

**Form 430 Request for Funds Invoice***Form must be filled out entirely before payment is released***Grantee Name:** TOWN OF LUDLOW**Grant #** 06140-AQ19-13 **Purchase Order #:**      **Payment#:** 2      **Amount Requested:** \$4,618.80**Performance Measures and Deliverables**

All deliverables due no later than December 31, 2018.

Milestone #	Deliverable Title & Deliverables	Estimated Timeline	Amount
1	Signed Grant Agreement; Copy of a press release issued to at least one local media outlet identifying the project and indicating that DEC funds were received; A list of all staff working on this project, and their roles; A revised timeline for project completion (if initial timeline has changed); An estimated working schedule for the greeter program; Evidence that a special use permit has been applied for through the Dept. of Fish and Wildlife to operate a greeter program at the access area.	July 31, 2018	\$3,079.20
2	Project completion report as outlined in Attachment A; Submission of all collected greeter program, monitoring, and harvesting data to DEC.	December 31, 2018	\$4,618.80
	Total		\$7,698.00

**Approvals for Payment****Signed by:**

Grantee:

Scott Murphy

Date: 12/14/18

Title: Municipal Manager

For Department Use Only	
DeptID:	6140040210
Fund:	21862
Program:	53129
Project ID:	MBR

The Grantee certifies that the invoiced amounts have been spent on allowable activities and purposes in accordance with the grant agreement.

State's Grant Manager: \_\_\_\_\_ Date: \_\_\_\_\_

The Grant Manager has reviewed the financial and work plan reports submitted to date and finds they are in accordance with the grant agreement

DEC Business Office: \_\_\_\_\_ Date: \_\_\_\_\_

The DEC Business Office processed the current invoice for payment on signed date.

For: Josh Mulhollen at [josh.mulhollen@vermont.gov](mailto:josh.mulhollen@vermont.gov)

## **Project Overview**

We worked this year to continue an ongoing Eurasian Watermilfoil spread prevention and control program at Lake Rescue in Ludlow, including: monitoring, hand-pulling, scuba and snorkel, lake-user education and out-reach and a public access Greeter Program.

The major project element of the Lake Rescue Plan is to continue to conduct an aggressive campaign of monitoring and hand-pulling the weed when found. Our objective, as before, is to prevent the milfoil plant from growing and spreading throughout the lake.

We scheduled our divers to come twice a week from May to mid-September to monitor and pull weeds before they could grow and develop into a hot spot and spread further.

The second major element of our program is to continue the Access Greeter program to prevent the spread of milfoil by boats entering the lake and to educate the public about the dangers of aquatic invasive species.

The third element is to continue to educate membership and the public through newsletters and the annual meeting of the Lake Rescue Association.

The fourth element is long term. Through mapping where and how many milfoil plants are removed, we will evaluate the amount of infestation and the spread of plants in order to determine whether additional measures are needed.

## **Maps of Water Body**

Enclosed is a map of Lake Rescue showing findings and removal of an estimated 1,078 Eurasian Watermilfoil plants in 2018. Marked in red X's on the map are the locations where milfoil was found and removed from May 30<sup>th</sup> to September 14, 2018. Please note that Map 1 shows the Round Pond section and the northern part of the main body of Lake Rescue where about 94 percent of the plants were found and removed. Map 2 shows the rest of the perimeter and four coves in Lake Rescue. The two most southern coves of Lake Rescue had a big increase in plants found and removed at 128 plants. The two maps are a summary of the 25 to 27 individual maps provided each time the divers searched Lake Rescue. The yearly total of plants found in Lake Rescue is as follows: 1998 (70); 1999 (20); 2000 (40); 2001 (10); 2002 (39); 2003 (12); 2004 (0); 2005 (0); 2006 (0); 2007 (0); 2008 (0); 2009 (0); 2010 (0); 2011 (0); 2012 (0); 2013 (1); 2014 (80); 2015 (300-400); 2016 (500-600); 2017 (1,078); 2018 (2,058).

## **Estimate of Number of Plants Removed**

The milfoil divers (Cat and Shane Yoder) searched for 27 days for Eurasian Milfoil in Round Pond and Lake Rescue starting on May 30 and ending September 14, 2018. They removed approximately 361 gallons of Eurasian milfoil or approximately 2,058 plants, mostly in Round Pond and the northern part of Lake Rescue and in the narrows between the two bodies of water. In the 27 trips there were 325 hours of diver time. Most of the plants removed this year were still small, young, first-year growth and spread out. Note: the Yoders disposed of some of the milfoil plants on their farm in Tinmouth, VT, away from waterways. The Yoders are thoroughly experienced with milfoil, having worked to remove the plant from Tinmouth Pond over the last four years. They also received permission to dispose of the milfoil in an alternate location in Ludlow.

## **Project Completion and Expenditure Details**

We had two divers (Cat and Shane Yoder) to search Round Pond, the main body of Lake Rescue and Lake Pauline to find and hand-pull Eurasian milfoil. They each searched six to eight hours per day for the thirty-one days totaling 325 hours. They removed approximately 361 gallons or about 2,058 plants. Each day they were here, we marked a map showing where they searched and the location and the amount of plants they removed. When they pulled the milfoil plants, they also tried to remove the roots and placed all of this in a mesh bag. The total expenditure for the two of them for the 31 days and for the 394.5 total hours was \$14,605.

We employed two Greeters at the fishing access to screen for milfoil plants on boats. The Greeters worked for 191 hours and inspected 289 boats during the summer for a total expenditure of \$1,995. They found no milfoil fragments on any boats coming into the lake during their inspections. The paid greeters and two volunteer supervisors from the Lake Rescue Association completed training from the Vermont Department of Environmental Conservation this past spring. The greeters are trained to inspect watercraft, i.e. canoes, kayaks, sailboats, fishing boats, speedboats, etc. and their trailers for signs of invasive water species such as Eurasian milfoil and zebra mussels. When recreational boaters arrive at the ramp the greeter interviews the boaters and records what lakes and bodies of water have been previously visited by watercraft. An inspection is made and if suspect material is found, the owners are instructed how to clean their vessels. The owners are also advised that there is Milfoil present in Lake Rescue and their boats should be thoroughly cleaned when they leave the lake.

The final expenditure for In-Kind Personnel totals \$2,480. One item is Program Administrator/Coordinator (Frank Wingate) for the milfoil divers for an equivalent of \$1,640 for in-kind volunteer services. There were 82 hours of volunteer services at the equivalent

\$20/hour. Those volunteer services include coordinating each visit by the milfoil divers and preparation of maps and reports. The second item is for the Program Administrator/Coordinator (Bruce Zanca) for the Access Greeter Program for in-kind volunteer services of \$720. There were 36 hours of volunteer services at the equivalent rate of \$20 per hour to organize, run and supervise the program.

### **Major Problems**

Lake Rescue is still affected by the nutrient rich environment created by tropical storm Irene in 2011. There is a thick layer of soft sediment on the bottom which helps the milfoil plants to grow, and when disturbed, causes large sediment clouds obscuring vision. Water clarity was poor in 2012 and 2013, and it was not until the fall of 2014 that we discovered and removed a large patch of milfoil in Round Pond. In 2015 in the favorable growing conditions in July and August, we found the milfoil plants spreading further into Round Pond and the northern part of the main body of Lake Rescue.

In 2016, 2017 and now in 2018 we have continued to find small milfoil plants (one to three footers) spreading in Round Pond and the northern part of the main body of Lake Rescue. In one place in Round Pond and in another in northern Lake Rescue the plants have become denser and closer to the surface and when the lake level is low motor boats have hit these plants and spread them downstream. Note the Black River flows through these two “hot spots” and the strong current helps spread the fragments into the two southern coves of Lake Rescue. As a result there has been a marked increase in the number of young milfoil plants found in the two southern coves. Judging by the number of fragments found floating in the two southern coves, our divers will have to visit these areas more often next year. The problem is that due to the murky sediment layer, the hidden roots, the tiny milfoil plants can grow very fast during the warm conditions. As noted this year we also found milfoil fragments floating down the main part of the lake. The problem is unless you have frequent surveys in the hot growing months, the lake can become quickly infested with milfoil.

### **Results and Successes**

Even though the number of milfoil plants we found this year was double the number of milfoil plants found last year, we think we have stemmed the tide of a major infestation. Most of the plants found this again this year were young, new, and first year growth. We still fear we are facing a major infestation of milfoil. Fortunately with twice a week visits by our divers, the milfoil plants did not spread out of control. If we had not continued the number of diving hours

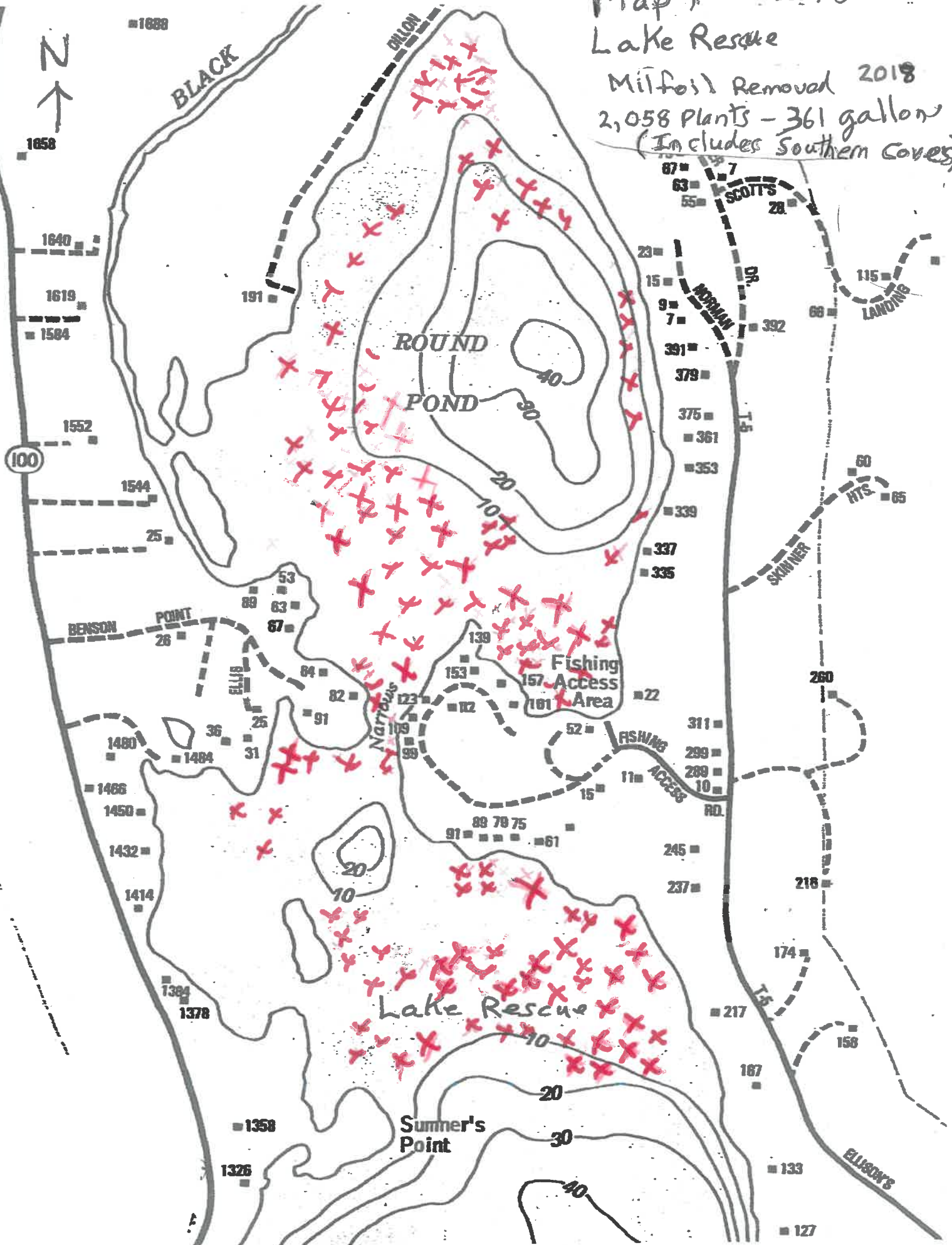
this year, the lake would have been choked by surfacing milfoil by now. The hand pulling and mesh bagging system used by the Yoders has kept a major growth of milfoil in check.

By employing Cat and Shane Yoder for the past four years, we have stopped milfoil from making parts of our lake impossible to boat or swim in. We are in the situation where the monitoring and hand pulling system is still the best method of stopping, containing and reducing milfoil however our divers can only spend so much time pulling milfoil. The Yoders have recommended we apply to use a bottom barrier system which would be placed on our milfoil "hot spots". **Instead of having our divers coming each week and spending most of their time pulling 25 to 30 gallons of milfoil from our hot spots they could place a bottom barrier on these dense spots and spend their diver time searching and pulling milfoil plants trying to spread elsewhere in the lake. We believe that we need to continue twice a week visits by the Yoders next year, but the bottom barrier program will help them stop the spread of milfoil in Lake Rescue.**

Map 1 2018

# Lake Rescue

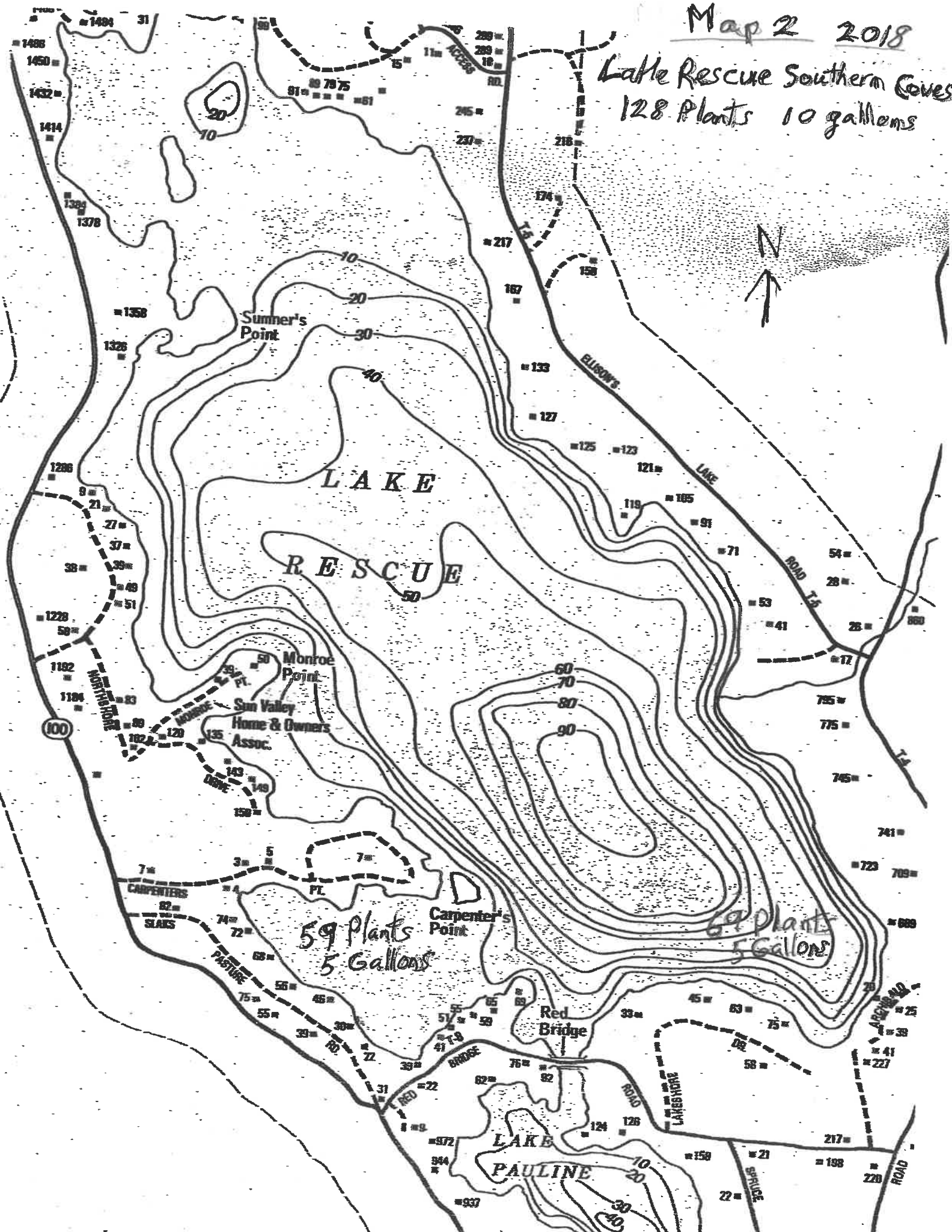
Milfoil Removal 2018  
2,058 Plants - 361 gallon  
(Includes Southern Cove)





Map 2 2018

Lake Rescue Southern Cove  
128 Plants 10 gallons



**Attachment D**  
**Final Expenditure Form**

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**PROJECT:** 06140-AQ19-13      **WATERBODY:** Lake Rescue      **TOWN OF LUDLOW**

**A. PERSONNEL SALARIES**

Total <sup>#</sup> 16,605

**B. FRINGE BENEFITS** (Percentage of paid salaries, e.g., social security, health, etc.)

Total \_\_\_\_\_

**C. Travel** \_\_\_\_ miles at \$0.54

Total \_\_\_\_\_

**D. EQUIPMENT**

Total \_\_\_\_\_

**E. SUPPLIES**

Total \_\_\_\_\_

**F. CONTRACTUAL**

Total \_\_\_\_\_

**G. OTHER**

Total \_\_\_\_\_

**H. INDIRECT COSTS**

Total \_\_\_\_\_

**I. IN-KIND PERSONNEL** (Hours accrued only during calendar year of grant award)\*

Total <sup>#</sup> 3,200

**J. IN-KIND SERVICES** (Donated or unpaid, equipment, supplies, etc.)

Total \_\_\_\_\_

**K. TOTAL EXPENDITURES**

<sup>#</sup> 19,805

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**\* In-kind Personnel Rates:**

<u>Component</u>	<u>Rate</u>
Education	\$15.00 per hour
Engineer	\$50.00 per hour
Handpuller (non-scuba)	\$18.00 per hour
Program Administration/Coordination	\$20.00 per hour
Scuba Diver	\$25.00 per hour
Watcher/Searcher	\$12.00 per hour



## Attachment E 2018 Greeter Program Reporting Form

*Complete both sides*

### Program Training History

**Note:** Grant-in-Aid program funding for a greeter program is contingent on at least one program participant attending training within the last two years.

Please provide the names of all program participants (program coordinator, volunteer, or paid staff person) that participated in a state-run greeter training workshop within the last two years. Circle the year training occurred.

Name (please PRINT)	Coordinator, Volunteer, or Paid staff?	Training Year (circle one)	
Bruce J. Zanca	Coordinator	2017	2018
Chris Mott	paid greeter	2017	2018
		2017	2018
		2017	2018
		2017	2018
		2017	2018
		2017	2018
		2017	2018

### 2018 Program Summary

**1. Name(s) of 2018 Greeter Program Coordinator(s):**

Bruce J. Zanca

Email address bruce@zanca.com

**2. Total number of boats inspected in 2018:** 289

**3. Number of inspected boats (launching or retrieving) that were found to be carrying *any* plant or animal material:**

Number carrying plant/animal material when launching: 0

Number carrying plant/animal material when retrieving: 0

*continued on next page*

none

06140-AQ19-13

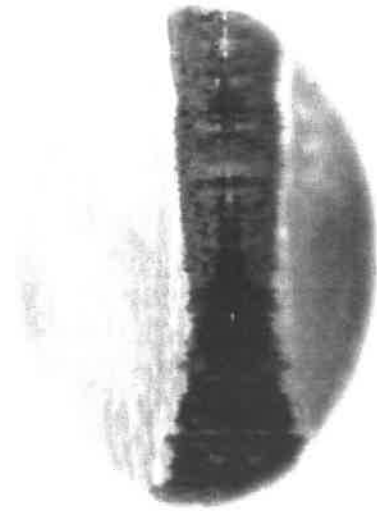
4. In the table below, please provide information about all incidents in which invasive species were suspected and/or confirmed.

Date	Was boat launching or retrieving? (circle one)	If launching, last waterbody visited	Invasive species suspected (indicate Eurasian watermilfoil, zebra mussel, etc.)	Photo/sample submitted to DEC for confirmation?	Comments
	Launching Retrieving	N/A			
	Launching Retrieving				
	Launching Retrieving				
	Launching Retrieving				
	Launching Retrieving				
	Launching Retrieving				
	Launching Retrieving				
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	Launching Retrieving				

## Lake Rescue Association, Inc.

The LRA is an environmental and ecological 501c3 non-profit organization dedicated to the preservation of waters in the lakes district. Our activities are intended to build a stronger lakes district community and protect the watersheds of Lakes Pauline and Rescue. Begun in 1933, the LRA has for over 85 years promoted water safety, environmental education, improved water quality, and resolution of pertinent lake matters. We invite you to join the LRA and support its activities.

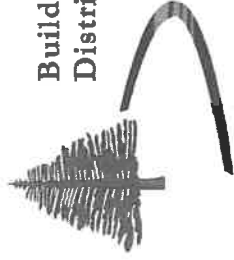
The LRA relies on modest annual member dues, grants, and other donations from association members and community sponsors.



**LAKE RESCUE  
ASSOCIATION**

P.O. Box 372, LUDLOW, VT 05149

Building a Strong Lakes  
District Community



## Lake Rescue Association



**Our mission is to maintain,  
restore, and ensure the  
future of our lakes.**

**Join us!**

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PO Box 372  
Ludlow, Vermont 05149  
[www.lakerescue.org](http://www.lakerescue.org)

## What Does the LRA Do?



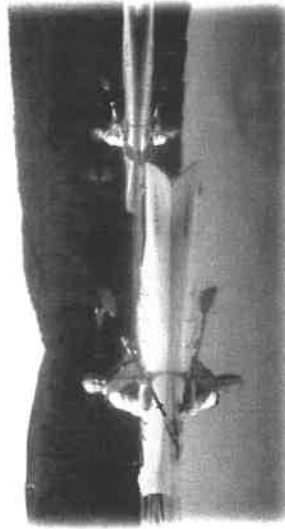
The Lake Rescue Association is an active organization, using its funds to maintain many initiatives for our membership, some planned, and some, like recovering from Tropical Storm Irene in 2011, unexpected. It is managed by a volunteer board of 9 directors and invaluable help from volunteers. We address a variety of issues and questions as they arise. Today, the most pressing challenge we face is the control of the invasive aquatic plant, Eurasian Milfoil. On an ongoing basis, through direct initiatives and community education and outreach, the LRA promotes:

- ♦ **Lake Health** - shoreline protection, water quality monitoring, milfoil eradication, sediment and erosion control
- ♦ **Lake Safety** - boating safety, ice safety
- ♦ **Community** - environmental education, lake community connections, pertinent issues, member events, newsletters

## Healthy Lakes Promote a Healthy Economy

Ludlow and the wider lakes region community is blessed to be situated in beautiful Okemo Valley with all its splendid natural and cultural amenities. As we know, the lure of our pristine lakes, mountains, quaint and historic villages, and New England charm are significant economic drivers in our region.

Ensuring responsible stewardship of Lakes Rescue and Pauline is not only the mission of the Lake Rescue Association, but is essential in maintaining robust property values, a vibrant lakes community, and strong tourism interest.



**The work of the LRA benefits us all. We need your support. Become a LRA Member today.**

If you are already a member, or will help spread the word, share this pamphlet with a lakes district neighbor or friend. *Thank you!*

**Join us! Please consider joining and/or supporting the Lake Rescue Association.**

- ♦ If you are a lakes district property owner, we encourage you to become a **Full Member**. Dues are only \$50 a year per property.
- ♦ If you are not a property owner and are concerned about maintaining the health of our lakes, consider becoming an **Associate Member**. Dues are \$50 a year.
- ♦ If you are a concerned business or organization and wish to support our work for the betterment of our community, consider becoming a **LRA Sponsor**. Please inquire.
- ♦ We are always in need of and very grateful for donations; consider becoming a **LRA Donor**.



Membership, Sponsorship, and Donation information can be found by emailing us or on our website:



**lakerescueassn@gmail.com**  
**www.lakerescue.org**