Lake & Shoreland
Permitting Approved
2016.06.02 08:44:05
-04'00'

Powered Mechanical Device

March 2015

Application for use of a **Powered Mechanical Device** under an **Aquatic Nuisance Control Permit**
Per 10 VSA Chapter 50, § 1455

For Aquatic Nuisance Control Permit Program Use Only
Application Number: 2015-H08

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
LAKES & PONDS PROGRAM

Submission of this application constitutes notice that the entities listed below intend to use a powered mechanical device in waters of the State to control aquatic nuisance plants, insects, or other aquatic life; and that the entities below have demonstrated that (1) there is acceptable risk to the nontarget environment; (2) there is negligible risk to public health; and (3) there is either benefit to or no undue adverse effect upon the public good. Submit an application fee of $35 for a private pond or $175 for all other waterbodies, made payable to the State of Vermont. All information required on this form must be provided, and the requisite fees must be submitted to be deemed complete.

RECEIVED NOV 13 2015 WSMD

A. Applicant Information

1. Entity's Name: Town of Groton
2a. Mailing Address: 1476 Scott Highway Groton
2b. Municipality: Groton | 2c. State: Vt. | 2d. Zip: 05046
3. Phone: 802 584 3792 | 4. Email: grotonclerk@fairpoint.net

B. Powered Mechanical Device Operator Information (Check box if same as above in Section A: ☐)

1. Entity's Name: Lake Groton Association
2a. Mailing Address: 152 Hooper Road
2b. Municipality: Groton | 2c. State: VT | 2d. Zip: 05046
3. Phone: 802-584-3838 | 4. Email: orustyrp@hotmail.com

C. Application Preparer Information (Check box if same as above: Section A ☐ or B ☒)

1. Preparer's Name: Oreste Reader
2a. Mailing Address:
2b. Municipality: | 2c. State: | 2d. Zip:
3. Phone: | 4. Email:

D. Waterbody Information

1. Name of waterbody: Lake Groton | 2. Municipality: Groton
3. Are there wetlands associated with the waterbody? ☑ Yes ☐ No
Contact the Vermont Wetland Program: (802) 828-1535 for additional information.
4. Are there rare, threatened or endangered species associated with the waterbody? ☑ Yes ☐ No
Contact the Vermont Fish & Wildlife Natural Heritage Inventory: (802) 241-3700 for additional information.
5a. Is this waterbody a private pond? ☐ Yes ☑ No If No, Skip to Question D6.
5b. Is this private pond totally contained on Applicant's property? ☐ Yes ☐ No
6. List the uses of the waterbody – check all that apply:
☐ Water supply ☐ Irrigation ☑ Boating ☑ Swimming ☑ Fishing ☐ Other:

E. Device Activity Information

1a. Proposed annual activity start date: 6/2016 1b. Proposed annual activity end date: 9/2016

2. Nuisance(s) to be controlled:	3. Powered mechanical device to be used:
Purple bladderwort	see attached
Submit additional information as needed.	*Submit a copy of the manufacturer's information, if applicable.*
4. Include a detailed waterbody map indicating the exact proposed activity location(s).	5. Enclose labeled photo(s) or schematic(s) of powered mechanical device.

6. Attach a narrative description of the proposed project to include the following items:
   a) Reason(s) to control the aquatic nuisance;
   b) Brief history of the aquatic nuisance in the waterbody; and,
   c) Description of the proposed control activity.

F. Applicant/Operator Certification

As APPLICANT, I hereby certify that the statements presented on this application are true and accurate; guarantee to hold the State of Vermont harmless from all suits, claims, or causes of action that arise from the permitted activity; and recognize that by signing this application, I agree to complete all aspects of the project as authorized. I understand that failure to comply with the foregoing may result in violation of the 10 VSA Chapter 50, § 1455, and the Vermont Agency of Natural Resources may bring an enforcement action for violations of the Act pursuant to 10 V.S.A. chapter 201.

Applicant/Operator Signature: _____ Date: 4/2015

G. Application Preparer Certification (if applicable)

As APPLICATION PREPARER, I hereby certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Application Preparer Signature: _____ Date: 4/2015

H. Application Fees

Submit this form and the $35 or $175 fee to:
(Municipalities are exempt from fees)

Vermont Department of Environmental Conservation
Watershed Management Division
Aquatic Nuisance Control Permit Program
1 National Life Drive, Main 2
Montpelier, VT 05620-3522

Direct all correspondence or questions to the Aquatic Nuisance Control Permit Program at:
Matthew.probasco@state.vt.us or (802) 490-6133

For additional information visit: www.watershedmanagement.vt.gov

November 9, 2015

Aquatic nuisance Control Permit

Lake Groton Association with the Town of Groton

To whom it may concern:

We are applying for a mechanical harvesting permit to reduce the amount of purple bladderwort in Lake Groton. This plant has been present in the lake for only two years and has reached nuisance proportions, currently 43% of the aquatic plants.

The plant is over growing other native plants such as Lilly pads. It has heavy growth from the edge of the shore to about 15 feet in water depth. Power boats, sail craft, even paddle craft have a difficult time maneuvering in the heavy matt of this material. Swimming is also hindered.

If we continue to allow this plant to proliferate, it will detract from the value of our beautiful state forest campground, as well as the Boulder beach. Property values will be impacted, and the area will lose its recreational appeal. Since the plant was discovered in 2014, it has risen to be the dominant species. 43% of the plant life on Lake Groton is Purple Bladderwort.

We had Josh Mulhollem from the water quality division out to the lake to evaluate the status of this plant. He concurs that it has reached nuisance levels. The Lake Groton Association has met, and has voted to pursue a remediation plan. For the season of 2015 waterfront land owners were raking this material to the shore and composting it. The amount of material, its water weight, and the difficulty to remove it from certain shores has driven the idea that we need to harvest this plant on a larger scale. There were 103 members present at the 2015 fall meeting and it was unanimous to pursue a formal harvest plan.

The lake is 422 acres in size. The plant is present on the east, west, north and south shallow areas. As mentioned above it grows from the shore out to 15 feet. With that said it also moves with the currents, and wind shifts, so it can be found in the deeper areas of the lake as well. Refer to attached diagram from the 2014 aquatic plant survey.

The device used to remove the plant would be a rake. This device will be 220" ~~6-8 feet~~ in length, made from wood, have a counter weight and cables to attach to a motorized boat (see attached drawing). This rake will be carried by hand labor to the water. Once in the water the rake will be attached to a towboat,

and at slow speeds brought around a plant infested area. Once the rake has gotten a full load, it will be brought to a shore for plant removal. This may be accomplished by attaching the tow rope to a motorized vehicle and dragging the rake onto the shore. Once the water is drained from the plant it can be loaded either manually or by automated means into a transport vehicle. A special mention here, the bladderwort is a suspended plant. The rake mentioned is a suspended rake, meaning it will have floats, and the design of the unit will be to capture the suspended bladderwort. The bottom of the lake will not be disturbed, and other bottom plant life will not be hindered. In areas where lily pads are prevalent, we can circumvent so as not to allow for damage to them.

Material raked will be gathered at certain areas around the lake for removal, and composting at a location away from this lake, and any other body of water. As of this time, the possible removal points would be the Stillwater campground boat launch, private waterfronts at the North end, and south ends of the lake and the dam area with access from the Ricker Pond campground.

There has been discussion about removing the plant material to be discarded on private land, and or used as compost. Green Mountain Compost Company has expressed interest in taking the plant material for its compost plant.

Harvest time will commence in mid-June when the plant starts to immerge, and will likely be performed over the course of several days. After the initial raking, we will evaluate the effectiveness of the process, and determine if a second raking needs to be performed.

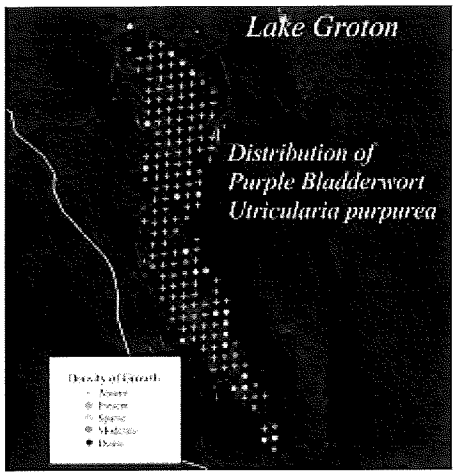
In conclusion, the goal of this project is to remove the large quantity of bladderwort that hinders recreational use of Lake Groton with the least invasive means possible. We feel the rake would accomplish that goal. Please consider our application.

Thank you-

Oreste Reader

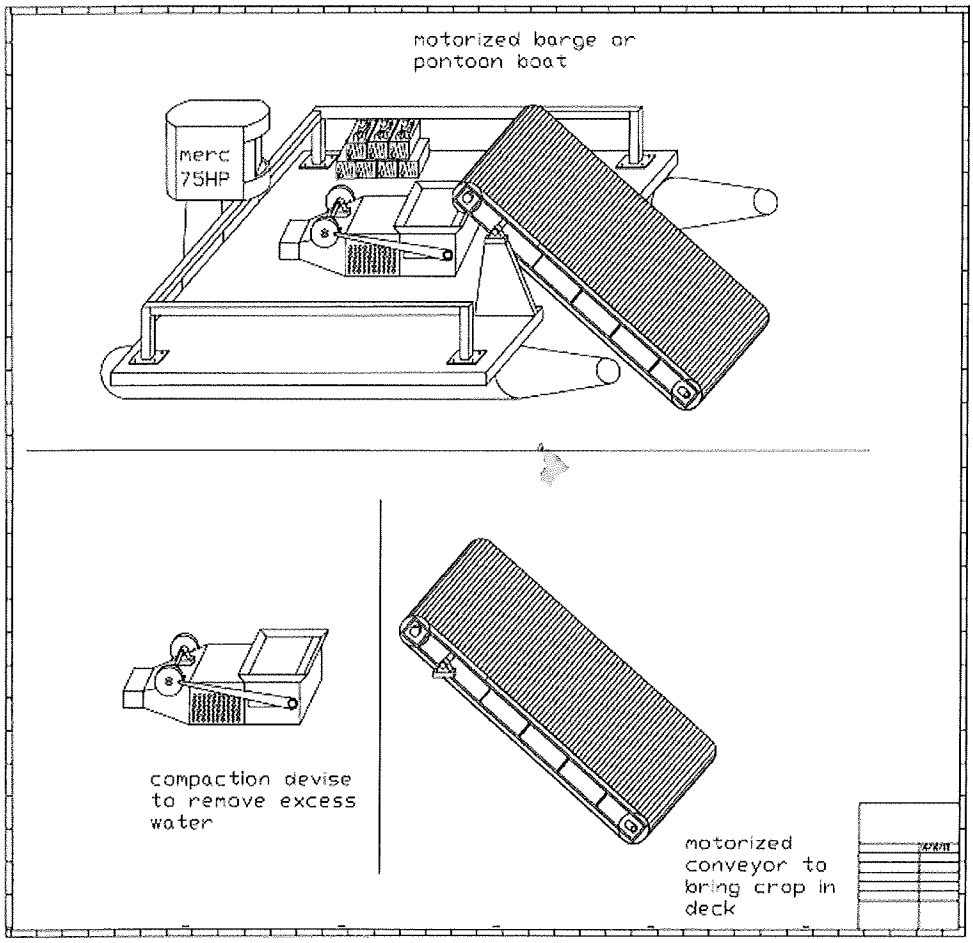
President of the Lake Groton Association contact number : 802-584-3838

Attached: Rake diagrams

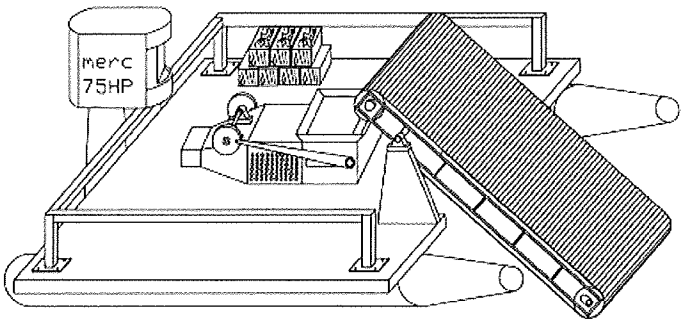


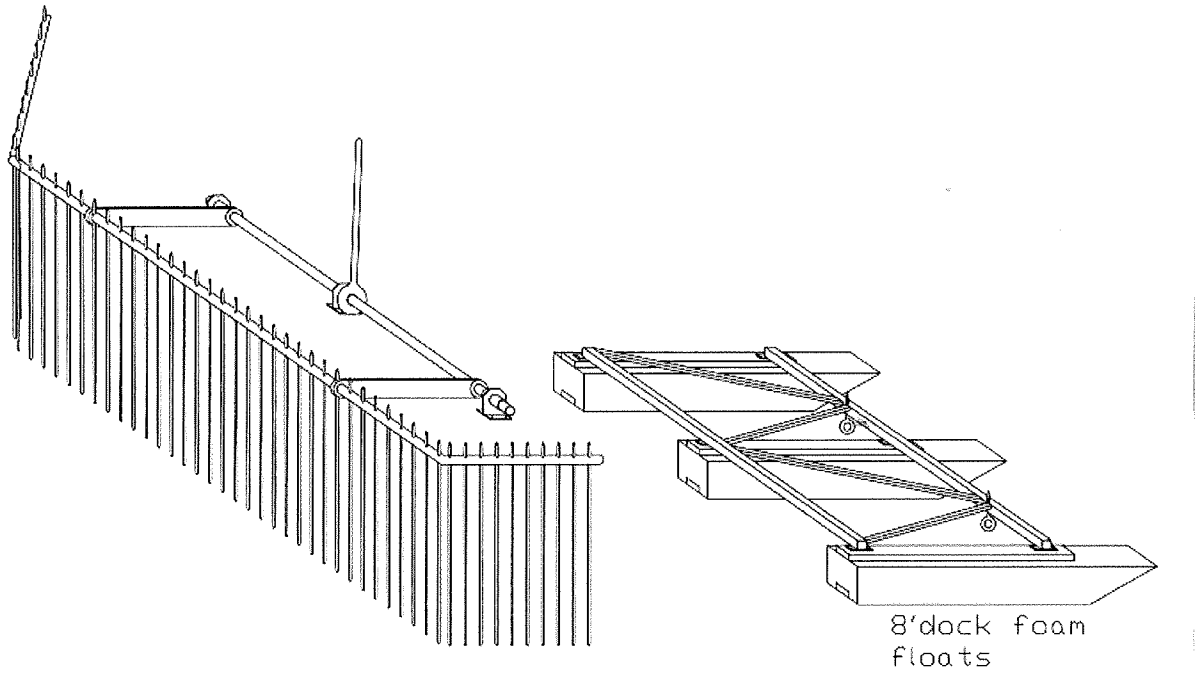
This Map is from the 2014 Darrin fresh water institute aquatic survey performed on Lake Groton in 2014

- In 2014 43% of the aquatic plant life on the lake is the purple bladderwort
- In 1999, and in 2003 purple bladderwort was not noted in the aquatic surveys performed.
- Most of the moderate (orange circles) could be changed to dense (red circles) for 2015
- The survey made mention that the "rapid expansion of this species warrants scrutiny"

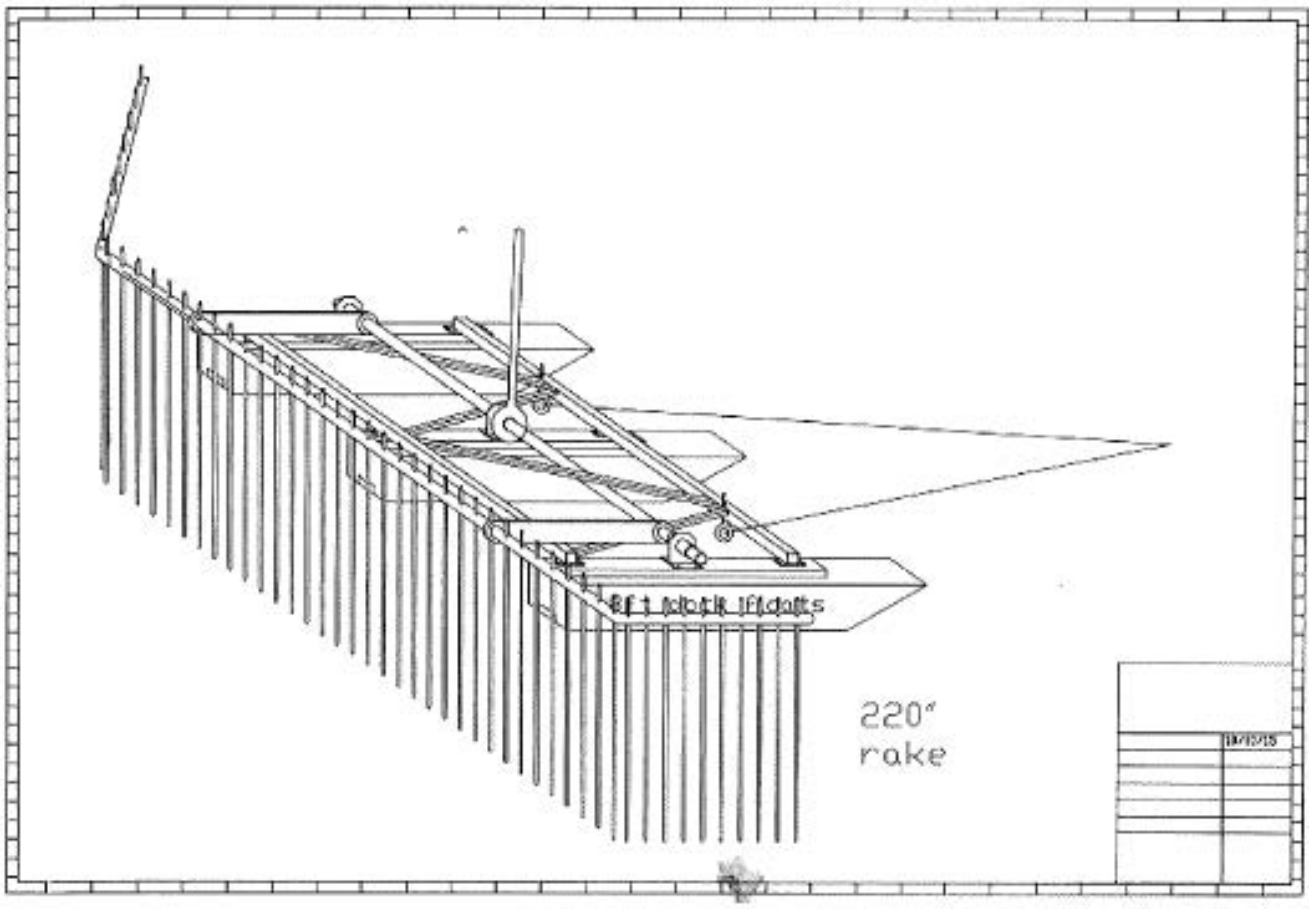

motorized barge or
pontoon boat
merc
75HP
compaction devise
to remove excess
water
motorized
conveyor to
bring crop in
deck

motorized barge or
pontoon boat





220"
rake



Specific rake design on following page.

From: alleng823@aol.com
Sent: Friday, April 15, 2016 10:54 AM
To: Cetner, Misha
Cc: jlarosa@nicomcoatings.com; campcolemine@aol.com; robert.n.ricker@gmail.com; alleng823@aol.com; orester@gmail.com; rbove@myfairpoint.net; oreste.reader@cvmc.org
Subject: Lake Groton Association Permit

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you for your time and information shared on our call regarding the Bladderwort harvesting permit- Tuesday, April 12.

The purpose of the call was to clarify where we are in the permitting process and to provide you further information regarding the design of a rake intended for harvest of Bladderwort on Lake Groton.

You informed me that as soon as I provided more info in design (stated below) that you would be able to move the permit forward to the other VT State agencies required to review the permit. I understood that once the agencies reviewed, that turn-around for potential approval would be about 15 days subsequent. It's sounds like we might know of approval about the 2nd week of May. We agreed that we would not start a build until that time since we want to ensure our investment in materials and time are not wasted.

I reiterated that our intent is only to harvest floating surface BW and we would determine where we would be working based on a reconnaissance of the Lake at that time. The floating debris is spotty depending on what has surfaced and the wind that day. I reiterated to you also that our intent is to harvest large masses whereby individual property owners will be responsible for their immediate waterfront. We will publish that to property owners so as to set their expectations.

In a previous email, we provided percentage of harvest figures that you indicate will be acceptable in moving the permit forward.

Rake Design

After speaking with our committee, we will use the design shown on the permit for the 220 inch rake. This is a 10 foot rake with 4 foot wings. After discussion with our designer, we will build a prototype for test/use and may modify slightly from there. The length of the times as discussed in earlier correspondence will need to be 14 inches below the bottom of the boats out drive. The overall length will be in excess of 36 inches much of which will be above water. The design also includes adjustment for tine depth so that we can raise higher if required. "it will be built of wood and aluminum"
-update via email from applicant on 5/15/2016
-M.C.

I ask that you email me as the permit moves forward next week and keep us posted as to the progress. I know you have many things to manage at this time, but ask that you keep in touch through this process. Your call was very proactive and I enjoyed working with you. We intend to post a newsletter to the whole LGA to reassure them that a process is underway to assist in making the Lake a safer place to swim, boat and recreate.

Regards,

ALLEN GOODINE
LGA Bladderwort Committee
802272-2414/520 429-8393

RE: Aquatic nuisance control permit 2015-H08

Clarification and additional information

To whom it may concern:

The dotted areas represent areas targeted for bladder wort removal. See following page.

The permit is valid for a lengthy period of time, ~~multiple rake sizes~~, and the pontoon boat harvesting platform were added as they may be needed at a future date.

Harvesting Description

The pontoon boat would be described as a craft with pontoons, 20-24 feet in length powered by mechanical propulsion, most likely a gas outboard engine with horsepower to be determined. The conveyor system is a proposed design. The boat would move forward slowly with front end rakes, or follow a rake towing vessel. The pontoon boat would capture the raked material into a catch area in front of the boat and convey the material onto the deck. When capacity is reached, the craft would reverse the conveyor to remove the material into transport vehicles on the shoreline.

The goal of the harvest is to remove bladderwort from the deep common areas of the lake. See the attached map. The rake tines would not exceed 14 inches as the material is typically floating on the water surface. Shallow areas including lily pad growths and waters less than 24 inches in depth will not be raked thus no dislodging of shallow water sediment or disruption of other plant species and small aquatic animals will occur.

The first plan will be to construct a rake. The rake length will be determined by the amount of horsepower necessary to tow the device. With limited experience in this type of plant removal we are not sure of the power that will be needed. What we do know is the plant is very light weight when the water is allowed to drain.

The Lake Groton Association and the bladder wort control committee are committed to the least invasive process for the removal of this plant material from the larger common areas of the lake.

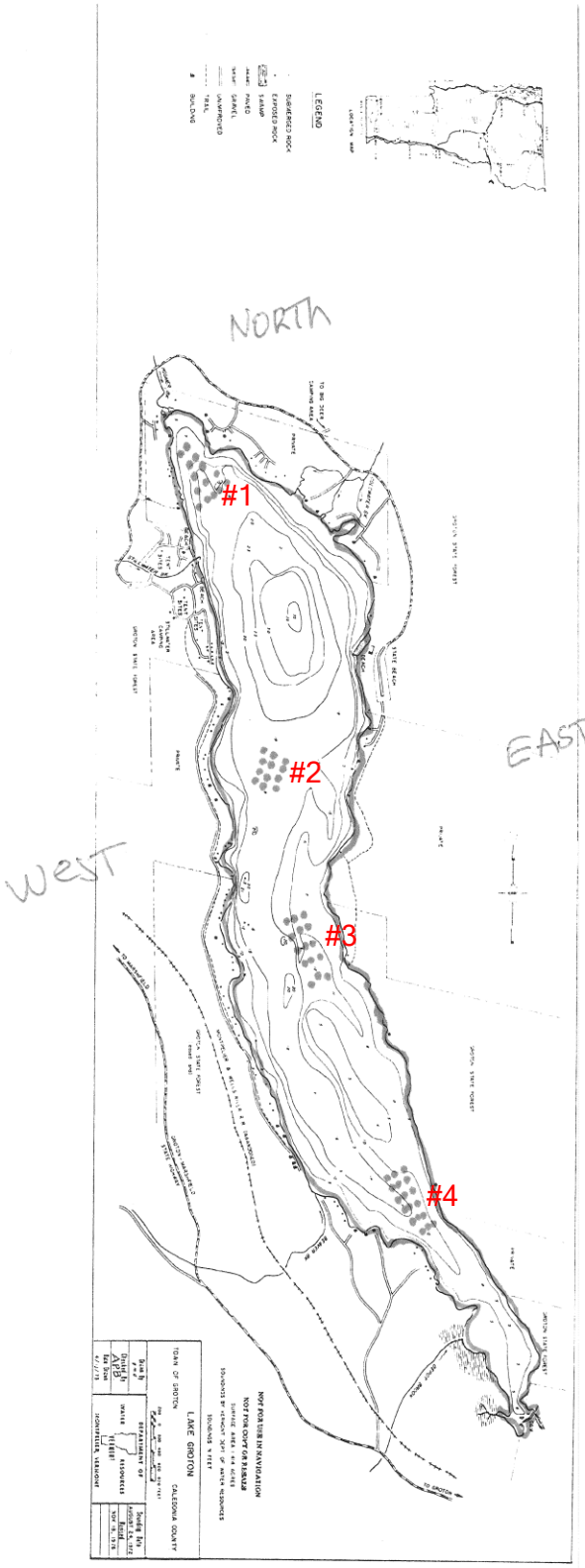
Thank you

Oreste Reader

President of the Lake Groton Association

January 11, 2016

Harvesting Areas Site Plan Map



From: alleng823@aol.com
Sent: Friday, April 08, 2016 12:23 PM
To: Cetner, Misha
Cc: campcolemine@aol.com; oreste.reader@cvmc.org; jlarosa@nicomcoatings.com; robert.n.ricker@gmail.com; rbove@myfairpoint.net; orester@gmail.com
Subject: RE: Lake Groton Association, Groton, Vt- BLADDERWORT

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Misha,

Thanks for your prompt response; look forward to speaking with you on the 12th. Over the next couple of days will work to address your concerns. It will also help to verbalize our intent.

Not sure if we have photos of large floating mass of Bladderwort, but have a Lake resident looking today. This is new for us in that 2016 is the first year that we have observed BW along our shoreline this early in the year. Will work to formalize diagram of floating rake. However, Oreste (Rusty) Reader has addressed tine length as 14 inches. This would be below water surface. We will refine design of our proto-type providing I can reach our design - build resident prior to our conversation .

Harvesting Goal

The goal of harvest is to remove large masses of the species from the Lake. Please understand it is unpredictable when they occur, but we wish to eliminate so that motor,sail boats, kayaks swimmers and loons do not become entangled. The other affect will be to reduce the amount moving onto the shoreline. However, we have been clear in our communication to residents that we do not intend to harvest their shoreline.

I will work to establish some percentages of satisfaction that we can determine after a harvest day by using volunteer craft to tour the Lake. For example, If we tour and feel we have removed 60 %. Will talk to our committee, but that is a figure we have discussed. We did not use a larger number because another 40% may not be reached by our equipment. Is this what you are looking for?

From our observation much of this rises to surface when detaches from its growth mass and becomes unmanageable especially when the wind breaks it and it moves into open water. Hard to predict when this happens, but we experience high quantities from end of June, all of July, well into August.

The initial harvest will be a learning process for us where we will move BW to off load sites and volunteers will assist by hand-rake onto shore and removal by vehicle to private property away from Lake. From there,we expect to have a removal weekly as warranted until the BW calms down. Our observation, is that calm-down occurs later in August/September. The initial harvest assessment with volunteers will occur over a couple of days sometime before July 4 with observation/tour of Lake subsequent to our work.

Harvesting Area Description

The Lake is 422 acres. Looking at the dotted area, that represents most of the 422 acres. However, at the North End of the Lake there is approximately 10 acres we do not plan to harvest due to shallow lake an lily pads. There is another approximately 80 acres at the South end of lake that cannot be reached due to rocks and lily pads. We do not plan to rake within 15 feet of shore. Reducing North and South Lake ends brings us down to 332 . Since we've stated that BW is present in 43% of the Lake and is located within the shoreline, I will take 43% of the 322= 143 shoreline . We plan to harvest the open parts of the Lake which is approximately 189 acres. Hope this addresses the harvesting area concern. These 189 acres have large masses of Bladderworth. We envision a reconisence by volunteer boats to identify location of these large masses and focus on those areas. These are often spread out, the masses themselves when harvested would not total an acre if raked into a mass. My "guess" is that we would not harvest more than 40-50 acres at a time, it that much.