



Whitney Pond: Groton, MA 2009

Whitney Pond is a 34 acre, 20 – 25ft. deep, great pond located between Rt. 40 and Lost Lake Drive in Groton, MA, 01450. It is in the Merrimack watershed, sub-watersheds are Baddacook Brook and Cow Pond Brook. It is fed by a stream, Cow Pond Brook, from Lost Lake via the “Pork Barrel” and by Baddacook Brook. There is one out-flow via Cow Pond Brook through a culvert under Rt. 40. As Groton is also in the Nashua watershed, problems are created with water recharging and removal via sewers. Some of Groton, including Whitney Pond, is in the Petapawag ACEC.

The pond was created by deglaciation and the glacial sedimentation is glacialfluvial ice-contact. These deposits are mostly grained kames, kame terrace, kame plains and eskers. When the wells were dug for the Groton Water Department, both 250ft from the pond edge through a large esker, the soils consisted of brown, medium-coarse sand, fine-medium rounded gravel, and fine gravel, and refusal. Well #1 is 46ft. deep and well#2 is 35 ft. deep.

There are 14 property holders around the pond and about 50% of the area around the pond is well protected from development due to ownership by the Groton Water Department and the Groton Conservation Trust. The only management group is the Groton Great Ponds Advisory Committee which is responsible to the Groton selectman in an advisory capacity only.

The Groton Lakes Association does own a weed harvester that could be used in Whitney Pond for weed control if an easy access could be found. There is no public access except trespass through the 14 different properties, although the Groton Conservation Trust has a quasi access that does allow fisherman to walk across their properties on Rt. 40 or use a very steep access for small boats or canoe type craft at that spot. It would be prudent to seek a conservation restriction on this parcel to help protect the pond as much as possible. Also, docks should be limited to those existing and not allow new additions to help curb erosion from motorized vehicles and to restrict, as much as possible, the use of motorized vehicles winter and summer. The Groton Water Department land is posted and although visitors are discouraged, there has been tree jumping/ swimming activity on top of the high banks of this property.

Whitney Pond is part of the Petapawag ACEC, is part of Groton's Water Resource Protection District, under the Zoning Bylaw sec. 218-30 water resource protection overlay district is considered zone one and two and has 2 working wells for the Groton Water Department. It is also a zone one District in the Mass State regs 310 CMR 22.0. These are shallow wells and subject to potential contamination if the pond is overused or abused. There is also concern, due to the link to Lost Lake, if that pond had a catastrophic issue.

There are 8 properties that have house-type structures or docks. The other properties are either open space or wetlands that won't support development.

There seems to be some erosion on the water department site and should be supported with increased vegetation on the banks. Boat usage is more non-motorized than motor, but there is some water skiing activity in the summer that can contribute to erosion, and snow mobiling in the winter that could cause contamination. This is also the case with much ice fishing in the winter, and there are

anecdotal reports of major littering on the ice. Due to the weed infestation, there is certainly danger for anyone in the water.

Since this is a relatively pristine pond, further intensified use should be discouraged. Home owners should be discouraged from using garden chemicals and encouraged to update their septic systems and certainly no public boat access allowed. This is a major water source for the residents of Groton and protection of this resource is of paramount importance. The zoning regulations in town should protect any of the existing homes from major expansion and any of these properties with docks should have been registered with the state by this time. There was a web search done by Cindy Sweezy at Natural Heritage looking for rare/endangered species and none were documented.

There is an extensive invasion of milfoil and an algae bloom near the entrance of Cow Pond Brook. Because of the existence of water willow some believe cobamba and other invasives have been deterred at this time. It would be prudent for the Groton Conservation Trust to have signage on their Rt. 40 signs for boat owners to please clean before entering the pond. The power boats used are hopefully restricted to the 8 residential properties since there is no public access.


There is a lot of beaver activity at Badacock Brook and the outflow of Cow Pond Brook at Rt. 40. The highway dept. is unable to place control devices at the culvert due to shallow conditions and they must daily clean and remove brush. Since there is town water around the entire pond there are many fire hydrants.

Action plans in the future, to care for Whitney Pond, need to be integrated in a global overview of the town's Great Ponds and individually as a water source for the town. On September 3, 2008, the enclosed letter was sent to Whitney Pond abutters with no response. This report was made possible by Cindy Sweezy and Susan Horowitz. Since none of the land holders seem to want to be involved in this report's exercise it would make sense for the Groton Water Dept. to take the lead for protecting this valuable resource. This also provides an authoritarian body for the town of Groton that can enforce many protective measures.

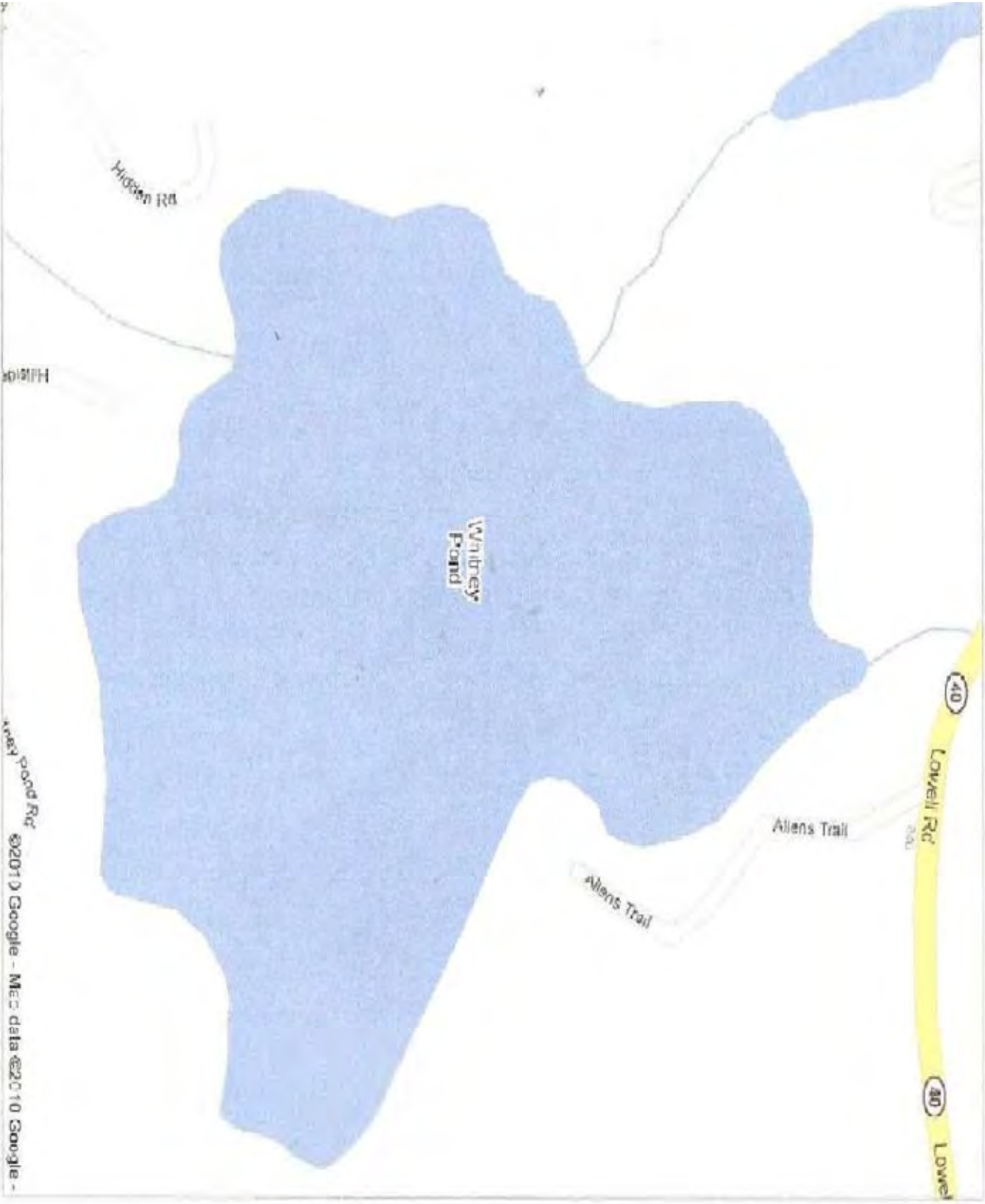
Whoever takes charge should regularly update the activity chart watching for any change in pond use and abutters should be contacted for input on pond changes. It would also be an interesting exercise to quantify use. There should be more attempts to get abutters to form a management group since the weed/invasive issue is monumental and control is essential. Very long term there should be an overview of the entire watershed to try to limit deterioration of the pond by abutter land use ie fertilizer, run off.



Activity	level	trend	comments
boating (power)	low	flat	hopefully limited since there is no public access for large boats
boating (row)	med	inc	
boating (kayaking)	med	inc	
boating (canoe)	med	inc	
boating (sail)	low	flat	
waterskiing, et. Al	low	flat	
swimming	med	flat	dangerous due to weed infestation
Fishing			
(boat/recreational)	high	inc	
(boat/tournament)	none		doubtful due to lack of access and size
(shore)	low	flat-inc	difficult due to topography and wetlands
(ice)	high	inc	? Fines for littering
Diving/snorkling	low	flat	dangerous due to no clarity due to dep and friable sedimentation
snowmobiling	low-med	flat	limited due to no public access and topography
4-wheeling on ice	low-med	flat	limited due to no public access and
ice-skating	med	flat	the outflow is usually not frozen near rt. 40
Level: 0=None/Negligible; low, med, high			
trend: increasing, decreasing, "-" = flat			
Activity Inventory (anecdotal observation)			
Whitney Pond			



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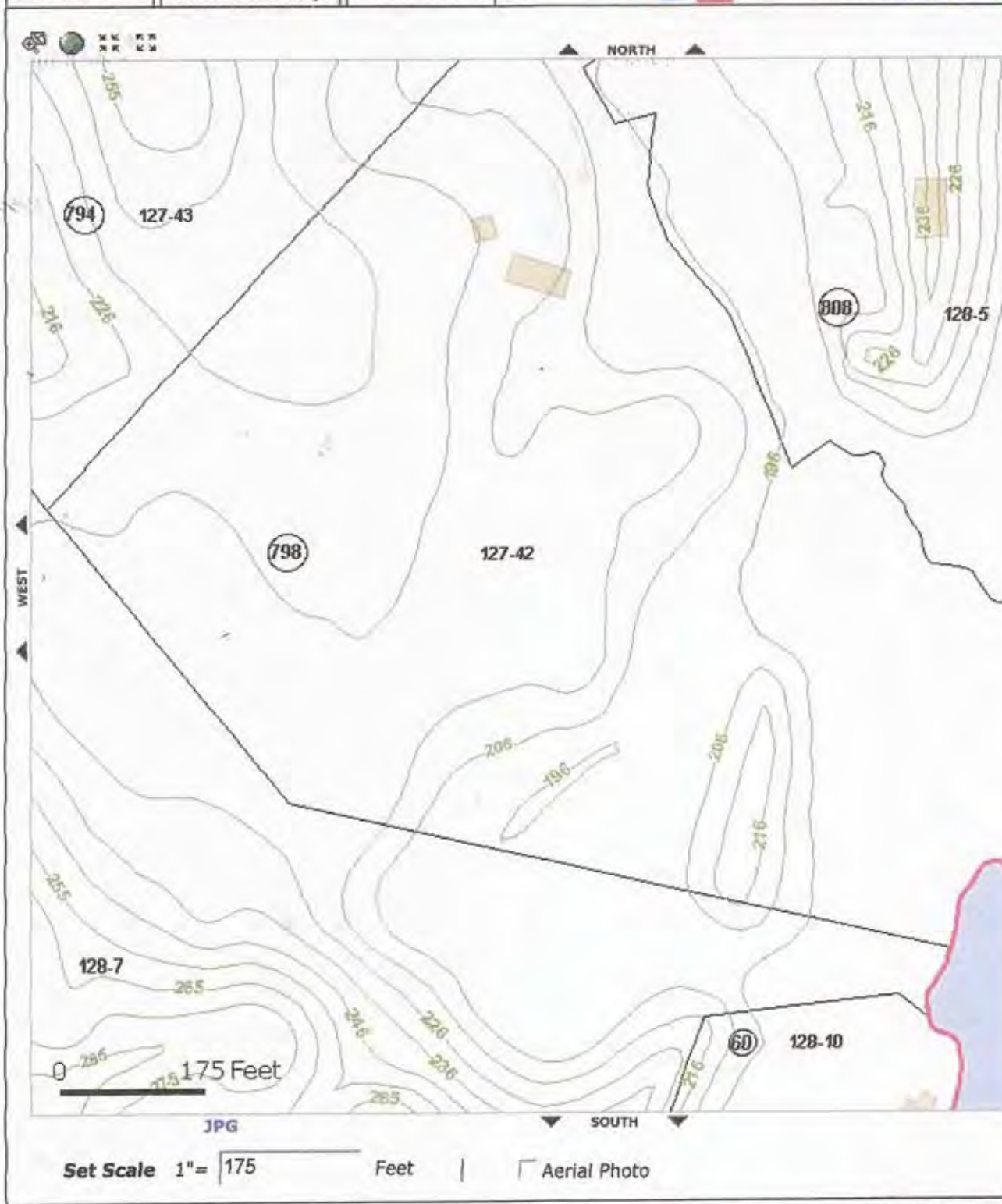
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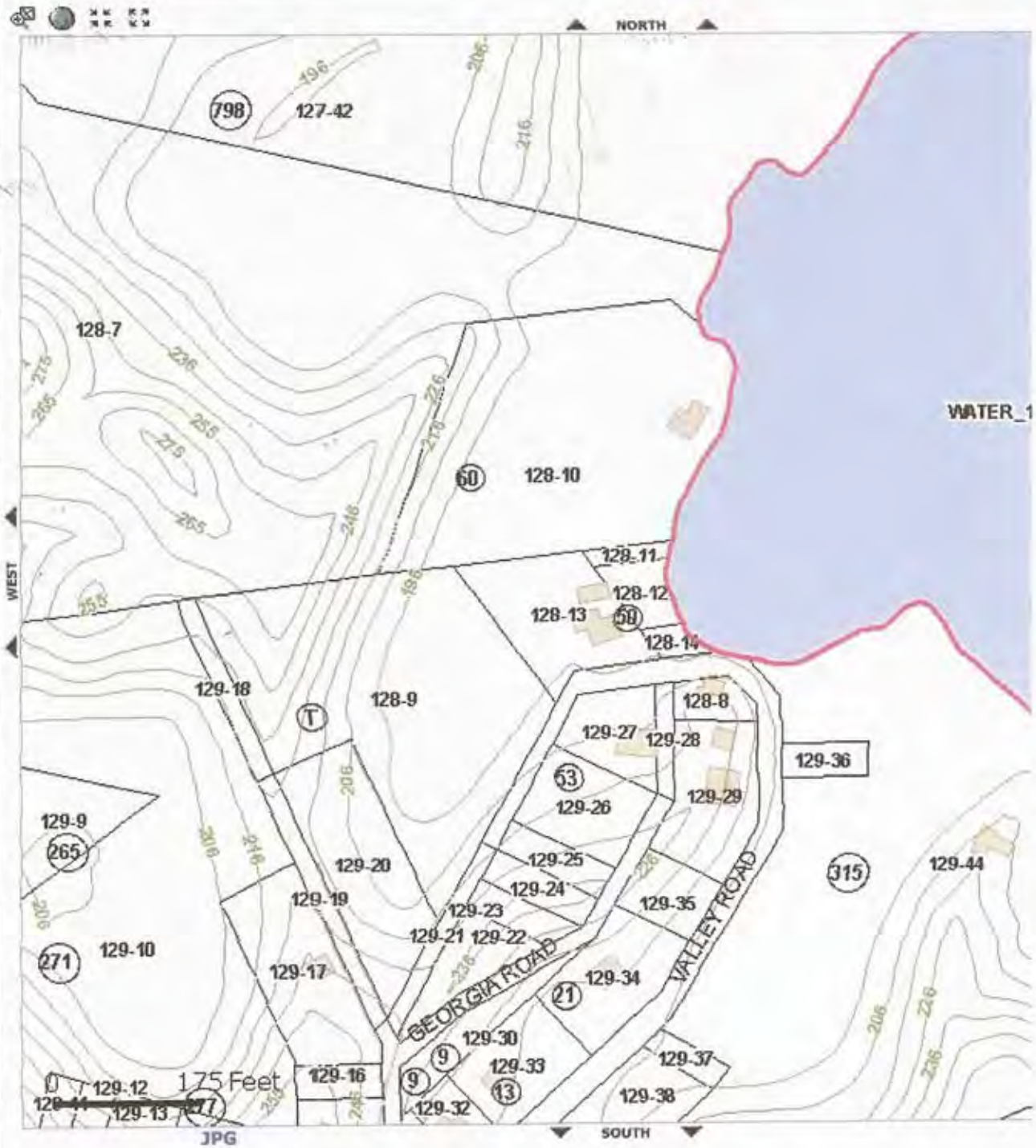
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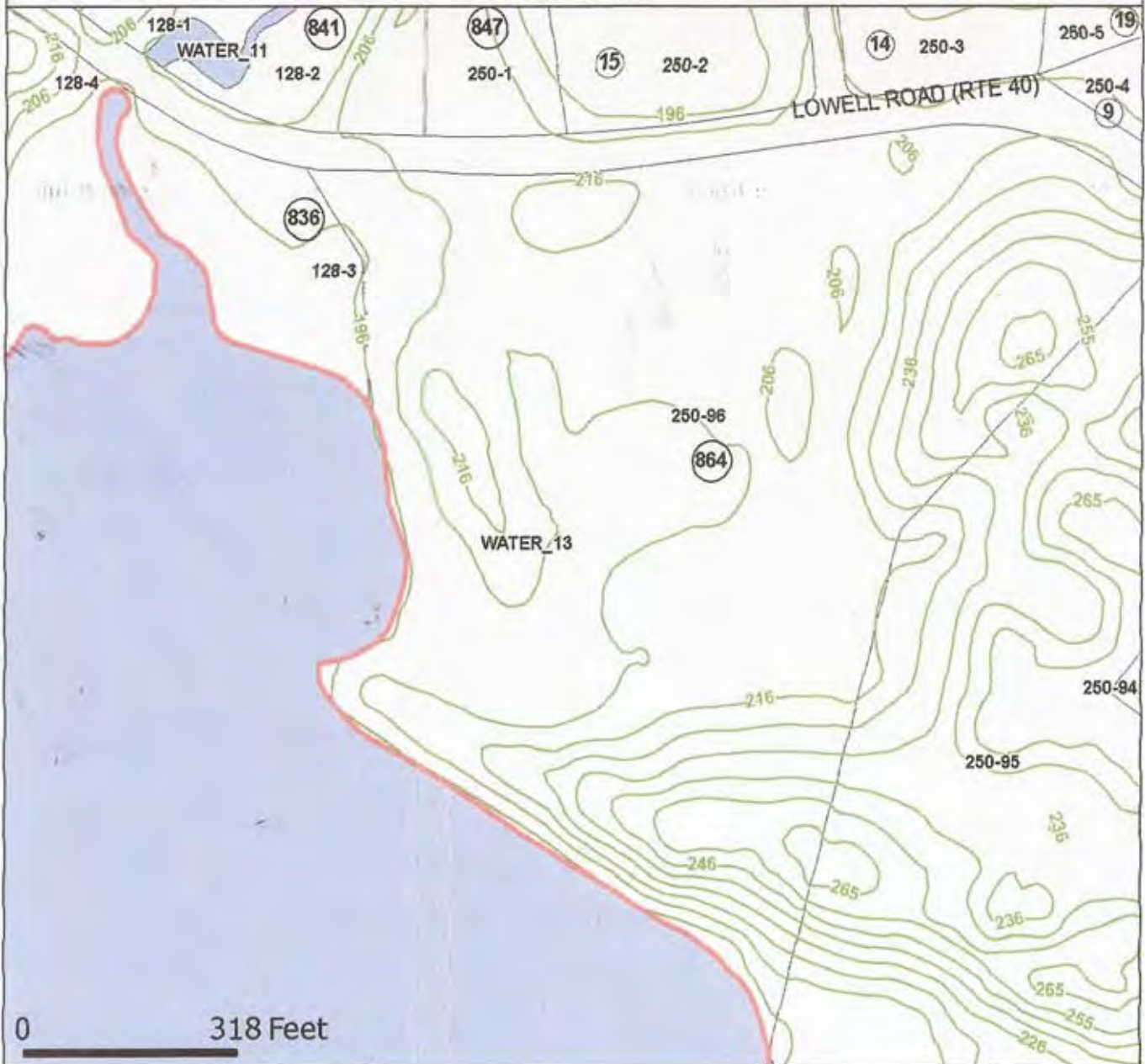
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Groton GIS



Property Information



**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

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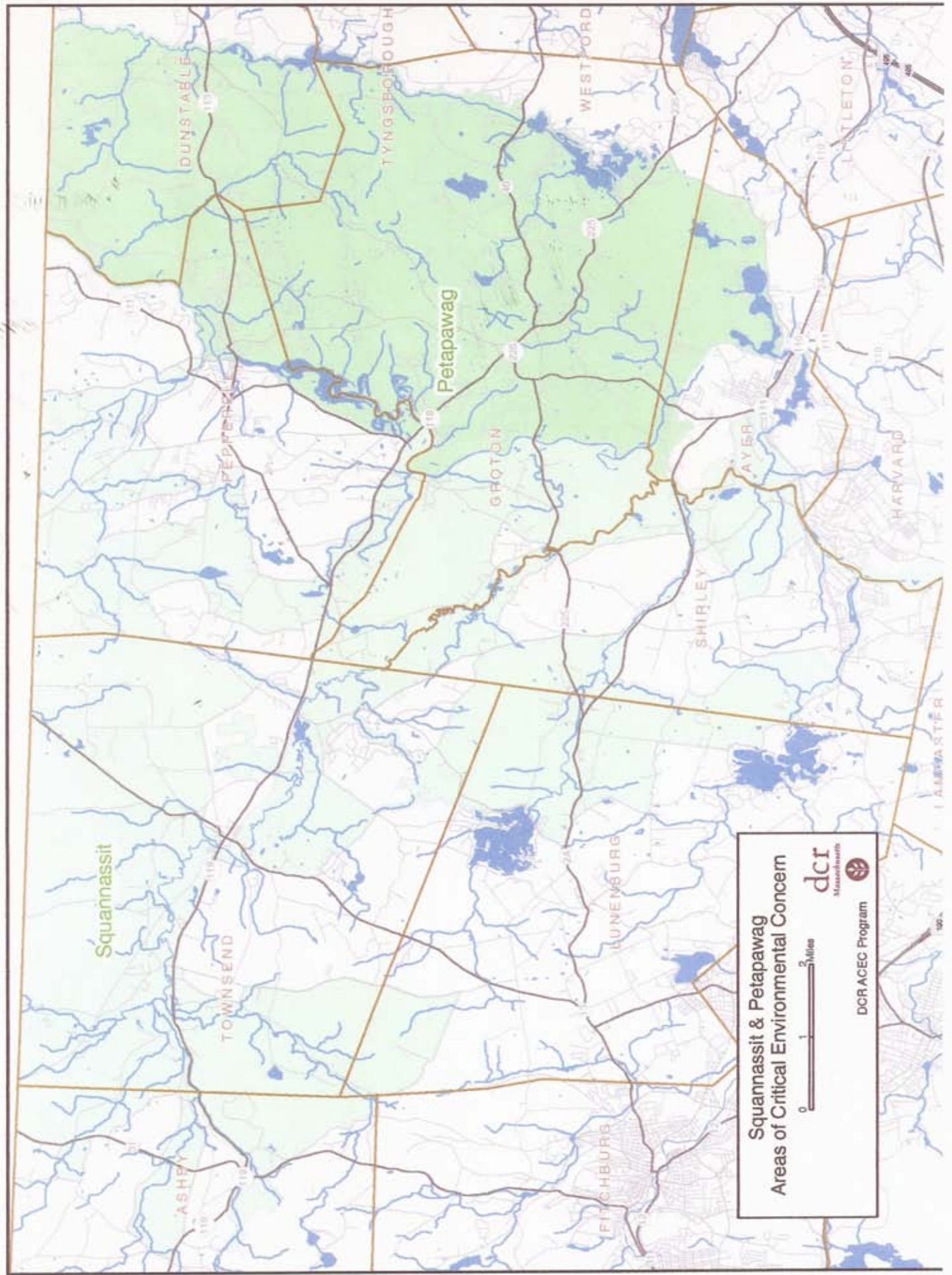
Google

Eye alt 2878 ft

Image MassGIS, Commonwealth of Massachusetts EOE

Apr 10, 2008

42° 36.330' N 71° 30.783' W



Squannassit & Petapawag
Areas of Critical Environmental Concern

0 1 2 Miles

dcr
Massachusetts

DCR ACEC Program

Inventory of Physical Conditions

Please refer to map 2 Google Earth and Groton Assessors maps for visual inventory of physical conditions. Badacock Brook flows in from the northwest surrounded by large marsh lands that include red maple, alders rushes, cattails, and many tussock sedges. Many flowering shrubs and plants provide nectar in the spring and berries in the fall. This food supply supports a wide range of insects, birds, and small mammals. The shoreline along the Groton water department makes up the steepest slope with one area having some erosion. The banks are under cut with over hanging trees providing homes for large mammals and basking logs for turtles. Mud islands provide basking turtles and ducks with a safe place to sit near the water with few interruptions.

Small marshy islands are located near the southwest side. On the southern side of the lake, six homes are complete with lawns, driveways, septic systems, and water structures along the lake shore. Route 40 is located on the north side of the lake. This marshy area is the only outlet: a box culvert half covered with beaver wood. This is the only public access area for car top boats and ice fishermen. The steep, eroding slope provides a difficult and dangerous access point. Signage for invasive species should be located in this area.

While National Heritage reports several rare and possibly endangered species in the town of Groton, none are known to be at Whitney Pond. Although, with the numerous sightings of blue spotted salamanders and blanding's turtles throughout Groton, these populations are a real possibility.



Weed Infestation



Algal Bloom

Whitney Pond: 2009



Erosion at Water Department

Submerged/Emergent Plant Inventory

Whitney Pond has a very diverse plant inventory. Whitney Pond has Variable Milfoil an exotic invasive species. This species has been seen growing in all areas of the pond.

The marsh to the northwest along Badacock Brook provides lots of food and shelter for many species. The inlet to the west overflow from Lost Lake is jammed with water willow providing a combing effect to many strands of weeds flowing over the dam. This combing effect in my opinion (member C. Swezey of the Advisory Board) prevents some species from entering the lake. Cabomba caroliniana and Myriophyllum spicatum have not been discovered in Whitney Pond yet! Variable milfoil, algae, coontail and water meal have formed an acre of algae in the fall of 08 and 09 at station four. Samples of algae have been taken but not identified. There have been no chemical or harvesting of weeds that I know of. Invasive plants have been raked at beach fronts. In the future 1-4 aquatic stations on Whitney Pond should be monitored twice a year. Please refer to the following chart of plant species located in Whitney Pond. The frequency of the plant taxa is recorded in the outside column.

SCIENTIFIC NAME	COMMON NAME	ABBREV	FREQ
<i>Acer rubrum</i>	Swamp maple	Ar	F
<i>Alnus</i> spp.	Alder	Al	I
<i>Asclepias incarnata</i>	Swamp milkweed	Ai	R
<i>Aster punctata</i>	Swamp aster	Ap	F
<i>Brassenia schreberi</i>	Water shield	Bs	F
<i>Cambomba caroliniana</i>	Fanwort	Cc	None
<i>Celphalanthus occidentalis</i>	Buttonbush	Co	I
<i>Ceratophyllum demersum</i>	Coontail	Cd	F
<i>Chamaedaphne calyculata</i>	Leatherleaf	Cc	F
<i>Cladium mariscoides</i>	Twig rush	Cm	I
<i>Clethra alnifolia</i>	Sweet pepperbush	Ca	I
<i>Cyperus</i> spp.		C	I
<i>Decodon verticillatus</i>	Waterwillow	Dv	F
<i>Eleocharis acicularis</i>	Needle spike rush	Ea	F
<i>Eleocharis robbinsii</i>	Robbins spike rush	Er	F
<i>Hypericum boreale</i>	St. John's wort	Hb	I
<i>Ilex verticillata</i>	Winterberry	Iv	I
<i>Impatiens capensis</i>	Jewelweed	Ic	F
<i>Iris pseudacorus</i>	Yellow Iris	Ip	I
<i>Isoetes</i> spp.	Quillwort	I	R
<i>Lemna minor</i>	Duckweed	Lm	F
<i>Ludwigia palustris</i>	Water Perslane	Lp	I
<i>Lythrum salicaria</i>	Purple Loosestrife	Ls	F
<i>Myrica gale</i>	Sweetgale	Mg	F
<i>Myriophyllum heterophyllum</i>	Variable Milfoil	Mh	F
<i>Myrtophyllum spicatum</i>	Eurasian water Milfoil	Ms	None
<i>Nuphar variegata</i>	Bull lily	Nv	F
<i>Nymphaea odorata</i>	White lily	No	F
<i>Nymphaea odorata</i> var. <i>odorata</i>	Bigger white lily	Noo	F
<i>Osmunda regalis</i>	Royal fern	Or	R

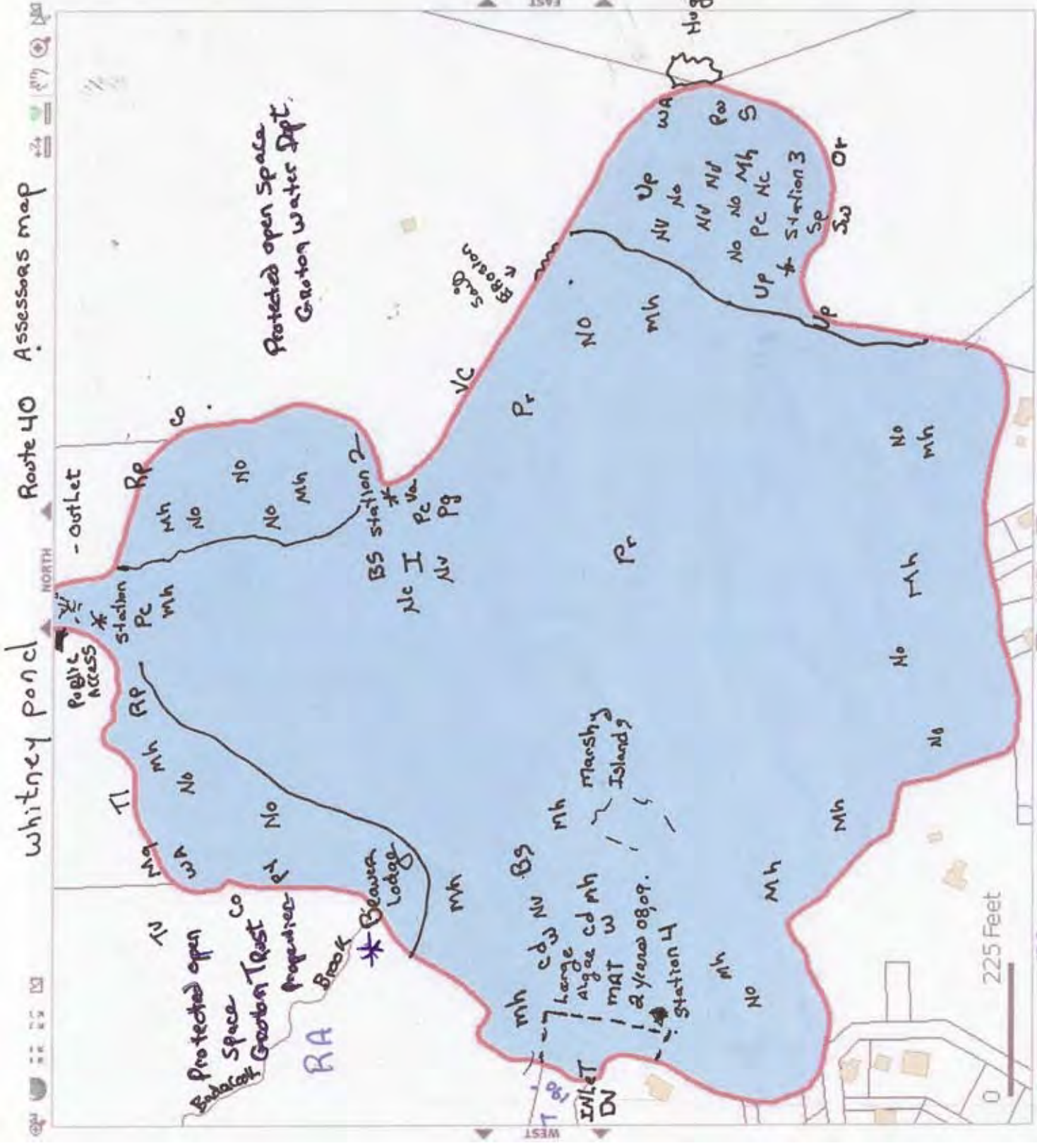
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Algae						
Phylum Cyanophyton			Blue green algae			AB
Anabaenos			Filamentoos Blue green algae			AB
Structured forms of Algae						
Chara spp.			muskgrass			CM
Nitella			stonewart			N

Whitney pond

Route 40

Assessors map



Station 1

Lots of beaver activity

Station 2

Station 3

Lots of Nymphaea odorata
myriophyllum heterophyllum

Station 4

Large algae mat
coontail
myriophyllum heterophyllum
water willow in inlet.

Rare Species and Wildlife Habitat Inventory

Land is identified as protected open space on the assessor's map of Whitney Pond. The largest amount of shoreline is owned by the Groton Water Department. The Whitney Wells are located 250 feet from the shoreline. The Groton Conservation Trust owns the only possible public access to Whitney Pond. This access is steep and eroded. On the east side of the lake, next to the huge rock, there is another piece of property owned by Groton Conservation Trust. It is highly unlikely that a structure would be built in this area.

Natural Heritage maps are located at the Groton Conservation Commission office. In November, 2009, information for the updates rare species was as follows: Groton priority habitats and estimate habitats (printed 2008) show that there are no certified vernal pools in or around the Whitney pond area. The Biomap shows that Whitney Pond is the priority habitat for rare wildlife.

Although there are no known endangered inhabitants on this pond, most likely there are Blue spotted salamanders and blanding's turtles. There is a beaver lodge in the area of Badacock Brook close to the shoreline of Whitney Pond. The Highway Department clears beaver wood each day from the sinking culvert crossing under Rt. 40. Trees and shrubs around the lake are chewed and girdled by the beavers.

Black ducks, mallards, Canadian geese, and cormorants all use the lake in the spring and the fall for migrating stops. Ospreys have lived on the pond for many years. Moose and bear have been spotted around this pond and is habitat for fishers, coyotes, and general eastern mammals.

Summer and ice fishing is still a popular sport on the pond, and the fish chart will give you an idea as to the fish in the pond. Birds, mammals, and insects will still need to be inventoried.

Fishes found in Baddacook Pond, Knops Pond/Lost Lake, Martin's Pond, Whitney Pond

In general, specific information on each fish for Knops Pond/Lost Lake is most complete and referenced. The presence of the Golden Shiner is more than likely through introduction as a bait fish, though, it is a species native to this region. White catfish, Largemouth Bass, and Bluegills are both introductions to the Northeast from elsewhere in the United States.

Trout (**) are periodically stocked into Knops/Lost Lake and Baddacook

LARGEMOUTH BASS	<i>Micropterus salmoides</i> (Lacepede, 1802)
BLUEGILL	<i>Lepomis macrochirus</i> Rafinesque, 1819
PUMPKINSEED	<i>Lepomis gibbosus</i> (Linnaeus, 1758)
YELLOW PERCH	<i>Perca flavescens</i> (Mitchill, 1814)
SWAMP DARTER	<i>Etheostoma fusiforme</i> (Girard, 1854)
WHITE CATFISH	<i>Ameiurus catus</i> (Linnaeus, 1758)
BROWN BULLHEAD	<i>Ameiurus nebulosus</i> (Lesueur, 1819)
GOLDEN SHINER	<i>Notemigonus crysoleucas</i> (Mitchill, 1814)
CHAIN PICKEREL	<i>Esox niger</i> Lesueur, 1818
AMERICAN EEL	<i>Anguilla rostrata</i> (Lesueur, 1817)
RAINBOW TROUT	<i>Oncorhynchus mykiss</i> (Walbaum, 1792)**
BROWN TROUT	<i>Salmo trutta</i> Linnaeus, 1758**

Pumpkinseed (*Lepomis gibbosus*)

- **Description:** Resembles the bluegill but has a bright orange spot at the tip of the ear flap and lack of dark spot on the soft portion of the dorsal fin.
- **Color:** Breeding males are especially colorful with iridescent blue radiating lines on their cheeks and gill covers.
- **Habitat:** Quiet, warm, weedy waters.
- **Food:** Aquatic insects, snails, small fish, and fish eggs.

Eastern Chain Pickerel (*Esox niger*)

- **Description:** Slender, long. Large mouth with teeth. Dorsal and anal fins placed far back near the tail. Pattern of dark, chain-like markings on the side distinguishes it from other members of the pike family.

Yellow Perch (*Perca flavescens*)

- **Description:** Golden-yellow with 6-8 broad dark vertical bands.
- **Habitat:** Schools found in quiet, warm, weedy waters.
- **Food:** Small aquatic insects, crustaceans, and small fishes.

Bluegill (*Lepomis macrochirus*)

- Also known as "kibbie" this fish is not native to NH.
- **Description:** Conspicuous dark blotches at the back of the large, square-shaped, blue-black flap behind the eye.
- **Habitat:** Quiet, warm, weedy waters.

Amphibians of Massachusetts

(From Mass Atlas of Amphibians and Reptiles, Mass Audubon, in press)

SC - Special Concern; T - Threatened; E - Endangered

(Regions 1 through 6 numbered consecutively west to east)

SALAMANDERS

Common Name	Relative Abundance	Best season Found	Habitat	Region(s)
Mudpuppy	Locally common	Year-round	Rivers, lakes	1, 2, 3
Spotted salamander	Widespread, fairly common	Early spring	Mixed forests, vernal pools	All regions
Jefferson salamander complex & blue-spotted complex	Locally common, SC	Early spring	Mixed forests, vernal pools	All regions
Marbled salamander	Very localized, T	Late summer, early fall	Mixed forests, vernal pools	2, 3, 4, 5
Red-spotted newt	Fairly common	Year-round	Mixed forest, permanent ponds	1, 2, 3, 4, 5 Cape & Vin.
Redback salamander	Abundant	Spring to autumn	Mixed woods	All regions
Dusky salamander	Common	Late spring to early fall	Swamps, streams	1, 2, 3, 4, 5
Two-lines salamander	Common	Late spring to early fall	Streams, brooks	All regions exc. islands
Four-toed salamander	Localized, SC	Early spring to mid-summer	Mixed woods, sphagnum swamps, sedge marshes	1, 2, 3, 5, 6
Spring salamander	Localized, SC	Late spring to late summer	Cold mountain brooks	1, 2, N part of 3

FROGS AND TOADS

Common Name	Relative Abundance	Best season Found	Habitat	Region(s)
Spadefoot toad	Very local, T	Late spring to late summer	Sand plains, farmland	2, 5, 6
American toad	Common	Spring	Mixed woods, suburbs	1-5, lower Cape, not islands
Fowler's toad	Common	Spring to early summer	Sand plains, woodlands	2, 3, 4, 5, 6
Gray treefrog	Common	Late spring	Mixed woods, small ponds, flooded meadows	All regions exc. Vineyard, Nantucket
Spring peeper	Abundant	Spring	Mixed woods, wet meadows	All regions
Bullfrog	Common	Summer	Permanent ponds, lakes, larger rivers	All regions exc. islands
Green frog	Common	Summer	Most wetlands	All regions
Wood frog	Common	Early spring	Mixed woods, vernal pools	All regions exc. islands
Leopard frog complex	Localized	Spring	Wet meadows, fields	1, 2, 3, 4, 5
Pickerel frog	Common	Spring	Wet meadows, fields	All regions

TURTLES (after Brian O. Butler, pers comm 1993, and DeGraaf & Rudis 1986)

Common name	Rel abund	Notes	Habitat	Region(s)
Eastern & midland painted turtle	Common	best found April-November	Logs, stumps in any fresh water	All regions
Common snapping turtle	Common	bottom dweller	Cattail marshes, ponds	All regions
Stinkpot or musk turtle	Locally common	needs permanent water bodies	Shallow rivers & streams, backwaters	Spotty dist. all regions
Eastern box turtle	Maybe	declined from habitat loss	Woods with water source	C, SE Mass
Spotted turtle	SC	needs unpolluted shallow water	Sedge marshes, buttonbush ponds, shallow slump ponds, vernal pools	All regions
Wood turtle	SC	needs open sandy nesting areas	Clean trout brooks, shallow rivers with sandy/gravelly bottoms, bank undercuts	Exc. Cape
Blanding's turtle	possible	will wander overland	Shallow waters	Spotty dist.
Diamondback terrapin	NO	prefers brackish water, tidewater streams	Estuaries, salt marshes	Coastal
Plymouth red-belly turtle	NO	nests in disturbed sites	Ponds, shallow coves	Plymouth County
Bog turtle	NO	frequents shallow waterways	Alkaline bogs, fens, shrub swamps	Region 1

A spotted salamander egg mass lifted from a vernal pool at an MSMCP field training session.



- * Bob Prescott, Director, Wellfleet Bay Sanctuary (sea turtles, terrapins, box turtles)
- * Steve Roble, Nat'l Heritage & Endangered Species Program, 100 Cambridge Street, Boston
- * Terry Graham, Holy Cross University (Plymouth redbelly, wood turtles, spotted turtles).

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TOWN OF GROTON
GREAT PONDS ADVISORY COMMITTEE
173 Main Street
Groton, Massachusetts 01450
Phone: (978) 448-1111
FAX: (978) 448-1115

September 3, 2008

Dear Whitney Pond Property Holder:

The Town of Groton's Great Ponds Advisory Committee is reaching out to the (14) property holders of Whitney Pond. As you know (or should have been informed by now), Groton and Whitney Pond are part of a State Area of Critical Environmental Concern (ACEC). That triggers a Resource Management Plan (RMP) demanded by the Commonwealth of Massachusetts, especially if any of you have a dock or other structure on or in the lake, or plan one in the future.

This committee has been engaged in developing RMP's for all the great ponds in Groton. We need help and input from the people directly affected.

The Great Ponds Advisory Committee would appreciate a response to this request, either by written mail forwarded to the Board of Selectmen's office, or by attending our next meetings on September 24, 2008 and October 22, 2008 at 7:30pm in Town Hall, 173 Main Street so we can give the State their required RMP for Whitney Pond and to protect your ability to use your land as you wish.

Thank you.

Sincerely,

TOWN OF GROTON
GREAT PONDS ADVISORY COMMITTEE
Susan Horowitz
Lawrence Swezey
Cynthia Kollarics
Francoise Forbes
Nancy Todd
John Diezemann
Wayne Addy