





# Town of Merrimack, New Hampshire

Community Development Department

6 Baboosic Lake Road

Town Hall - Lower level - East Wing

Planning - Zoning - Economic Development - Conservation

603 424-3531

Fax 603 424-1408

[www.merrimacknh.gov](http://www.merrimacknh.gov)

## **MEMORANDUM**

**Date:** February 8, 2018  
**To:** Nancy Harrington, Chair, & Members, Town Council  
**From:** Robert Price, Planning & Zoning Administrator  
**Subject:** **2018 Milfoil Grant Funds for Horseshoe Pond & Naticook Lake**

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Attached for your information are documents pertinent to the 2018 milfoil grant funds recently awarded to the Town of Merrimack. Should the Council vote to accept and authorize the expenditure of funds, the necessary paperwork will be completed, notarized and forwarded to the NH Department of Environmental Services (NHDES) for processing.

Horseshoe Pond and Naticook Lake have both been managed annually for milfoil since 2012 using a variety of chemical and non-chemical techniques. Amy Smagula, Limnologist/Exotic Species Program Coordinator with the NHDES, explains that maintenance work is needed on an ongoing basis to keep the infestation from increasing and to keep milfoil to a minimum. In 2017, milfoil in Horseshoe Pond required an herbicidal treatment, which brought about positive results. Remaining milfoil stems that were detected at the end of the growing season were removed by diving teams. For 2018, NHDES recommends another herbicidal treatment as they say two consecutive years of treatment are sometimes needed to fully target the plant, in addition to hand-removal and/or diver-assisted suction harvesting (DASH) for Horseshoe Pond. Naticook Lake has been responding well to regular monitoring and DASH, and NHDES recommends continuing this course for 2018.

With respect to the 2018 grant funding, the NHDES selected SOLitude Lake Management for Herbicide Treatment at Horseshoe Pond and Aqualogic for DASH management. According to the NHDES grant award letter, divers would dive and/or perform DASH for up to 10 days in Naticook Lake during 2018, as needed. In Horseshoe Pond, targeted herbicide treatments will take place either in late May or September over the course of 20 days, as recommended by NHDES, along with follow-up dive work, as needed, for up to 8 days.

The NHDES received requests for funds from more groups with a greater total cost than they did in 2017 and, according to Ms. Smagula, grants were awarded on a 25% matching level in 2018 in order to assist as many groups as possible. This represents a 5% reduction of grant funds available to Merrimack as compared to last year.

The estimated total for Milfoil treatment this year is \$38,348, while the NHDES grant amount awarded to Merrimack is \$9,587 (compared to \$12,244 in 2017), meaning that the Town's share of the total cost would be \$28,761 (compared to \$28,569 in 2017):



	<b>Herbicide Treatment</b>	<b>Diver/DASH</b>
<b>Total Cost</b>	\$22,298 (up to 20 acres with Procellacor)	\$16,050 (up to 8 days in Horseshoe & 10 days in Naticook)
<b>Grant Award</b>	Up to \$5,575	\$4,012
<b>Local Cost</b>	\$16,723	\$12,038
<b>Service Provider</b>	SOLitude Lake Management	Aqualogic

The funds to cover milfoil treatment in 2018 would be expended from the Milfoil Capital Reserve Fund. In order to maximize effectiveness, the treatments should be able to begin prior to the new fiscal year beginning in July.

Please find enclosed the following materials:

- NHDES letter dated January 23, 2018 from Amy Smagula, Limnologist/Exotic Species Program Coordinator notifying the Town of Merrimack of the Horseshoe Pond and Naticook Lake project selection;
- Aqualogic and SOLitude Lake Management bid proposals;
- NHDES informational letter dated February 6, 2018 regarding Variable Milfoil Management in Horseshoe Pond and Naticook Lake from Amy Smagula, Limnologist/Exotic Species Program Coordinator.

**Suggested Motion:**

**That the Town Council vote to accept and authorize the expenditure of up to \$38,348 for the milfoil treatment program at Horseshoe Pond and Naticook Lake, of which \$9,587 is from a grant from NHDES for milfoil control via DASH/Herbicide, and the Town’s portion is \$28,761 to be funded from the Milfoil Expendable Capital Reserve Fund and furthermore; the Town Council authorizes the Town Manager or her delegate to execute any and all documents which may be necessary.**

Cc: File  
Correspondence

Ec: Paul Micali, Assistant Town Manager/Finance Director  
Timothy J. Thompson, AICP, Community Development Director  
Matt Casparius, Parks & Recreation Director  
Roger Gettel, Naticook Lake Conservation Association



The State of New Hampshire  
**Department of Environmental Services**



Robert R. Scott, Commissioner

January 23, 2018

RE: 2018 Exotic Aquatic Species Control Grant

Dear Mr. Price:

Congratulations! The Department of Environmental Services (DES), Exotic Species Program has selected your exotic aquatic plant control project to receive grant funds in 2018. Below is a breakdown of total project cost(s), grant award, and costs to be incurred by local entities.

	<b>Herbicide Treatment</b>	<b>Diver/DASH</b>
<b>Total Cost</b>	\$22,298.00 (up to 20 acres with Procellacor)	\$16,050.00 (Up to 8 days in Horseshoe and 10 days in Naticook)
<b>Grant Award</b>	Up to \$5,575.00	\$4,012.00
<b>Local Cost</b>	\$16,723.00	\$12,038.00
<b>Service Provider</b>	SOLitude Lake Management	Aqualogic

**Total Grant Award: \$9,587.00**

DES is now in the process of compiling the necessary paperwork to proceed with obtaining approval on this grant allocation. Attached to this email, please find several documents that pertain to the granting of funds to your group from DES for 2018.

**PLEASE READ CAREFULLY AND FOLLOW INSTRUCTIONS BELOW:**

1. Please print the Grant Agreement, Exhibits and Certificate of Authority specified below, and attached to the grant documents email, on plain white paper, *single-sided*, and complete as detailed below:
2. **Grant Agreement:** To be completed before a Notary Public. *Please have the appropriate person in your organization complete lines 1.5 and 1.11 through 1.13.2 of the Grant Agreement in the presence of a notary.*
  - a. This requires the name, position and signature of the individual authorized to sign for your group.
  - b. This same person must initial and date the bottom right of each of the four pages of this document. The person who signs the Grant Agreement is the “contractor” for the project, and should be the one who initials and dates each page. *It does not* mean the contractor who is hired to do the work.
  - c. The document needs an acknowledgement by a Notary Public.
3. **Exhibits:** Each of the three pages in the Exhibits document must be initialed and dated, on the bottom right, by the same person who completed the Grant Agreement in #2 above.
4. **Certificate of Authority:** To be completed before a Notary Public. This is a certificate that verifies that the person who signs the Grant Agreement in #2 above is in a position that is authorized to do so. **It must be completed by someone other than the person who signed the Grant Agreement.**

*For example: If the President of your organization filled out the Grant Agreement and initialed and dated the four pages of the Grant Agreement, and initialed and dated the three pages of the Exhibits, then the Treasurer, Vice President, Secretary, or other officer can fill out the Certificate of Authority, verifying, in their own capacity, that the President was authorized to sign the Grant Agreement.*

Basically, the Grant Agreement and the Certificate of Authority cannot be filled out by the same person. Specifically:

- a. Write the OFFICE of the person who signed the grant agreement on line (3) of the Certificate of Authority.
- b. Print the NAME of the person who signed the Grant Agreement on line (5) of the Certificate of Authority.
- c. Another officer of your group fills out the rest of this form with their own information, doing so before a Notary Public.

**Items 2, 3 and 4 should be completed and returned to my attention at the address below no later than February 16, 2018.**

All payments/disbursements will be made on a reimbursement basis upon submission of appropriate invoicing for services or materials rendered, and the appropriate match percent will be applied to each invoice received by DES.

*Please note that the contractual process cannot begin until we have all of the completed paperwork from your group. Your rapid attention in preparing these documents and returning them to me is much appreciated, and it will aid in expediting this frequently lengthy grant approval process.*

I will be working on preparing and or updating (as appropriate) a long-term management plan for your waterbody. Once it is fully drafted, I will be sending it to you electronically for review. In mid to late February, I will be sending it to the contractor(s) who will be performing the control actions for your waterbody, so they can use it for planning purposes.

If you have not already done so, please confirm with the contractor(s) listed above that you accept their bid and would like to secure their services as outlined in the bid(s) for 2018.

If you have questions at any point during the grant process, or would like clarification on how to complete the paperwork, please do not hesitate to contact me at Amy.Smagula@des.nh.gov or at 603-271-2248.

Sincerely,



Amy P. Smagula  
Exotic Species Program Coordinator





Horseshoe Pond 2018 DASH Bid

1.) Team Information Cost		\$ 625.00/day
Number of Divers	2	
Number of Surface Support Personnel	1	
Other Staff	0	

Personnel Info:

- The work crew consists of 3 on-site personnel. Two members (safety diver and tender) are on the DASH vessel during operation with one member (head diver) in the water.
- **Personnel Certifications** – Divers are Open Water and Weed Control Certified. The head diver has a Commercial Boating License. All team members are CPR/AED/First Aid trained and certified per OSHA regulations. Aqualogic is approved by the NHDES and meets all local and federal regulations.
- **Head Diver** - The head diver is the point man of the DASH operation. He completes the milfoil harvesting, directing his/her crew through the areas marked by the DES and local association in the most efficient manner possible.
- **Safety Diver** - The safety diver uses OSHA mandated 2-way communication to stay in contact with the head diver as he harvests milfoil. He makes sure that the equipment (DASH boat, dive equipment, ect.) are always clean and organized at the end of the day. He/she is also weed control certified and has the ability to switch with the head diver to harvest milfoil if they are fatigued.
- **Tender** - The tender's role is to keep the DASH operation running. This includes moving the milfoil from the screen to buckets, filling the gas and checking the oil, priming the foot valve and assisting the diver with his equipment as he enters and exits the water. They fill out the data sheets at the end of the day and send them to the project manager. All tenders are certified and trained in the spotting and handling of milfoil.
- **Project Manager** – Wayne K. is the project manager for all N.H. contracts. He receives the daily reports from the tender. At the end of each work week he sends the daily harvest reports and a harvest map to both the local association and the DES.

2.) Equipment Cost		\$200.00/day
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Description of Equipment to be used/provided:

- Garmin GPS – Progress maps and reports are sent at the end of each work week.
- All needed SCUBA equipment
- Liquivision Dive Watch
- Go Pro for Video (if need be)

- DASH Unit
- 33 gallon Brute Buckets
- Aquacom 2 Way Communication per OSHA regulations
- Ocean Tech Systems Full face mask for all diving personnel
- Drop down poll for DASH unit – This poll drops through a hole in the deck and keeps the boat in place.

3.) Cost per day \$200.00 + \$625.00  
\$ 825.00

**Description of DASH:**

- Each workday includes up to 2 hours of preparation, area survey and clean up, and 6 hours of total dive time. Tenders record when the diver enters and exits the water.

**Description of Hand/Bag Harvesting:**

- Each workday includes up to 2 hours of preparation, area survey and clean up, and 6 hours of total dive time. Tenders record when the divers enter and exit the water.

4.) One Time Set Up Fee \$100.00

5.) Estimated Project Cost:  
 • Based on 8 Days \$6,700.00

Note: The estimate is what it is. There are no up-charges or extra costs. We believe in a low price because it allows for more DASH days to be completed.

November 17, 2017

Mr. Robert Price  
Town of Merrimack  
[rprice@merrimacknh.gov](mailto:rprice@merrimacknh.gov)

**Re: 2018 Bid for an Herbicide Treatment to Control Invasive Variable Milfoil Growth  
Horseshoe Pond in Merrimack, New Hampshire**

Dear Mr. Price:

Please accept this as our Bid for a treatment program to control invasive variable milfoil (*Myriophyllum heterophyllum*) in portions of Horseshoe Pond during the 2018 season.

SOLitude Lake Management is familiar with conditions at Horseshoe Pond having performed treatment programs there in recent years. For the 2018 season, we recommended utilizing Navigate (2,4-D BEE granular) herbicide for targeted treatment of milfoil regrowth. We recommend using higher herbicide application rates to overcome the effects of dilution, but focusing more on targeted placement of Navigate directly onto milfoil growth. This may result in higher per-acre treatment costs than recent years, but the total acreage requiring treatment should be reduced. We will work closely with DES to finalize treatment areas following the pre-treatment surveys.

The attached contract lists a total program cost of **\$22,298.00** for treatment of up to **20 acres**. We understand that this treatment is expected to occur in **late May or September** and that the total acreage to be treated may be reduced based on findings and recommendations provided by NHDES. The contract specifies how the cost will be adjusted accordingly.

If you decide to proceed with the project, please let us know immediately and return a signed copy of the contract at your earliest convenience, so that we can begin preparing the Special Permit application. The Special Permit application needs to be submitted to the State as soon as possible to avoid delays in permit issuance.

Thank you for giving us the opportunity to submit a bid for this work. We look forward to working with you on this project.

Sincerely,



Marc Bellaud  
President / Aquatic Biologist  
[mbellaud@solitudelake.com](mailto:mbellaud@solitudelake.com)



Pete Beisler  
Environmental Scientist  
[pbeisler@solitudelake.com](mailto:pbeisler@solitudelake.com)

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## NEW HAMPSHIRE PUBLIC LAKE TREATMENT CONTRACT

PROPERTY NAME: **Horseshoe Pond**

CONTRACT TERM: November 17, 2017 through November 30, 2018

SUBMITTED TO: Robert Price, Town of Merrimack

SUBMITTED BY: Pete Beisler, Environmental Scientist

SPECIFICATIONS: The scope of work described below includes services for performing a Navigate (2,4-D granular) Herbicide Treatment to control invasive variable milfoil in Horseshoe Pond during the 2018 season.

### Permitting:

1. SOLitude staff will be responsible for the following:
  - a. Preparing and filing a Special Permit Application and supporting documentation with the NH Division of Pesticide Control.
  - b. Notifying affected abutters of the permit application submission; list of abutters to be provided/updated by Client.
  - c. Publishing a legal notice in a local newspaper about the permit application filing.

### Lake Aquatic Weed Control:

1. Growth of variable milfoil specified by NHDES shall be treated and controlled through the application of **Navigate (2,4-D granular) systemic aquatic herbicide** as required for control of the specific varieties of aquatic weeds found in the lake at the time of application.
2. **Navigate herbicide** will be applied at a targeted rate of **2.0 ppm (up to 199 lbs/ac assuming a 7-foot average depth)** to achieve long-term control of variable milfoil present at the time of application.
3. Application will be performed using SOLitude's specially designed and calibrated treatment systems and boats. GPS systems will be used to provide real-time navigation and to record treatment passes.
4. Pre-treatment inspection of designated areas will occur prior to treatment.
5. Notification of affected abutters and Town officials via certified mail – return receipt will occur prior to treatment in accordance with Special Permit conditions.
6. Publication of legal notices in a local newspaper for two consecutive weeks will occur prior to treatment in accordance with Special Permit conditions.
7. Shoreline posting will be coordinated and performed prior to treatment in accordance with Special Permit conditions.

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Post-Treatment Survey, Herbicide Residue Testing and Reporting:

1. A post-treatment survey of the treatment areas will be performed to assess the level of target plant control achieved and to document impact to non-target plants. This survey will be performed in accordance with Special Permit conditions.
2. SÖLitude will hire an independent, NELAC accredited laboratory to collect and analyze water samples for herbicide residues following treatment in accordance with Special Permit conditions. Copies of sample results will be provided to the client via email as soon as they are available from the lab.
3. A project-completion report will be prepared that details the treatment program performed, provides results of the herbicide residue testing and summarizes results of the treatment program. The report will be prepared and submitted in accordance with Special Permit conditions.

Client Responsibilities:

1. Client will be responsible for the following:
  - a. Providing information required for the permit application process upon request.
  - b. Providing Certified Abutters List and copy of Town Tax Maps for abutter notification as required.
  - c. Assisting with querying abutting property owners as to their source of domestic water.
  - d. Provide a copy of the Long-Term Management Plan (LTMP) prepared by DES.
  - e. Client will be responsible for putting up posters around the shoreline of the treatment areas in advance of treatment, with pre-printed signs provided by SÖLitude.
  - f. If clients are not able to post the treatment poster prior to treatment, SÖLitude will provide this service at an addition cost agreed upon prior to posting.
  - g. Provide bottled drinking water or alternate water to affected abutters for the duration of the restriction periods resulting from this treatment program, as required by conditions of the Special Permit.

General:

1. Contractor is a licensed pesticide applicator in the state of New Hampshire.
2. Individual Applicators are Certified Pesticide Applicators in Aquatics in New Hampshire.
3. Contractor is a SePRO Preferred Applicator and dedicated Steward of Water. Each individual applicator has been trained and educated in the water quality testing and analysis required for site specific water quality management prescriptions, and utilizes an integrated approach that encompasses all aspects of ecologically balanced management. Each applicator has received extensive training in the proper selection, use, and application of all aquatic herbicides, algaecides, adjuvants, and water quality enhancement products necessary to properly treat our clients' lakes and ponds as part of an overall integrated pest management program.
4. Contractor guarantees that all products used for treatment are EPA registered and labeled as appropriate and safe for use in lakes, ponds, and other aquatic sites, and are being applied in a manner consistent with their labeling.
5. All pesticide applications made directly to the water or along the shoreline for the control of algae, aquatic weeds, or other aquatic pests as specified in this contract will meet or exceed all of the contractor's legal regulatory requirements as set forth by the EPA and related state agencies for NPDES and FIFRA. Contractor will perform treatments that are

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- consistent with NPDES compliance standards as applicable in and determined by the specific state in which treatments are made. All staff will be fully trained to perform all applications in compliance with all federal, state, and local law.
6. Contractor will continue to maintain all appropriate licensing necessary to perform all specified work in a safe and legal manner throughout the entire contract period.
  7. Contractor will furnish personnel, equipment, boats, materials, and other items required to provide the forgoing at his expense.
  8. Contractor is dedicated to environmental stewardship in all of its work and maintains a diligent program to recycle all plastic containers, cardboard, paper and other recyclable wastes generated through the performance of our contract work.
  9. Client understands and acknowledges that there are drinking and irrigation restrictions associated with many of the products used to treat their lakes. The client is responsible for notifying the contractor in advance of the contract signing and the start of the contract treatment if abutters us lake water for drinking or irrigation purposes. The client accepts full responsibility for any issues that may arise from the irrigation of turf, ornamentals, trees, crops, or any other plants as a result of treated water being used by the client for irrigation without the consent or knowledge of the contractor.
  10. Although there is no direct fish toxicity with the products used for treatment when applied at the labeled rate, any time there is an extreme infestation of algae and aquatic weeds, there is a risk of dissolved oxygen drops as a result of large masses of algae and aquatic weeds dying and decomposing simultaneously. This risk is most severe in times of extremely hot weather and warm water temperatures, as these are the conditions during which dissolved oxygen levels are naturally at their lowest levels. Often ponds will experience natural fish kills under these conditions even if no treatment is performed. Every effort, to include the method and timing of application, the choice of products, and the skill and training of the applicators is made to avoid such problems. This risk is especially mitigated by the use of systemic herbicides wherever possible, which results in a very slow steady control of the target weed species. However, the client understands and accepts that there is always a slight risk of the occurrence of adverse conditions outside the control of the contractor that will result in the death of some fish and other aquatic life. The client also understands and accepts that similar risks would remain if the algae or submersed invasive vegetation present in the pond goes uncontrolled, as it will over time interfere with the health and well-being of the existing fish population. The client agrees to hold the contractor harmless for any issues with fish or other aquatic life which occur as described above, or are otherwise outside the direct control of the contractor, unless there is willful negligence on the part of the contractor.
  11. Contractor will maintain general liability and workman's compensation insurance.
  12. Contractor shall be reimbursed by the client for any non-routine expenses, administrative fees, compliance fees, or any other similar expense that are incurred as a result of requirements placed on the contractor by the client that are not covered specifically by the written specifications of this contract.
  13. Neither party may assign this Agreement without the written consent of the other party; provided, that Company may assign this Agreement upon the merger, reorganization, consolidation, change of control or sale of all or substantially all of the assets of Company. This Agreement shall inure to the benefit of, and be binding upon, the parties and their respective successors and permitted assigns.

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14. The term of this agreement is for a period of twelve (12) months, with payment to be made within thirty (30) days of the invoice date. Please see the Payment Schedule section below.
15. The client covenants and agrees to pay reasonable attorney's fees and all other related costs and expenses of SOLitude Lake Management for collection of past due invoices and account balances and for any other actions required to remedy a material breach of this contract.

Service & Payment Schedule:

Task 1: Prepare and file Special Permit application with NH DPC - inclusive of required direct mailing to a maximum of up to **80** abutters and publication of 1 newspaper legal notice. *(Note: any changes to the 2017 permitting process, requirement for a public hearing, or notification to additional abutters may incur additional charges.)*

Jan/Feb                      \$1,105.00      Payment due with contract signing

Task 2: Perform chemical treatment of up to **20** acres with **Navigate @ (up to 199 lbs/ac assuming a 7-foot max average depth)** - inclusive of required certified mailings to a maximum of **80** abutters and publication of 2 newspaper legal notices; all labor, chemical & equipment needed for the treatment.

*(Note: should less acreage require treatment or a different herbicide application rate be required the cost will be adjusted accordingly; notifying additional abutters via certified mail will carry a cost of \$9.00/abutter)*

June or Sept                \$18,043.00      Payment due upon completion

Task 3: Perform herbicide residue testing, assuming **2** sampling rounds and analysis of **6** samples is required

*(Note: The number and frequency of post-treatment herbicide residue samples is determined by the NH DPC following approval of the NH DES final treatment map. SOLitude is only responsible for coordination of sample collection and has no influence on the number of samples required by the Special Permit. Should additional sampling be necessary, there will additional charges of \$250/sample analyzed and \$350-\$500 per sample collection round.)*

June – Oct                    \$2,200.00      Payment due upon completion

Task 4: Perform post-treatment survey and submittal of the required written project completion report to the State.

October                        \$950.00          Payment due upon completion

Total: \$22,298.00\*

*\*Note: adjustments to the program cost will be confirmed with the Client in advance; payment is due within 30 days of an invoice date*

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APPROVED:

\_\_\_\_\_ SOLitude Lake Management®

\_\_\_\_\_ **Town of Merrimack**  
**(Authorized Signature)**

\_\_\_\_\_ **(Print Name and Title)**

\_\_\_\_\_ **(Date)**


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# Horseshoe Pond Merrimack



## Legend

 Horseshoe Pond Map for 2017 Herbicide Bids- 44.2 ACRES

0 0.05 0.1 0.2  
Miles

## 2018 BID GUIDANCE

\*\*\*2018 HERBICIDE TREATMENT BID NOTE\*\*\*

PLEASE PROVIDE A BID FOR PERFORMING AN HERBICIDE TREATMENT IN 2018 AS OUTLINED BELOW:

TARGET SPECIES: VARIABLE MILFOIL

TREATMENT ACRES: UP TO 20 ACRES

MEAN DEPTH OF TREATMENT AREAS: 7 FEET

TREATMENT DETAIL: LATE MAY OR EARLY SEPTEMBER 2018

TREATMENT AREAS MAY BE SMALLER THAN THE FOOTPRINT SHOWN, AND WILL BE FINALIZED BASED ON FIELD SURVEYS PRIOR TO TREATMENT. NOTE THAT BOTH KNOWN AND POTENTIAL TREATMENT AREAS MAY BE DELINEATED ON THIS MAP.

PLEASE PROVIDE PRODUCT OPTIONS AND APPLICATION RATES THAT YOU DEEM APPROPRIATE FOR THIS SITE, AS WELL AS A LINE-ITEM BUDGET SHOWING PROJECTED COSTS.

BIDS ARE DUE AT NHDES, CARE OF AMY SMAGULA AT AMY.SMAGULA@DES.NH.GOV BY FRIDAY NOVEMBER 17, 2017.







Naticook Lake 2018 DASH Bid

1.) Team Information Cost		\$ 625.00/day
Number of Divers	<u>2</u>	
Number of Surface Support Personnel	<u>1</u>	
Other Staff	<u>0</u>	

Personnel Info:

- The work crew consists of 3 on-site personnel. Two members (safety diver and tender) are on the DASH vessel during operation with one member (head diver) in the water.
- **Personnel Certifications** – Divers are Open Water and Weed Control Certified. The head diver has a Commercial Boating License. All team members are CPR/AED/First Aid trained and certified per OSHA regulations. Aqualogic is approved by the NHDES and meets all local and federal regulations.
- **Head Diver** - The head diver is the point man of the DASH operation. He completes the milfoil harvesting, directing his/her crew through the areas marked by the DES and local association in the most efficient manner possible.
- **Safety Diver** - The safety diver uses OSHA mandated 2-way communication to stay in contact with the head diver as he harvests milfoil. He makes sure that the equipment (DASH boat, dive equipment, ect.) are always clean and organized at the end of the day. He/she is also weed control certified and has the ability to switch with the head diver to harvest milfoil if they are fatigued.
- **Tender** - The tender's role is to keep the DASH operation running. This includes moving the milfoil from the screen to buckets, filling the gas and checking the oil, priming the foot valve and assisting the diver with his equipment as he enters and exits the water. They fill out the data sheets at the end of the day and send them to the project manager. All tenders are certified and trained in the spotting and handling of milfoil.
- **Project Manager** – Wayne K. is the project manager for all N.H. contracts. He receives the daily reports from the tender. At the end of each work week he sends the daily harvest reports and a harvest map to both the local association and the DES.

2.) Equipment Cost	\$300.00/day
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Description of Equipment to be used/provided:

- Garmin GPS – Progress maps and reports are sent at the end of each work week.
- All needed SCUBA equipment
- Liquivision Dive Watch
- Go Pro for Video (if need be)

- DASH Unit
- 33 gallon Brute Buckets
- Aquacom 2 Way Communication per OSHA regulations
- Ocean Tech Systems Full face mask for all diving personnel
- Drop down poll for DASH unit – This poll drops through a hole in the deck and keeps the boat in place.

3.) Cost per day \$300.00 + \$625.00  
\$ 925.00

Description of **DASH**:

- Each workday includes up to 2 hours of preparation, area survey and clean up, and 6 hours of total dive time. Tenders record when the diver enters and exits the water.

Description of **Hand/Bag Harvesting**:

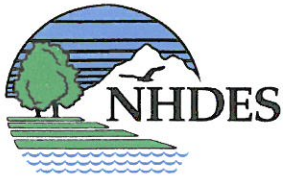
- Each workday includes up to 2 hours of preparation, area survey and clean up, and 6 hours of total dive time. Tenders record when the divers enter and exit the water.

4.) One Time Set Up Fee \$100.00

5.) Estimated Project Cost:  

- Based on 10 Days \$9,350.00

Note: The estimate is what it is. There are no up-charges or extra costs. We believe in a low price because it allows for more DASH days to be completed.



The State of New Hampshire  
**Department of Environmental Services**



Robert R. Scott, Commissioner

February 6, 2018

**RE: Variable Milfoil Management in Horseshoe Pond and Naticook Lake, Merrimack**

To Whom It May Concern:

The purpose of this letter is to provide an update about the status of variable milfoil in Horseshoe Pond and Naticook Lake in Merrimack, New Hampshire.

The Department of Environmental Services (DES) has been monitoring each waterbody closely over the years, to track growths of variable milfoil, and make recommendations and grants for management. Each waterbody is surveyed by DES at least two to three times each growing season, so that management recommendations for each pond can be made on real-time growth conditions in the lake. Additionally, lake residents have been trained to serve as volunteer "Weed Watchers" who survey their waterbodies monthly (or more often) during the growing season, looking for growth.

Horseshoe Pond:

Horseshoe Pond has the longest history of variable milfoil growth in the Town of Merrimack. Variable milfoil was first documented in the pond around 2000. Since then the variable milfoil has shown periods of high and low density, depending on when management actions were performed. In the past, management used to be responsive to local complaints about growth, but in recent years we have shifted to a routine management goal, where we work to reduce the overall density and distribution of milfoil with herbicide treatment, and then shift to a more non-chemical means of control like hand removal or diver-assisted suction harvesting to keep densities low perpetually. For some waterbodies this works well, but for some milfoil can quickly rebound if diving is not effectively controlling growth. This is what we saw in Horseshoe Pond in 2016. As such, we performed a lake-wide herbicide treatment in 2017, to greatly reduce variable milfoil growth, with good effect. By the end of the growing season only a few stems of milfoil were detectable in the waterbody, and divers were sent in to remove those growths. DES again recommends planning for an herbicide treatment in 2018, as sometimes it takes two consecutive years of treatment to fully target the plants. A bid for two different herbicides was submitted, one for Navigate which has been used in the past, and one for Procellacor, which is a new aquatic herbicide. We recommend using Procellacor, as the manufacturer of the product guarantees 95% control through the treatment season, and if it is not sustained a year post treatment, they will provide product for a treatment the next year (just costs for herbicide treatment labor/permitting would be incurred). We also recommend planning for diving if needed.

Naticook Lake:

Naticook Lake milfoil was documented in 2012, as a large patch of growth near the boat launch and near the island in the lake. Diver work, followed by herbicide treatment, worked to reduce the growth, and since that time the infestation has been managed by divers quite effectively. Naticook Lake has a very dedicated and thorough group of individuals who survey the lake regularly, and mark infestations as they find them. The marked areas of growth are then visited by divers who hand remove the growth, often with on-site support from local volunteers, to guide the divers to the infestation. This has very effectively worked to keep milfoil densities low in Naticook Lake, therefore recommendations for this waterbody include careful monitoring and regular hand harvesting of any milfoil growth through the growing season.

[www.des.nh.gov](http://www.des.nh.gov)

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DES has offered grant funds to both waterbodies for control of the milfoil in 2018. A 25% grant award is available for costs incurred in each waterbody based on bids received by DES (the town was copied on all bids). DES has already sent grant paperwork to the town for completion, and then will work to finalize the grant so funds are available by the time ice out occurs and management actions begin.

In summary, both infested waterbodies in the Town of Merrimack have some milfoil control projects recommended for them in 2018 and beyond. The infestation in Naticook Lake appears to be stable and manageable by diving in 2018; however, the infestation in Horseshoe Pond requires more careful monitoring and more intensive management until it has a couple years of low growth that can be maintained at low levels.

Please feel free to reach out with any questions you may have on this. I can be reached via email at [Amy.Smagula@des.nh.gov](mailto:Amy.Smagula@des.nh.gov), or via phone at 603-271-2248.

Sincerely,



Amy P. Smagula  
Limnologist/Exotic Species Program Coordinator