



**For Peat's Sake: The Bogs, Fens and
Other Peatland Habitats of Foster's Pond**

Wetlands

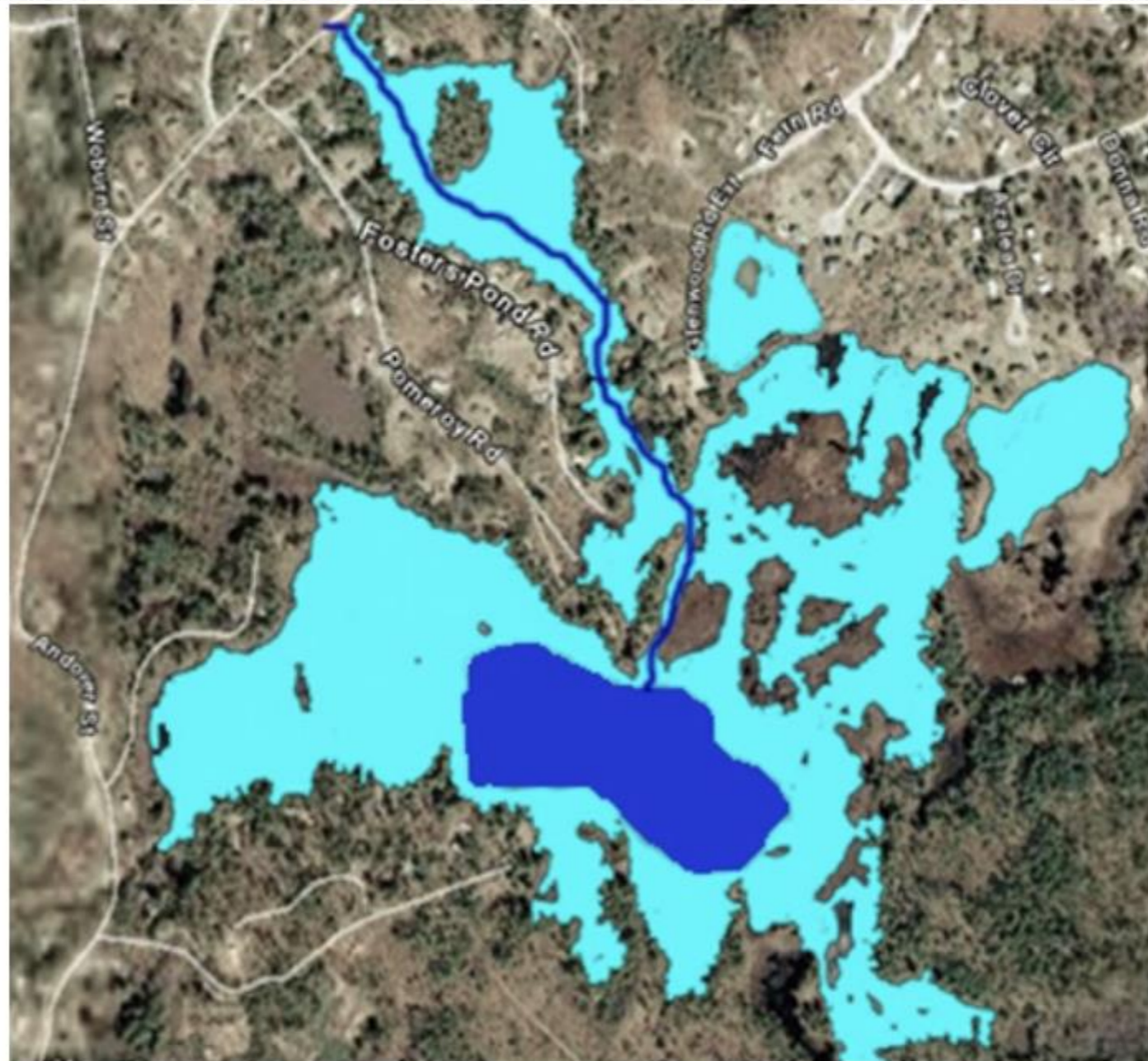
- ❖ **Areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season**
- ❖ **Marsh:** Frequently or continually inundated with water, characterized by emergent soft-stemmed vegetation adapted to saturated soil conditions. (high decomposition rate with pH close to neutral)
- ❖ **Peatland:** Rich in peat - the partially decomposed tissue formed from decomposition of mosses of the genus *Sphagnum* (low decomposition rate with highly acidic conditions)



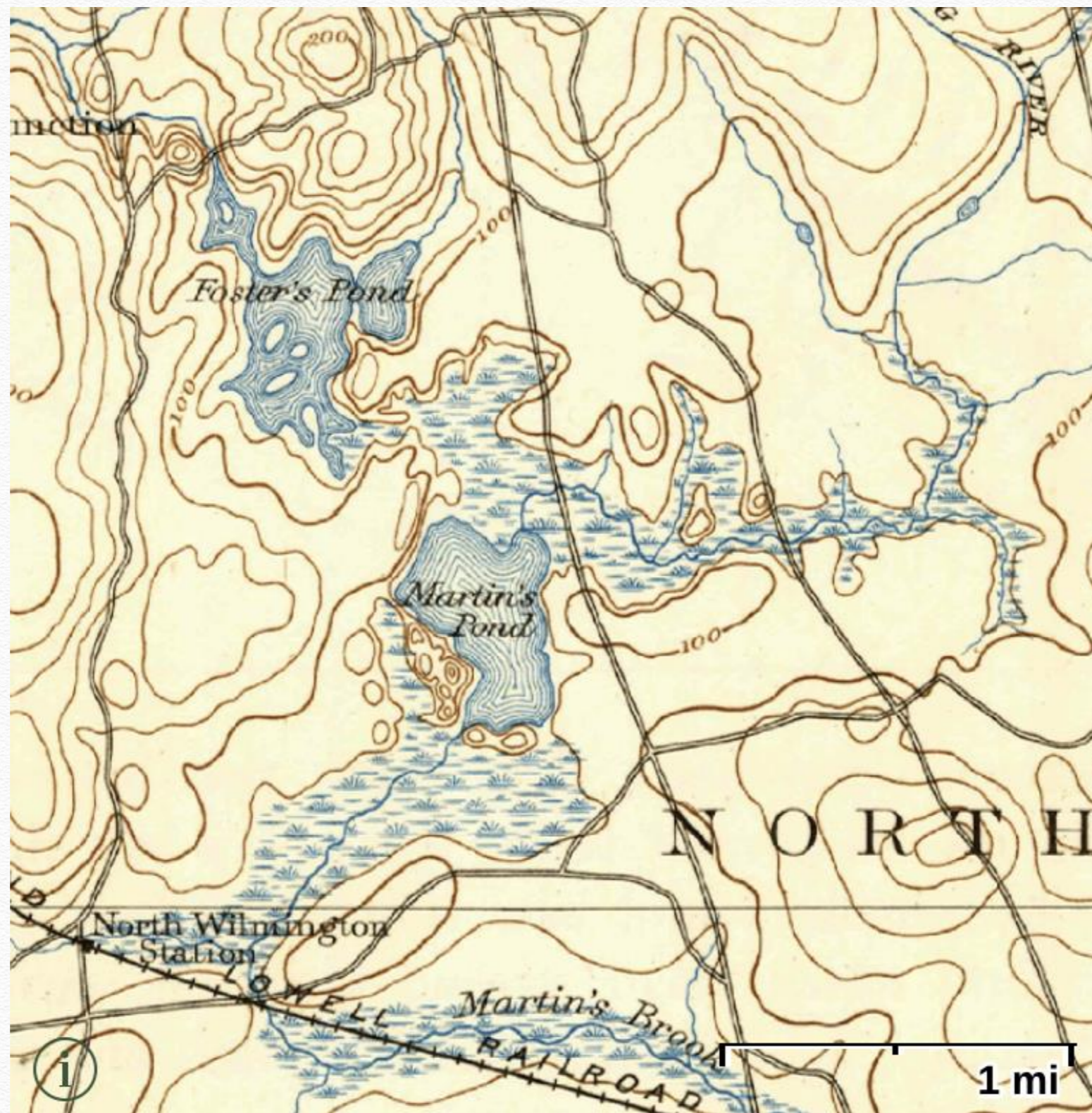
Peatlands

- ❖ **Bog:** Associated with low temperatures and short growing seasons where ample precipitation and high humidity cause excessive moisture to accumulate. Northern bogs often form in old glacial lakes. The result is a wetland ecosystem with a very specialized and unique flora and fauna that can grow in these acidic conditions called acidophiles.
- ❖ **Fen:** Peatland fed by groundwater - higher nutrient level and less acidic than bog
- ❖ **Swamp:** Any wetland dominated by woody plants - cedar swamp is a unique type of peatland plant community

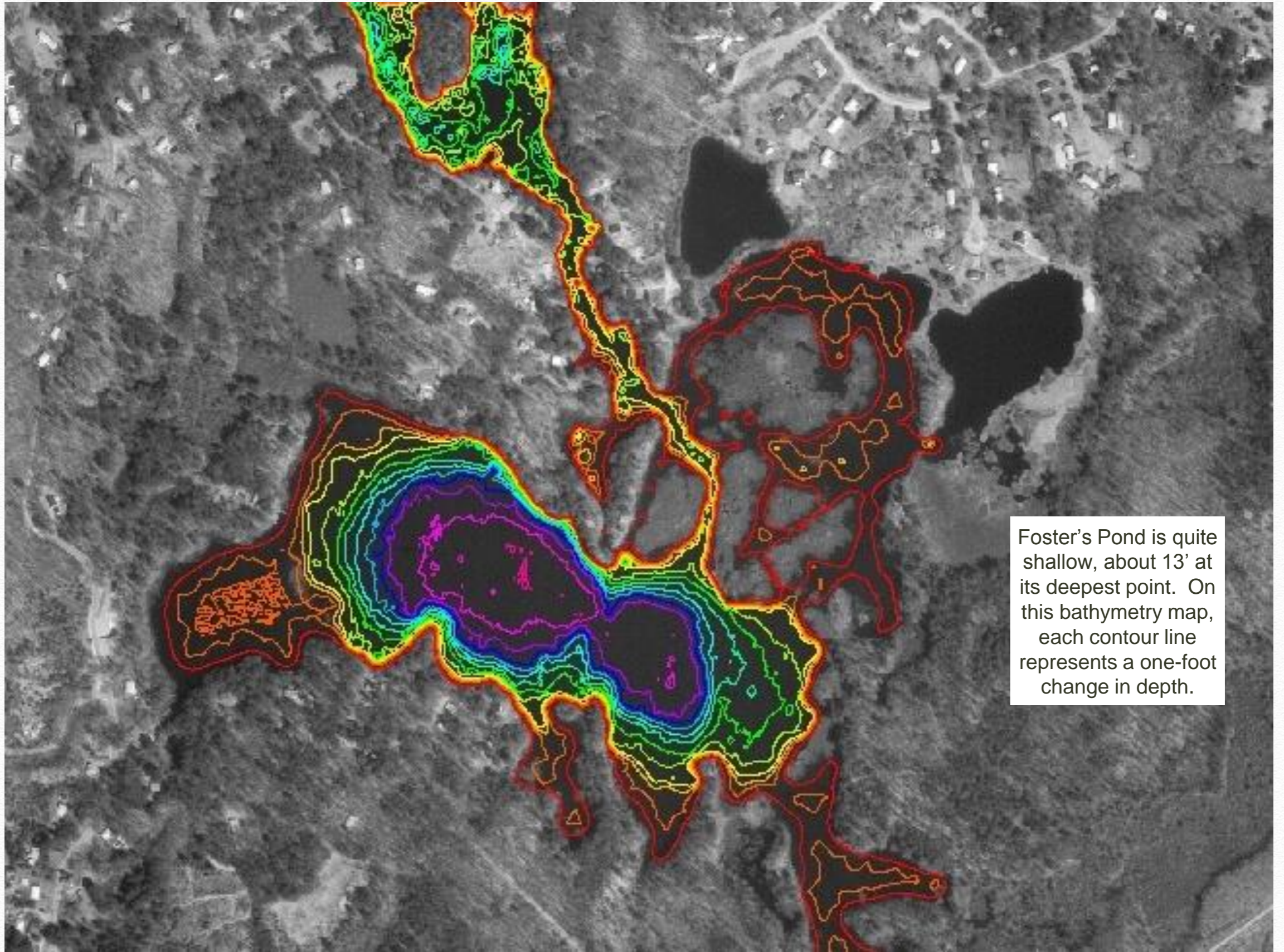




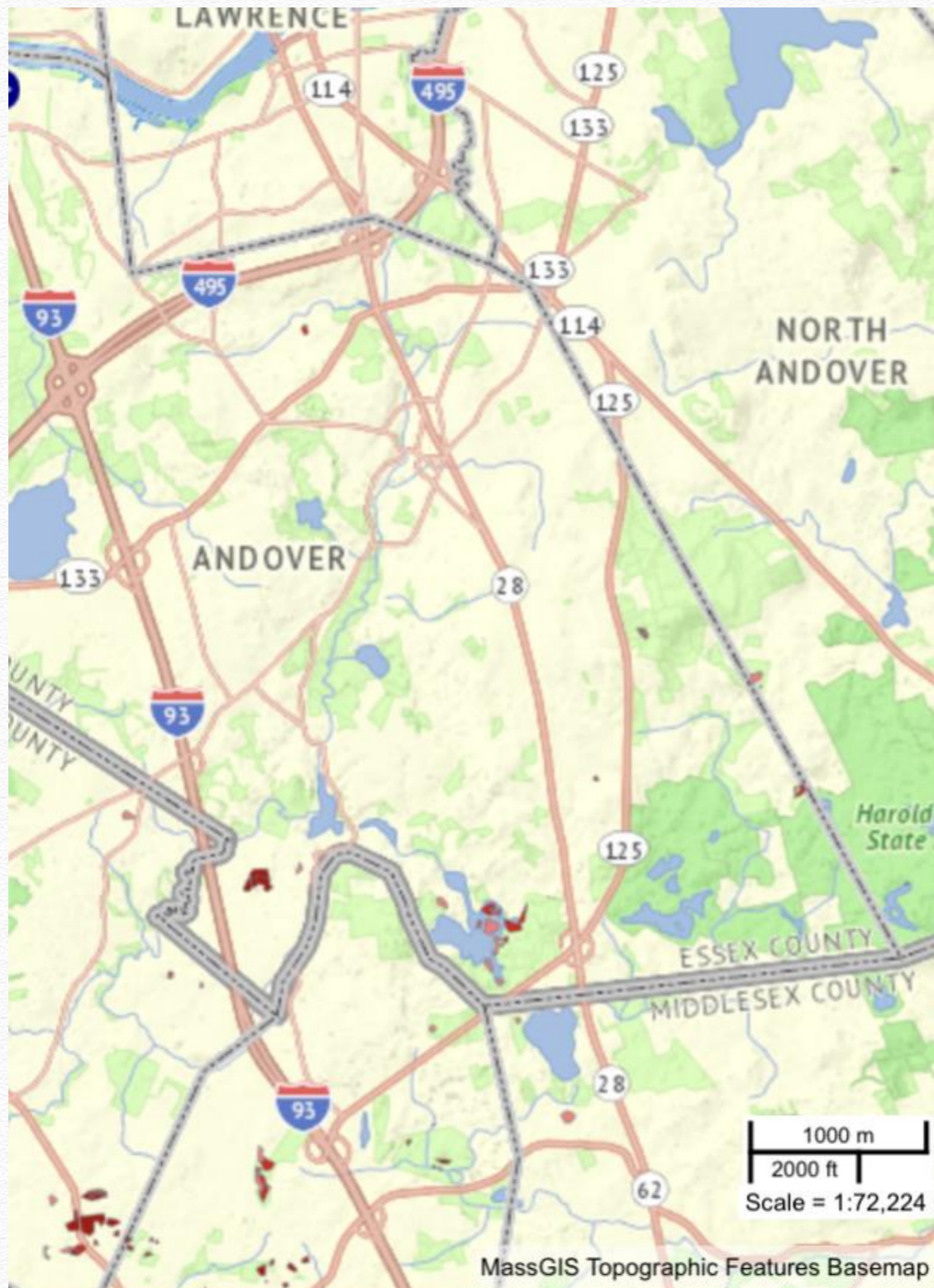
Before the Foster's Pond Dam was built in the late 1850s, the Pond covered only 50 acres - less than half its present size. The shape of the natural pond, taken from an 1832 survey, is here superimposed on today's 120-acre water body. The dam is located at what today is the tip of the bill of the "flying duck."



1886: More than thirty years after the Foster's Pond Dam was built, wetlands adjacent to the original pond had mostly been covered by water, but the Pond had not fully expanded to its current shape.



Foster's Pond is quite shallow, about 13' at its deepest point. On this bathymetry map, each contour line represents a one-foot change in depth.

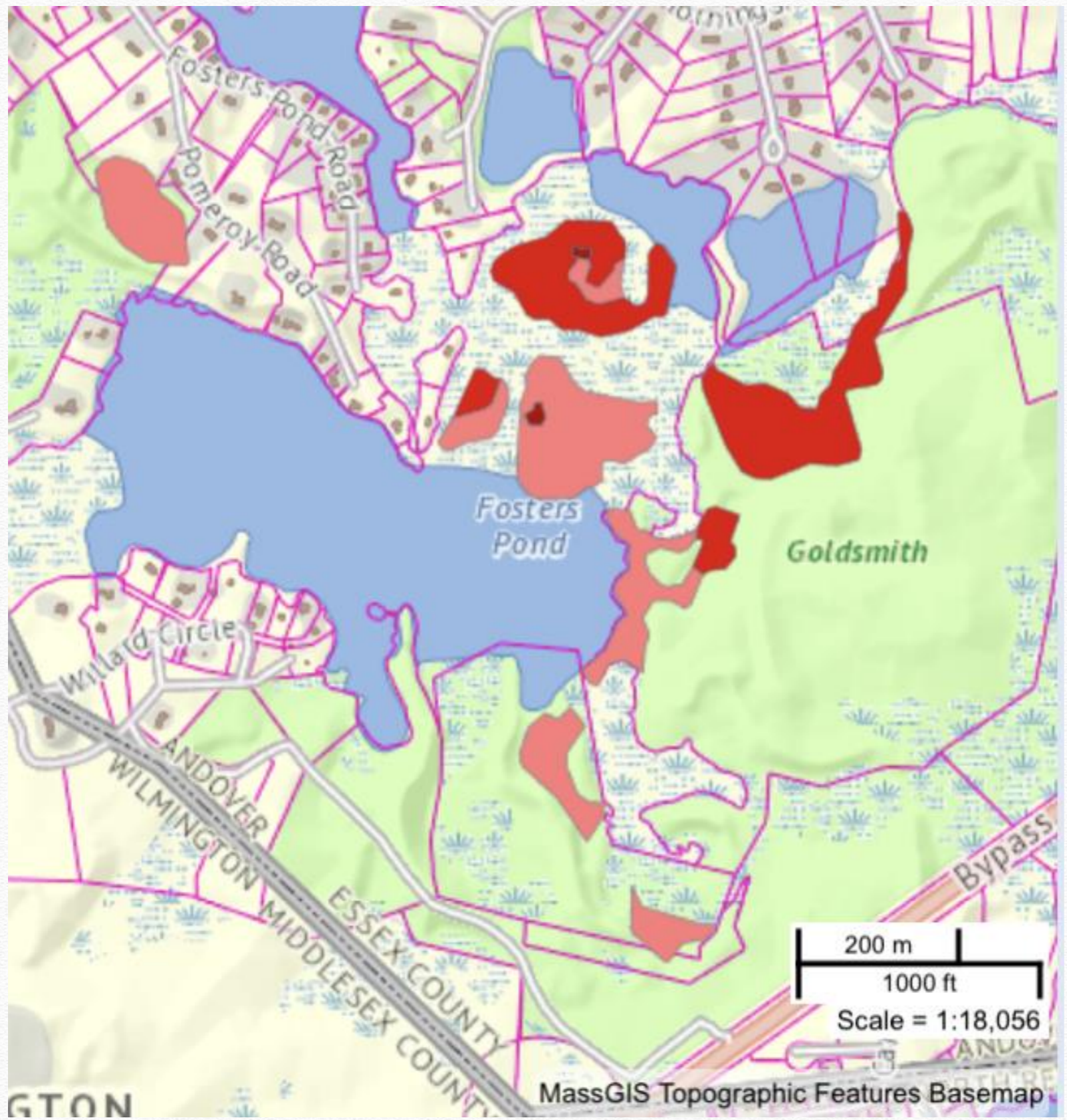


Legend

Acidic Peatland Community Systems

- ATLANTIC WHITE CEDAR
- BOG
- FEN

Foster's Pond has a rare combination of Atlantic white cedar, bog and fen communities

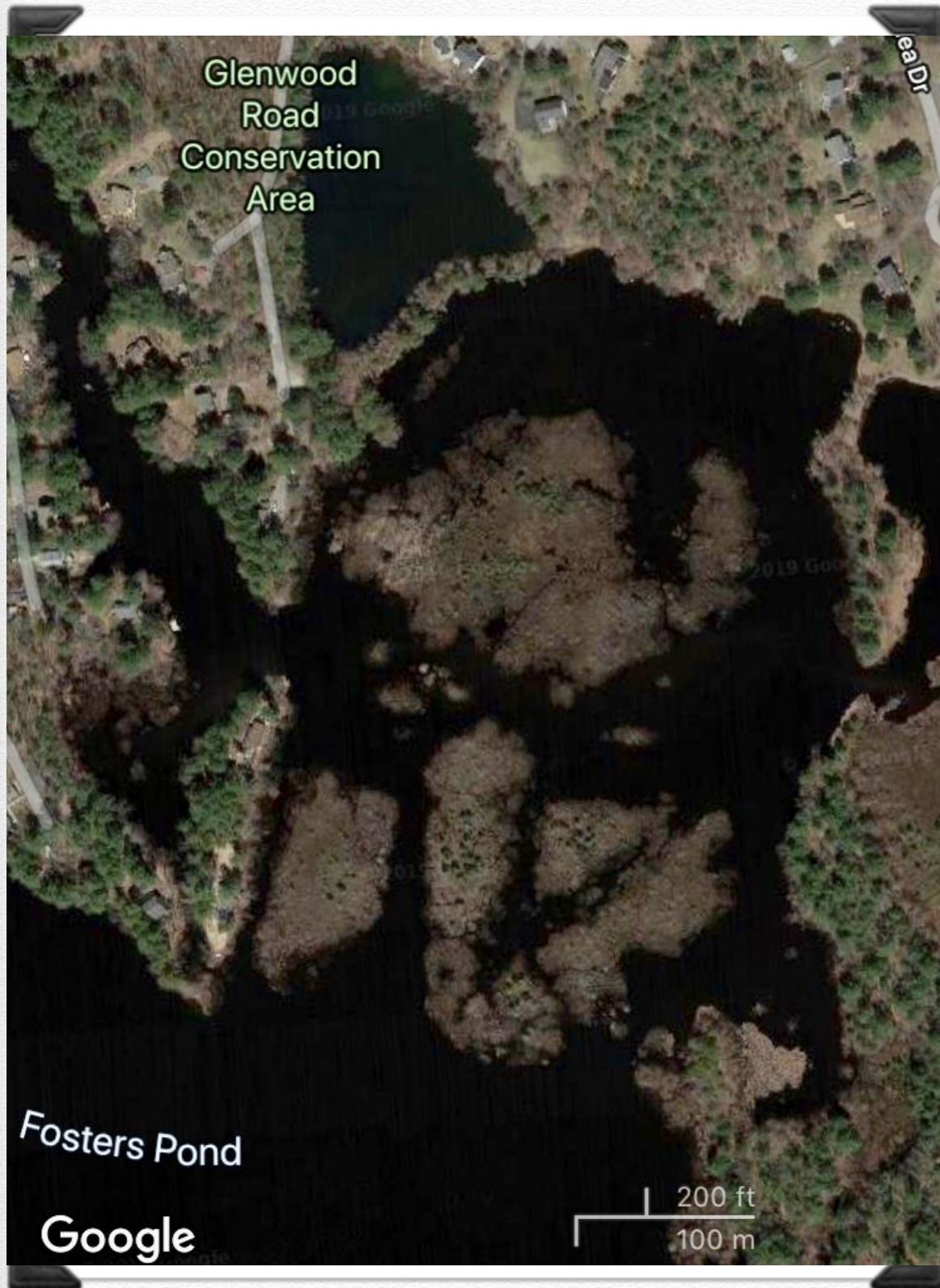


Legend

Acidic Peatland Community Systems


- ATLANTIC WHITE CEDAR
- BOG
- FEN

This close-up shows the locations of these complex peatland systems. The Atlantic white cedar communities are particularly fascinating. They date back 10,000 years to the melting of the glaciers. But once they are destroyed they never come back.



The Atlantic white cedar community is on the peatland island in the middle of the picture on the left. Because the area is so wet, it can only be visited in winter. I took the photo on the right. The Atlantic white cedars are in the foreground

Atlantic white-cedar *Cupressaceae Chamaecyparis thyoides*

(L.) Britton, Sterns & Poggenb.  symbol: CHTH2

vTree

Leaf: Evergreen and scaly, 1/16 to 1/8 inch long, blue-green with white margins. Glandular on the back. Lateral pairs have pointed, spreading tips. Facial pairs are closely pressed. Very aromatic when crushed.

Flower: Species is monoecious; male flowers are red to yellow and very small; female flowers are small and green; appearing in spring.

Fruit: Cones are 1/4 inch in diameter, blue or purple and glaucous, usually with 4 or 5 scales, maturing in fall.

Twig: Covered in tight green scales, turning brown.

Bark: Thin and fibrous, somewhat peeling, ashy gray to red-brown.

Form: When young, grows as a slender column, eventually spire-like. Branchlets are slender and irregularly arranged (not as flattened sprays).

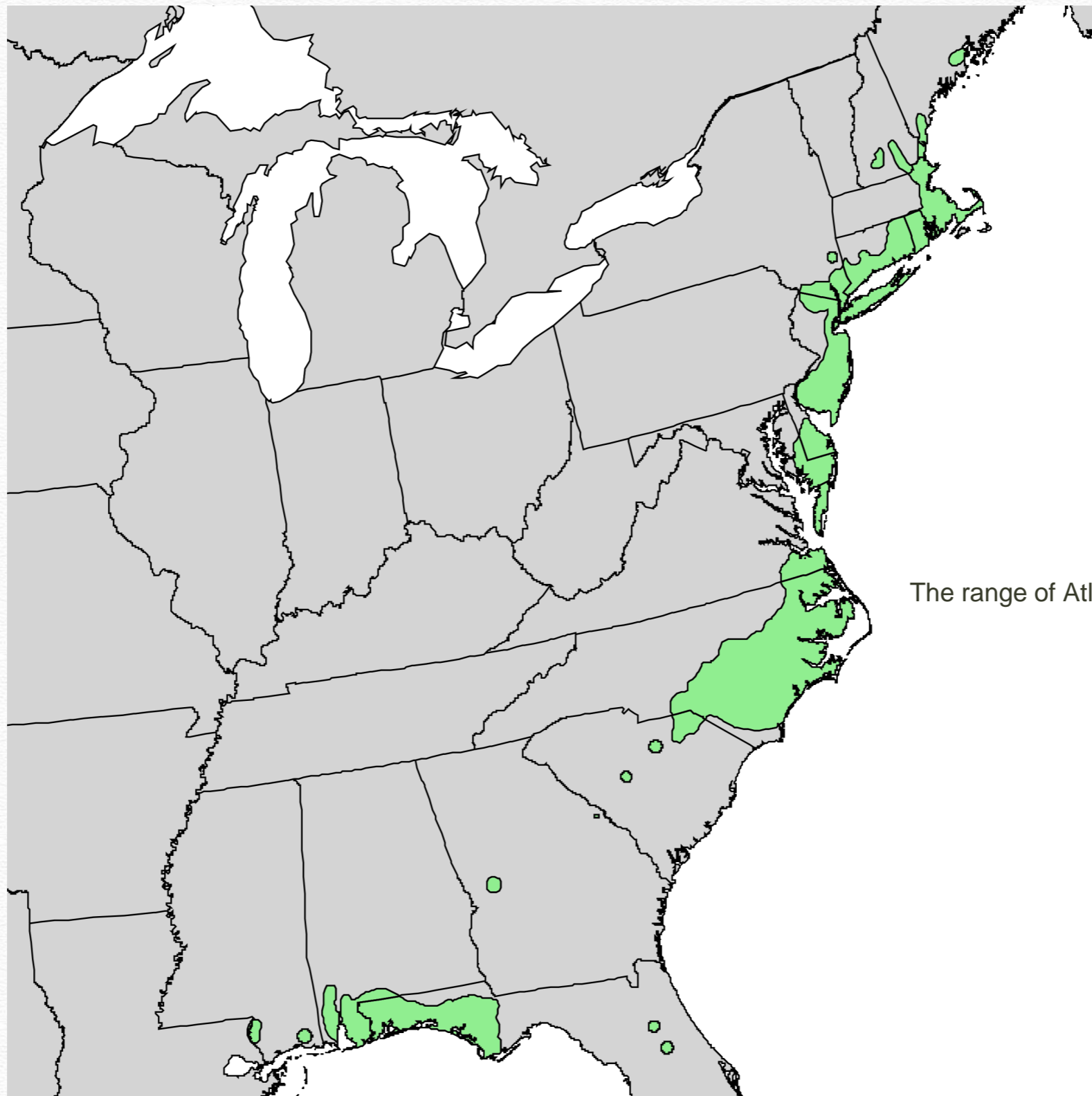
Looks like: [Sawara-cedar](#) - [Hinoki falsecypress](#) - [northern white-cedar](#) - [Leyland cypress](#)



Additional Range Information:
Chamaecyparis thyoides is native to North America. Range may be expanded by planting. [See states reporting Atlantic white-cedar.](#)

External Links:
[USDAFS Silvics of North America](#)
[USDAFS Additional Silvics](#)
[USDA Plants Database](#)

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Photos and Text by: John Seiler, Edward Jensen, Alex Niemiera, and John Peterson.



The range of Atlantic white cedar



An Atlantic white cedar
I planted at the AVIS
Burns Reservation on
Clark Road.

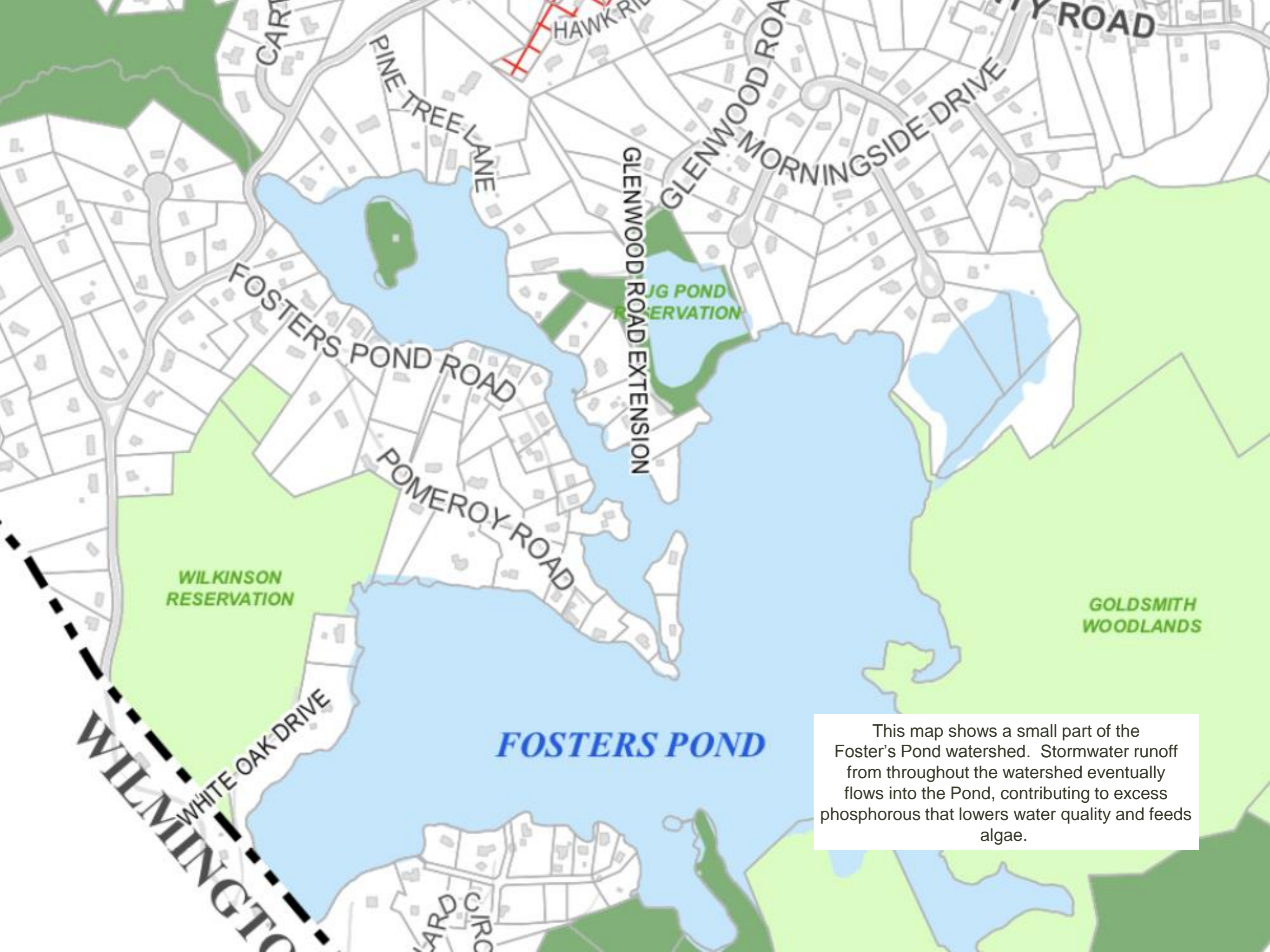


Atlantic white cedars in Foster's Pond



Black spruce (*Picea mariana*) growing in a bog in the Goldsmith Woodlands.

What Can We Do To Help the Pond?



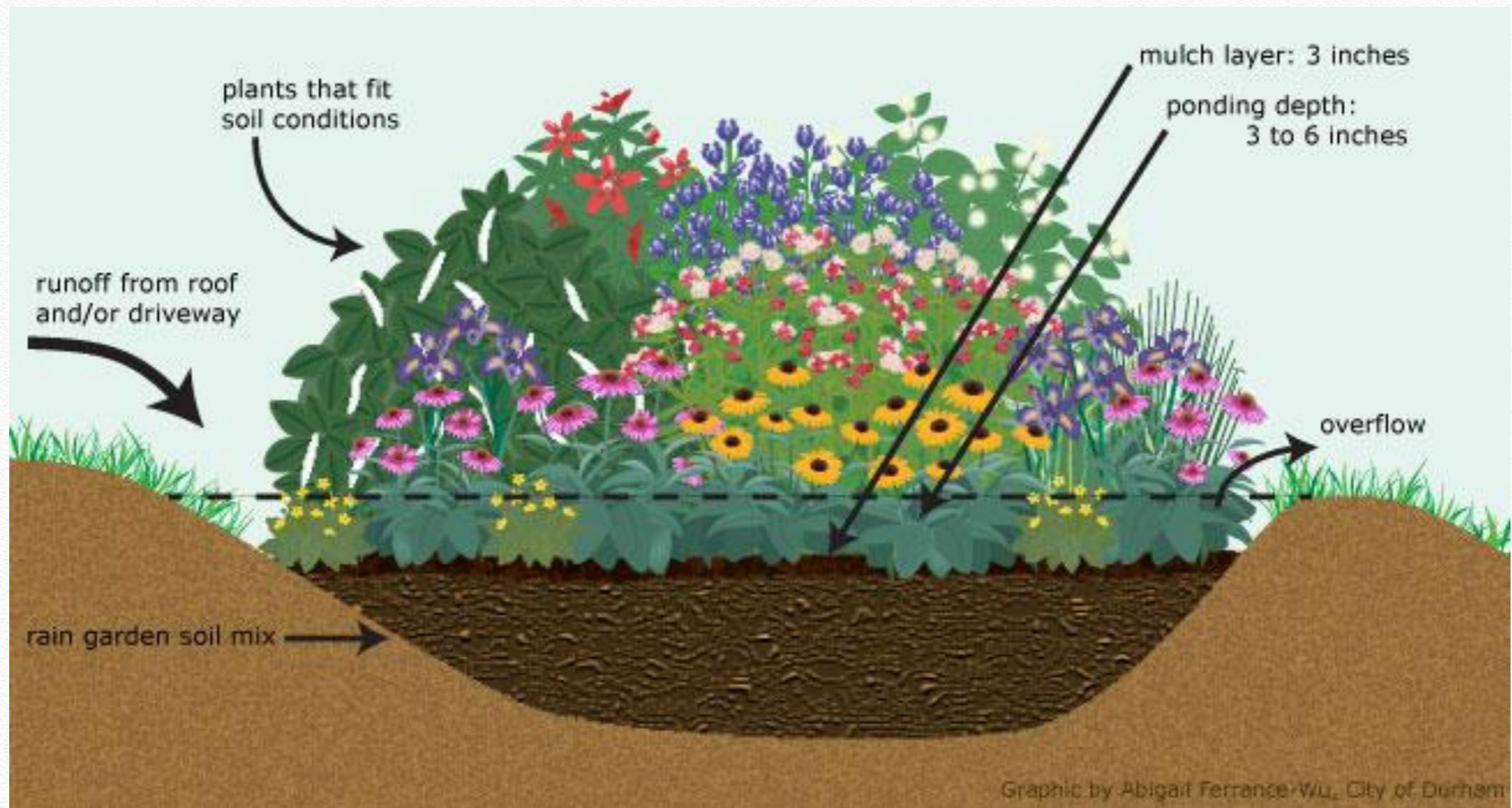
This map shows a small part of the Foster's Pond watershed. Stormwater runoff from throughout the watershed eventually flows into the Pond, contributing to excess phosphorous that lowers water quality and feeds algae.

Rain Gardens

Infiltrate runoff simulating nature:

- * Slow It
- * Spread It
- * Sink It







A rain garden at my house on Clark Road absorbs water from a downspout.



A second rain garden at my house, also preventing runoff from a downspout. Both are planted only with native plants.

Rain Garden Planning

Garden in the Woods in Framingham has the best retail nursery for native plants besides Bigelow's, which is a little further away. And check out the website of the organization that runs the Garden in the Woods - Native Plant Trust (formerly known as New England Wild Flower Society) <http://www.nativeplanttrust.org/>. That's a fantastic resource to start with.

Bigelow's in Northborough is definitely my number one choice, especially for any larger size plant material and for smaller plants in much larger quantities than Garden in the Woods can provide.

And I like UNH's rain garden site: <https://www4.des.state.nh.us/SoakNH/resources-2/rain-garden-planning/> Here's their opening page:

Resources for Planning a Rain Garden

[Rain Garden Do-It-Yourself Fact Sheet](#): Includes a list of recommended materials and equipment, step-by-step instructions, and helpful hints for installing a rain garden.

[Native Plants for New England Rain Gardens](#): This list, developed by NHDES and UNH Cooperative Extension, contains New England native perennials, shrubs, grasses, ferns, rushes, and sedges appropriate for rain gardens and other vegetated stormwater practices.

[Interactive Rain Garden Sizing Calculator](#): Enter information such as for the surface area to be treated, soil type, and slope to see how they affect the size and cost of a rain garden installation.





