwort.
3. **Diver Assisted Suction Harvesting (DASH)** in select areas (for example between Commonwealth boat ramp and Scout Island) for milfoil, coontail and fanwort.
4. **Drawdown** of the pond to combat milfoil, coontail and fanwort and, potentially, phosphorus.
5. **Biological controls** for loosestrife and, possibly, milfoil.



### WARNER'S POND WATERSHED MANAGEMENT PLAN

Scale: 1" = 300'

Source: 1) MassGIS, Color Orthophotos, 2008

Note: The symbols on this map represent only the dominant species in each area. Additional species were present and a full species list is provided in the text.

### Warner's Pond Plant Cover September 2, 2011

- Plant Cover Sample Location
- Plant Cover
  - 0%
  - 1% - 25%
  - 26% - 50%
  - 51% - 75%
  - Greater than 75%

Figure 8

