



Shadow Lake Association

Formal Request For Petition of Temporary Closure

To exceed 90 days for a designated area of Shadow Lake, Glover VT

In accordance with section 4 of the VT Use of Public Water Rules

April 22 2014

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Shadow Lake Association Petition for Temporary Closure; list of Attachments:

- A. VT ANR Shadow Lake map with EWM sites and corresponding spreadsheet of EWM harvested at those sites around Shadow Lake, 2011 to date.
- B. Dept. of Water Resources depth/contour map of Shadow Lake, Glover VT, revised 2002, with enlarged thumbnail showing the specific proposed Temporary Closure zone for 2014.
- C. SLA lake map of all numbered camp properties.
- D. List of names and addresses of Danforth Cove camp properties, #102-106, impacted by proposed Temporary Closure.
- E. SLA Summer 2012 EWM flyer; 2012 Fall EWM update flyer; 2012 Barton Chronicle newspaper SLA EWM article; 2013 Fall EWM update flyer; 2014 EWM objectives added to SLA 2014 newsletter.
- F. WSMD generated spreadsheet of EWM totals pulled from Shadow Lake.
- G. 2013 letter from Ben Copans to Christine Cano re; Danforth Cove shoreline delta mound and stream bank erosion.
- H. 2013 SLA letter to Visitor re: violations of VT State Divers Down Flag law.

VT Agency of Natural Resources
VT Department of Environmental Conservation
Water Quality Division
National Life
Montpelier VT 05602
Attn. Matthew Probasco

April 22 2014

Petitioner:

Shadow Lake Association (SLA)
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Re: SLA formal request for Petition of Temporary Closure to exceed 90 days for a designated area of Shadow Lake, Glover VT in accordance with Section 4 of the VT Use of Public Water Rules.

Dear Matthew Probasco,

Shadow Lake has a pioneer infestation of the aquatic invasive species Eurasian Water milfoil (*Myriophyllum spicatum*) or EWM. The EWM was first discovered in the summer of 2011 growing in the Northern area of the lake locally known as 'Danforth Cove'. Since discovery, the plant has spread to other locations. Attached for your reference is a VT ANR Shadow Lake map showing the locations of the State boat access, the Glover public beach, Danforth Cove and all the sites of EWM found to date. (see Attachment A)

Since the confirmation EWM in the lake, the SLA has consulted with the State and various EWM professionals to address all the possible ways to control or eradicate the infestation. In November 2011, SLA covered the majority of EWM plants with benthic barrier mats that we anchored orange buoys around each spring to delineate the Milfoil growth perimeter. The orange buoys serve as a visual aid to mark the EWM area and to warn all humans not to enter or disturb this critical area while we try to manage and control the spread. We also place buoys at all other Milfoil sites around the lake.

We have achieved success controlling smaller sites around the lake where one or several milfoil plants have popped up but our repeated efforts to control the spread in this Cove area are currently hampered by several factors. Please refer to this petition's 'SLA Active EWM Program' section on page 3.

Shadow Lake is located in Glover, VT. The lake surface area is approximately 210 acres.

Total area proposed for temporary closure:

The total area of requested temporary closure constitutes not more than 10 percent of the lake surface area.

Total area adjacent to proposed temporary closure area:

The total area adjacent to the shoreline closed constitutes not more than 10 percent of the shoreline of the lake.

Area configuration

Every reasonable effort has been made by SLA to configure the area that we are requesting closure for, to minimize the impact on the use of any public access area and to provide access to the body of water for all shoreline property owners.

For your reference a VT State Shadow Lake depth/contour map is included with thumbnail enlargement of Danforth Cove showing in site specific detail the proposed zone for temporary closure in 2014. (See Attachment B)

The Cove area we are seeking temporary closure for is located at the Northern end of the lake. The southern end of the lake is where the Glover town public beach and State fishing and boating public access are situated.

- We are requesting to only close a small area within the greater area of Danforth Cove.
- The total surface area of the Cove is approximately 2 acres.
- We propose closing approximately 1 acre of the Cove or 0.005% of the lake's surface area, more specifically the middle section of the Cove where the majority of plants are growing.
- The closing is necessary due to the high recreation in the control area that is disturbing the submersed mats covering the EWM. The milfoil can escape and spread when the mats are out of position.
- Danforth Cove has only 9 camps with lake frontage and are numbered on the map from #100 thru #108. Our plan for temporary closure includes consideration for the property owners who share the Cove and those who will be more directly impacted, camps #102 -106. (See Attachment C)
- The property owners of those 5 camps and their postal addresses are provided. (see Attachment D)
- For your reference a straight line distance between camp 100 to camp 108 is approximately 700 feet.
- The proposed temporary closure area will not extend directly to the shore line. There will be room for swimming and other recreation. All camps will still be able to access their shorelines via two designated vessel traffic channels allowing for ingress and egress to and from the lake interior while protectively avoiding the proposed closed area. That closed area will have its perimeter marked with the buoys.
- The manner in which the closed area will be depicted is similar to what is shown on the Cove thumbnail of the SLA 2012 flyer. That educational flyer was sent to all camp owners and shows the approximate EWM infestation area and vessel channels. This flyer is one of many SLA past efforts to educate lake folks about the infestation and promote a community of cooperation to minimize the EWM spread to protect and preserve Shadow Lake. Several flyers from SLA posted to the camp owners are also included. (See Attachment E)
- The SLA proposes to supply cement block anchors tied with half inch rope to 12 inch round high visible orange buoys positioned approximately every 12 feet to mark the perimeter of the proposed temporary closure. We propose these buoys will be roped together with floating swim ropes and all buoys will be marked with reflective tape.
- The SLA also requests to post official State 'closed zone' signs for several spots around this buoyed perimeter to notify people/vessels to not enter. The signs are proposed to be floating and anchored to the lake bottom. SLA will post this petition's Attachment E map as well as create a new map of the temporary closure area for our lakeside sign boards, the boat access sign board and Glover town office.
- SLA officials will maintain the rope, buoys and signs regularly, at least weekly.

- There will always be some level of surveillance over the closure area with the help of several campers in the Cove who recognize the need for stricter controls in the area to protect the EWM from spreading.
- We seek State guidance on the content for the signs and suggest the signs be similar in size to State Loon nesting metal signs. The SLA would be responsible for ordering the custom made metal signs.

SLA Active EWM Program

Overview of our EWM control activity to date:

Since EWM was first confirmed growing in the lake in 2011, with the professional support and excellent guidance of Ann E. Bove, Lakes and Ponds Management and Protection Program, the SLA has taken a proactive approach to aggressively try to manage and control the EWM spread. Our snorkel volunteers immediately began the job of hand removal to help between the visits from Ann's team. We have worked closely with the town of Glover, followed by applying for and receiving a permit to place benthic barrier mats to contain the plants and hired a professional team to do the work.

We also have hired our own scuba professional to dive weekly and pull EWM at several locations around the lake throughout the summer. Our dedicated volunteer snorkel team has effectively pulled a tremendous amount of EWM and continues to monitor the entire lake shoreline and search for new sites. When we have discovered EWM in new locations of the lake we have formed a rapid response team to mark the spot, pull the plants and have achieved success to stop the spread at those sites. We carefully monitor those sites and keep a permanent record of how many individual plants or bags of plants have been pulled. We have supplied that information to the State. (see Attachment F)

A permit has also been obtained for suction harvesting at the Danforth Cove area if needed in the future. During the 2014 season, Ann Bove has agreed to conduct a study of the EWM in the Cove by removing a small section of barrier mat to monitor if the EWM is growing or if the mats are working to kill off the EWM. The plan is to heavily buoy that spot adding an outline of underwater wire flags. Depending on the outcome of Ann's study and with her guidance SLA will consider if suction harvesting would be necessary as our next best plan for control.

The proposed temporary closure will ensure Ann's ongoing summer EWM monitoring project is not disrupted by any recreation in that critical area.

Our efforts to educate the public to bring awareness of the EWM problem has included continuously notifying and updating all campers through annual newsletters, circulating educational materials and flyers, posted materials at informational sign boards around the lake, at the boat access and within the local newspaper to build a community of support. We have also talked personally with many campers to share all information and news as it unfolds to instill the importance of taking this spread of EWM seriously. The majority of people around the lake now understand and recognizes EWM as a threat to the health of Shadow Lake and have given their full support to control the EWM.

- Outreach efforts include an active greeter program.
- Ongoing lake wide searches and surveys.
- Watershed awareness development of strategies to evaluate and prioritize our focus on the adverse stressors areas and any shoreline in need of stabilization.
- We have identified and mapped all the surrounding road culverts and storm water impacts into Shadow Lake.
- We outreach by attending the VT Federation of Lakes and Ponds meetings and network with other milfoil infested lakes.
- For many years we have had an active lay monitoring program and a staffed greeter program with a hot water boat wash.

The problem at Danforth Cove location is due to several factors;

- This site is where the densest growth of EWM is and has required the most ongoing control effort.
- The Cove area is shallowing from the significant cumulative watershed impact including stream bank and road side erosion entering the lake via a small stream at the Cove site. Last year the SLA contacted the Town of Glover to make necessary repairs to the Danforth Cove access road, known as Clark Rd., and those repairs are now slated to begin early summer 2014. (See Attachment G)
- A visible large deltaic mound has formed at the lake shoreline in the Cove. (see Attachment B)
- The soil features above this delta deposit have a K-value for high erosion.
- One of the Cove camp properties also owns a 10-acre sloped woodland lot located directly behind the camp cottage. Recently several long big ditches were excavated in the woods with culverts added to channel a large volume of storm water runoff. In an attempt to dry out the camp lot all this run off is diverted into the small stream leading to the lake shore. The network of ditches are not stabilized with protective rock and are rapidly eroding.
- This woodland erosion problem and stream site was visited by State WSMD staff, Amy Picotte and Ben Copans as well as a member of the Glover town select board.
- All the sediments and nutrient loads via that small stream to the lake are contributing to the degradation of Danforth Cove. Those erosion and deposition factors create a nutrient rich muck substrate that allows for an ideal soil condition to support the Milfoil growth.
- Due to the shallow lake bed in this Cove area and the high water clarity of Shadow Lake the sunlight can easily penetrate the water and promote fast growth of the EWM.

Another issue is a large Bed and Breakfast business located in front of the EWM site. There is a high turnover of renters with high recreation and boating use. The B&B is rented out as the entire house throughout the summer and potentially sleeps 16 people. Also included with that property is a separate cabin rental with 5 bedrooms, all renters sharing the same frontage. The turnover of renters from Spring thru Fall constitutes a large population of visitors to this sensitive area. Many visitors simply do not understand the severity of the EWM problem. The elderly B&B owner lives off premises while renting out the B&B during the season and cannot effectively monitor the guest's lake activities and educate about the EWM.

- In an attempt to outreach and help to keep renters informed of the EWM site, with owner permission, SLA has posted two large signs at the B&B to warn visitors to avoid the buoys and to keep motoring boats to a No Wake Zone near the Cove to not disturb the EWM plants.
- We have also initiated friendly conversation with many renters to educate them about EWM, explain the purpose of the buoys, and to ask for people and their dogs to please keep off the underwater mats during water recreation.
- We frequently see kids in kayaks paddling around the buoys as a slalom course and many dogs romping around on top of the mats in the shallow section.
- We have found several fishing hooks snagged into the mats and ripped open holes in the mats where someone has retrieved a snagged lure.
- Despite our efforts to protect this EWM area we continue to find the mats disrupted. The mats are rumpled and the overlap seams are pulled apart to open an escape for the EWM.
- Once the large heavy mats are out of position it is very difficult to try and pull them back into place underwater.
- A thin layer of dark silt sediments have settled on top of the mats and have helped to block the light from penetrating. When the silt is dissipated from human or canine disturbance more sunlight can filter through the mat to promote EWM growth.
- Several Danforth Cove camp neighbors have approached the SLA with concern, frustration and anger about the B&B high recreation and the infractions by renters to not stay away from the buoys. Last year, a neighbor reported to SLA he witnessed a renter (who was curious to see what was underneath the water) hoist up out of the water one of the green coated rebars used to anchor the mats and a neighbor immediately called "to put that back."

In short, the high recreational use at this critical control site is hampering our efforts to contain the EWM therefore defeating the purpose of effectively controlling the EWM spread.

Without temporary closure SLA is fighting a losing battle!

SLA does not have the capacity to be present at the proposed closure zone to guard the site at all times. However, several neighbors in the Cove who completely support our EWM program help to keep a watchful eye on the activities that thwart or control efforts and report back to SLA.

A frequent visitor to Danforth Cove docks his fishing boat for the summer season at his friends camp located next door to the B&B. He is a retired biology teacher who refuses to believe EWM is a threat to the lake. Cove neighbors have heard him laugh aloud while boasting he has pulled EWM in on his fishing equipment and thrown the plant pieces back into the water. He motors his boat to pass through the buoys without regard for our control area. Based on his attitude SLA suspects he will continue to operate in that same manner.

A different individual from MA who frequently visits the lake and docks his boat at a friend's camp likewise refuses to avoid buoys and the safety of our snorkelers working to pull EWM from the lake. In August 2013, SLA sent this visitor a letter to notify him of violating the Divers Down flag law and to ask for his full cooperation. He also ignores the SLA requests and continues to drive through the buoys.

(See Attachment H)

Based on our knowledge of the area and our experience, SLA strongly believes for this temporary closure plan to truly work the addition of floating swim ropes between the buoys with State approved signage will best deter all recreation.

Our past efforts to find and manage new sites of EWM have proved successful. Danforth Cove is a tricky site. By temporarily closing off this small area of the lake we will add more strenuous protection to keep the EWM contained and prevent the otherwise likely spread from this Cove.

SLA requests temporary closure for the 2014 EWM growing season to exceed 90 days and if needed beyond 2014. Such action will enhance the efficacy of our active program designed and implemented to prevent, control or contain the spread of this aquatic invasive species as we continue to prevent the introduction and establishment of any other invasive species from entering Shadow Lake in the future.

Persons to access

The persons who will access this proposed temporarily closed zone to take necessary actions to control the EWM will be officials of the SLA for buoy maintenance, monitoring and our trained volunteers for EWM hand harvesting, SLA hired scuba divers to hand pull EWM and if needed any professional suction harvesting company personnel working under the guidance of the SLA.

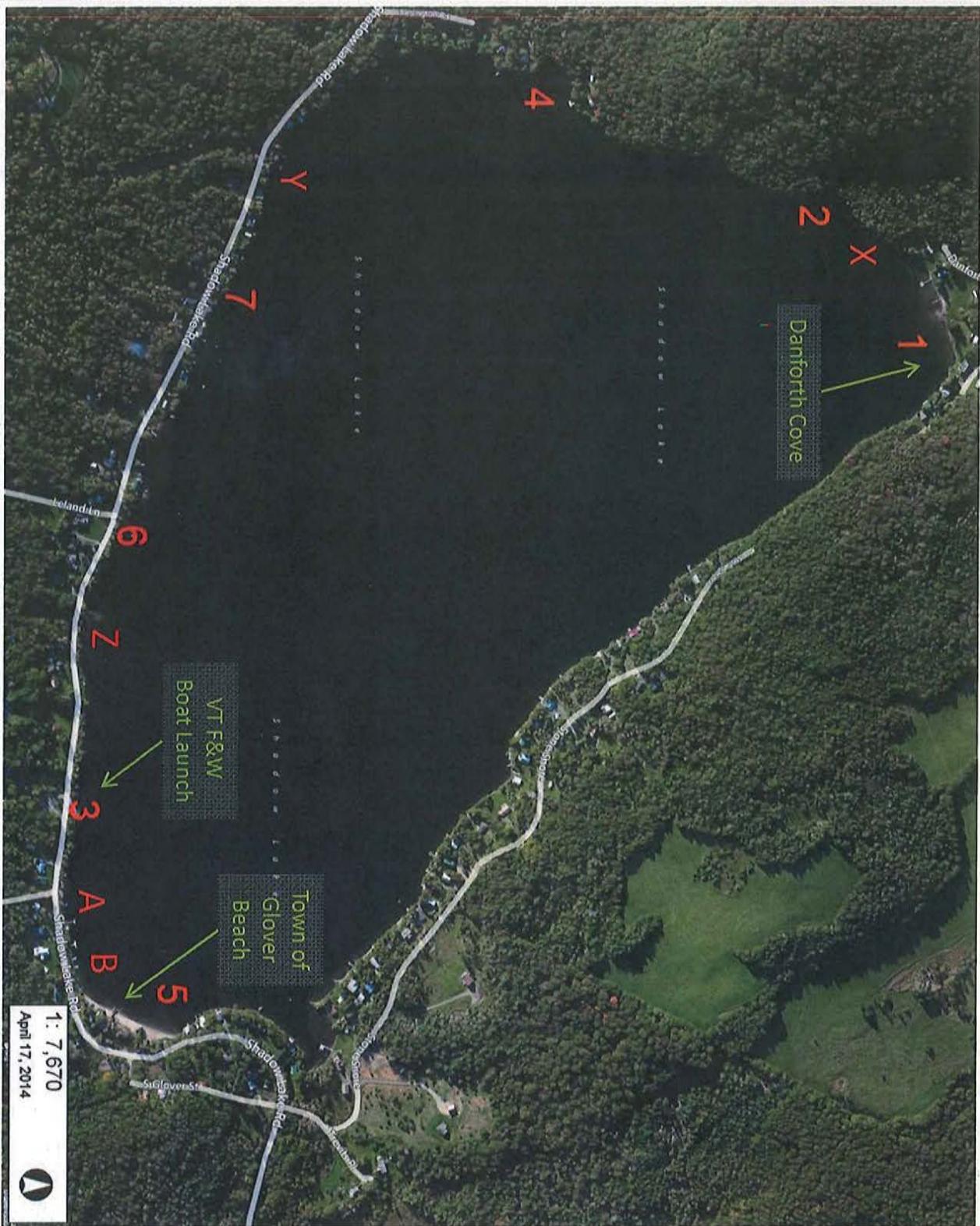
Linda and Don Gilman, Christine Cano and R. B. Hill, Jenifer Andrews, Adam Gerbak, Rob Patton, Chris Sheldon and employees, SLA Board of Directors

We kindly request this Temporary Closure petition be approved as we truly need more assistance from the State of VT to help us strengthen our control efforts as we continue to battle the EWM infestation in this critical area of the lake. This stronger support from the State of VT will help to maintain and ensure the long term health and beauty of Shadow Lake, its recreation and land values for the public good to enjoy now and into the future.

On behalf of the Shadow Lake Association we sincerely thank you for your attention and time to consider this important matter.

Respectfully submitted,

Christine Cano
Linda Gilman



1: 7,670
April 17, 2014



390.0
0 195.00 390.0 Meters
WGS_1984_Web_Mercator_Auxiliary_Sphere
© Vermont Agency of Natural Resources

1" = 639 Ft. 1cm = 77 Meters
THIS MAP IS NOT TO BE USED FOR NAVIGATION

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. ANR and the State of Vermont make no representations of any kind, including but not limited to, the warranties of merchantability, or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

LEGEND

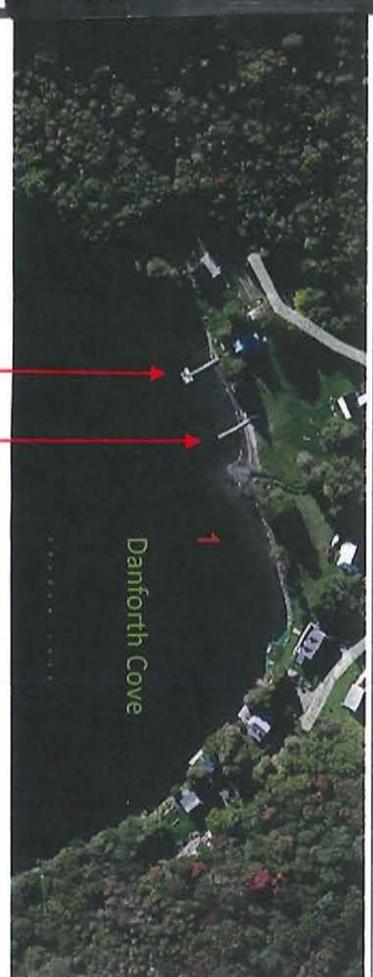
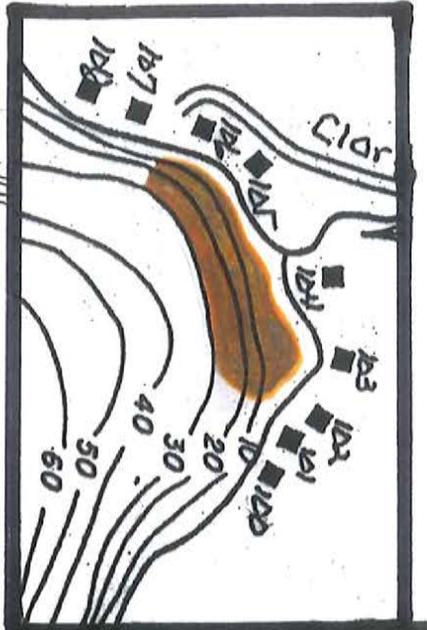
VTDEC generated areas that include the date of the first confirmation of a population of Eurasian watermilfoil:

- Area 1: 9/7/2011
 - Area 2: 9/7/2011
 - Area 3*: 9/28/2011
 - Area 4*: 8/7/2012
 - Area 5*: 9/10/2012
 - Area 6: 6/27/2013
 - Area 7: 8/29/2013
- Shadow Lake residence generated areas that include the year of the first confirmation of a population of Eurasian watermilfoil:
- Area X: 2012
 - Area Y*: 2012
 - Area Z*: 2012
 - Area A: 2013
 - Area B: 2013

*No Eurasian watermilfoil was found at these locations in 2013

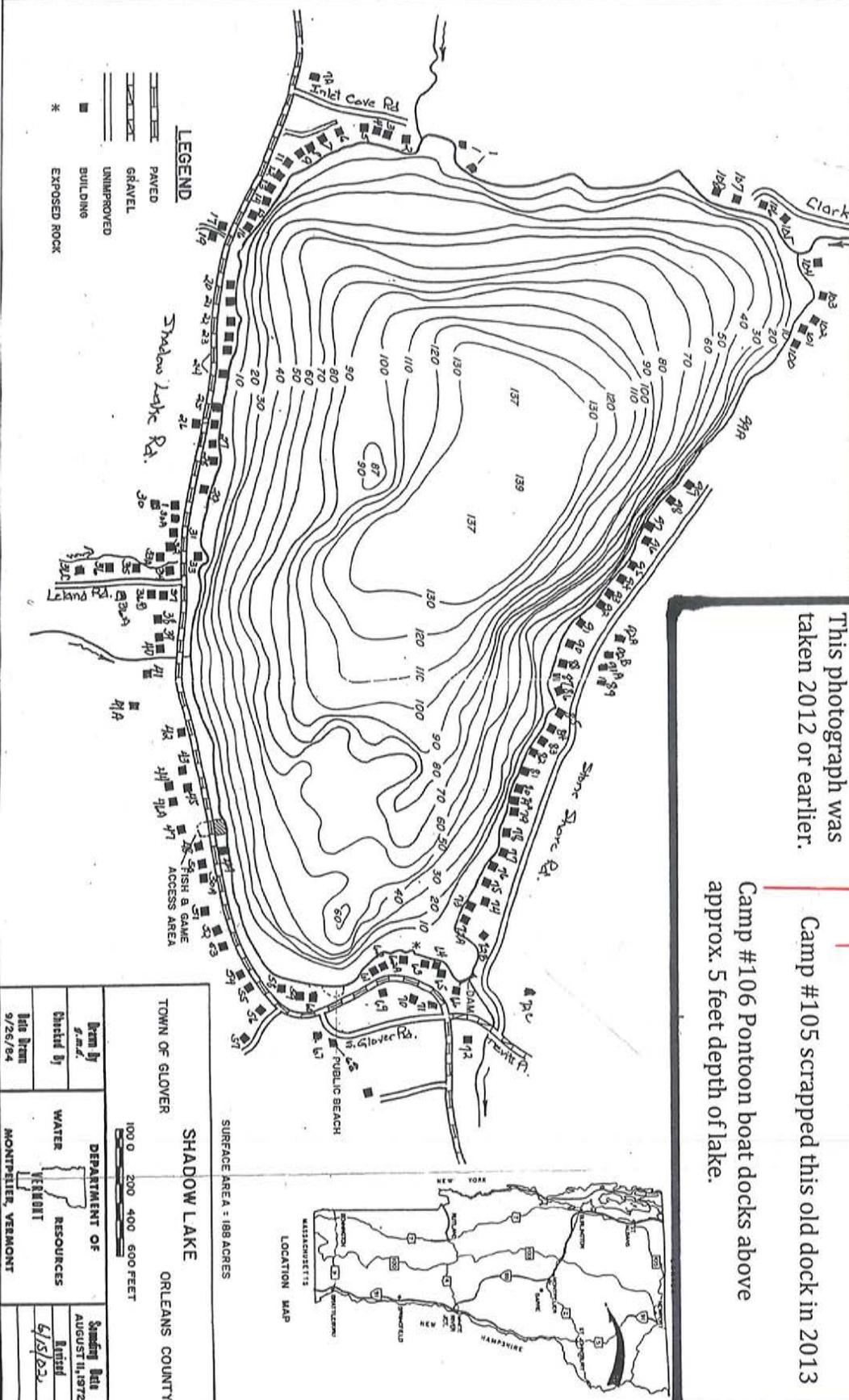
NOTES

Map created using ANR's Natural Resources Atlas



This photograph was taken 2012 or earlier.

Camp #105 scrapped this old dock in 2013
 Camp #106 Pontoon boat docks above approx. 5 feet depth of lake.



TOWN OF GLOVER		SHADOW LAKE		ORLEANS COUNTY	
SURFACE AREA : 188 ACRES		100 0 200 400 500 FEET			
Drawn by S.A.D.	Checked by S.A.D.	DEPARTMENT OF WATER RESOURCES	Stamping Date AUGUST 11, 1972		
Map Date 9/26/84		VERMONT	Revised 6/15/82		
		MONTPELIER, VERMONT			

Shadow Lake, Danforth Cove, camps #102-106 property owners and addresses:

Camp 102

Paul and Vivian O'Leary
C/o Peter Emery
197 Cold Hill Rd
Lyndonville VT 05851

Camp 103

Gwendolyn Maynard
76 Maynard Dr
Glover VT 05839

Camp 104

Marie Hawkins
155 Alstead Circle Rd
Alstead NH 03602

Camp 105

Evelyn Lussier
PO Box 192
Lyndonville VT 05851

Camp 106

Salvatore and Anne Marie Vespa
99 South Hollow Rd
Stowe VT 05672

Help Prevent The Further Spread Of Eurasian Watermilfoil In Shadow Lake

Summer 2012 To All Camp Owners and Visitors

The information provided here is to notify all interested people that we have Eurasian Watermilfoil (EWM) growing in the North Cove of the lake. The Lake Association has formed a rapid response team to try and eradicate this extremely invasive plant. The EWM is aggressive and spreads principally by stem fragments that break off, float away, anchor in new areas and turn into more & more plants. We have found these fragments floating in and around other areas of Shadow Lake, including the public beach.

Our best strategy is to control the existing EWM stands and limit its spread in the North Cove and to any other areas of the lake. Monitoring the whole lake is critical for success. We are asking everyone to please learn how they can help to join the fight to control the plant's spread to best protect Shadow Lake.

Please avoid recreation or disturbing the North Cove area where the plants are growing marked by several Orange Buoys to warn this is the weed infested area.

The EWM is growing both in the shallows and out up to a depth of 20 feet. Accordingly, all boat traffic should approach and leave the North Cove through side channels on the far west or east side of the Orange Buoys. Boats should maneuver close to the shoreline when entering or exiting and not engage motor propellers within this zone! The submerged EWM plants are very brittle by nature & vulnerable to breaking by a minimum of disturbance. As the plants grow and mature they can form dense mats that easily reach the lake's surface where even a kayak or canoe paddle dipping into the water or a pedal boat's turning paddle wheel can cause the plants to break apart and then spread!

What We All Can Do:

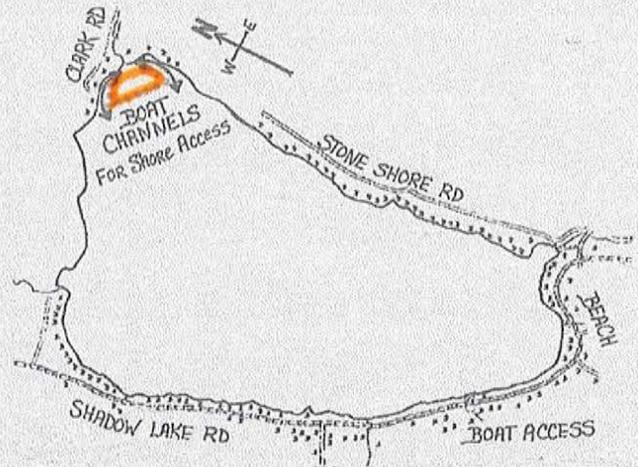
- **Seriously avoid any recreation (boating, fishing, swimming, etc.) within the area of the Orange Buoys.**
- Scuba divers will be working around the Orange Buoy zone. For safety, Vt. State Law prohibits operating a vessel within 200 ft. from a displayed red and white striped diver-down flag that indicates people are underwater.
- Motor boats limit the size of your wake outside this area as wave action can cause plants to break & spread!
- Take leadership. Learn to identify Eurasian Watermilfoil and educate others on how to not spread the plant. Do inform your family, friends and visitors where the EWM is located and to avoid the Orange Buoy area.
- Participate in carefully monitoring your shorelines out to a 20 ft. depth, being sure to check regularly for any signs of EWM. Neighbors can join together to keep a strong vigil. Protect your property and the lake.
- Active citizen involvement is required in order to receive grant monies! Any amount of time spent participating in helping to defend the lake should be logged in at the boat wash so we can obtain the needed money.
- Do join and support the Shadow Lake Association and stay informed on matters concerning the lake.
- Contribute funds to the Lake Association to fight the EWM. Help us to differ our incurred expenses & future costs of materials & hired labor. Your united support is needed Now as this fight to control the invasion will be challenging & require ongoing maintenance efforts both time consuming & costly if we are to save Shadow Lake.
- Do collect and remove any floating EWM pieces in the lake or washed ashore. Discard those pieces on dry land AWAY from any drainage areas where water run off might carry the weed pieces back into the lake.

Report immediately to any Association Board Member if you suspect EWM plants growing anywhere in the lake outside the Orange Buoy zone. **DO NOT PULL** up any plants! Do note that exact location and notify.

Ask questions & get more info. at the Lake Association's meeting; Sat. July 14th 6:00 pm., Glover Elem. School.

We hope you will take a moment to reflect on what this lake's water quality means to all of us.

We sincerely *thank you* for your cooperation and support at this crucial time to help protect and preserve Shadow Lake's future.



SHADOW LAKE ASSOCIATION – Fall, 2012 Boat Wash / Milfoil Update

P.O. Box 135, Glover, VT 05839

BOAT WASH

The primary goal of inspecting and power washing of boats entering the lake is to prevent the spread of invasive materials such as Eurasian milfoil, water chestnut and zebra mussels. Educating the public about invasive specimens is a secondary goal. The boat wash was open 12 hours a day, 6 days a week, from Memorial Day through Labor Day. During that time 320 water craft used the boat wash and boat launch services. All boaters were asked to avoid areas where milfoil has been found. Public response to the people operating the boat wash has been very positive.

MILFOIL CONTROL

Eurasian milfoil was discovered in the north cove area in fall, 2011. The Association applied for and received permission from the State of Vermont to install underwater matting, held in place with coated rebar, covering the area where most of the milfoil was found. Installation was completed by qualified divers in late fall, 2011.

In June 2012, the area was re-inspected by divers, and more plants were found in the adjacent area and most were pulled by volunteers, State divers and hired divers. In August 2012, a camp owner monitoring the inlet found milfoil and it was immediately pulled. The State returned to conduct another lake-wide search and found milfoil near the boat access. Shortly thereafter another camp owner found two new milfoil sites. At summer's end the State returned for a partial shoreline search and found milfoil near the public beach. All plants were pulled.

The Association plans to hire a company to suction the north cove area in spring, 2013, pending State approval. Hopefully the suction process will remove the primary area of milfoil, allowing easier and more efficient control of the plant.

In spring, 2013, orange buoys will be put back in the lake to continue marking milfoil areas.

What you can do to help.

- It would not be lawful, nor is it intended to limit access to any property on the lake; however, careful entry and exit from areas marked with orange buoys is very important in controlling these brittle plants which break and root very easily.
- Please be careful to watch for red and white diver's flags on the water which indicates divers are underwater nearby – it is unlawful to operate a motorized propeller within 200 feet of a displayed diver-down flag. Vermont law requires motorboats to keep 200 feet from swimmers.
- Please advise all guests of the milfoil situation and ask them to avoid or paddle in milfoil areas.
- Monitor your waterfront area for milfoil – any member of the board or volunteer divers can help you identify suspected milfoil.
- Anyone who is a certified diver, or wants to become certified, should contact a board member if you want to become a volunteer diver.

Many people have donated significant dollars and hours to controlling milfoil. We appreciate your support. Since milfoil was discovered in 2011, just over \$11,000 has been spent on materials and divers to control the spread. Control of milfoil is likely to be a costly and labor intensive situation in the foreseeable future.

Thank you for your support of the Shadow Lake Association

Help control milfoil in Shadow Lake

The Shadow Lake Association boat wash, funded by the Shadow Lake Association, the town of Glover and a grant from the state of Vermont, opened Memorial Day and closed for the season on Labor Day. During that time 318 watercrafts used the boat wash services. The primary goal of the boat wash inspection and power washing is to prevent the spread of invasive water plants such as Eurasian milfoil, water chestnut, and invasive animal species such as Zebra mussels.

In August 2011 Eurasian Milfoil was found in Shadow Lake. The Shadow Lake Association worked with the Vermont Department of Water Quality to survey and identify areas of milfoil infestation. State permits were obtained in November to install a lake bottom barrier mat held in place by rebar to control the milfoil.

This summer, state personnel again surveyed the lake and discovered new areas of milfoil. Additional matting with rebar was installed.

Volunteer snorkelers and hired divers have been monitoring and hand pulling out the milfoil. Orange buoys have been placed in the lake to mark the known areas where milfoil has been found. All motorboats should avoid these orange buoy areas so as to not disturb the plants and cause them to spread. A permit has been applied for to suction harvest out the milfoil plants at the largest infestation area and hopefully will be approved for the spring of 2013.

On July 1, 2010, Vermont transport law was changed to prohibit the transport of all aquatic plants or aquatic plant parts, zebra mussels, quagga mussels, or other nuisance aquatic species to or from any Vermont waters on the outside of a vehicle, boat, personal watercraft, trailer or other equipment. Any violation is subject to a \$1,000 penalty.

All Shadow Lake boaters, camp owners, renters, and visitors are asked to:

- Monitor lake areas for milfoil growth and contact association board members about any suspicious plant material.

- Obey all Vermont boating laws.

- If you keep your boat in the lake long term, periodically check engine shaft, propeller and underside of hull for any plant material.

- Motorboats should maintain a "no wake speed" near orange buoys and paddle in and out to shore when necessary to pass around any orange buoy zone.

- Contact the State Police to report any boating infractions.

Thank you to all who have given money, completed over 129 volunteer hours, donated to our bottle collection drive to help fund and maintain the boat wash and help eradicate the Eurasian milfoil. — from the Shadow Lake Association.

Shadow Lake Association – Fall 2013 Boat Wash/Milfoil Update
P.O. Box 138, Glover, VT 05839

Fall Greetings, to our fellow camp owners. This letter serves as an update on the status of the Eurasian Water Milfoil in Shadow Lake.

We have made considerable progress managing the infestation and continue our collaboration with the Town of Glover and the State of VT to fight and control the spread of EWM. We continue working to prevent the introduction and establishment of any other aquatic nuisance species in the lake.

In the Spring of 2013, an application for the use of professional suction harvesting for the approximate one acre infestation of EWM at Danforth Cove was approved by the State. Under guidance by the State we have decided it would be wise to wait until Spring 2014 to evaluate the plant die back success and then re-access our plan of action.

In June 2013, State of Vermont officials from the Department of Environmental Conservation performed a full lake survey starting at the boat/fishing access and proceeded around the lake perimeter with a number of passes at the town beach, inlet and outlet. Unfortunately a new small patch of EWM with plants over three feet tall were found in the proximity of Leland Lane Rd and quickly removed. This site was marked with orange buoys as we have done for all EWM sites to aid our snorkel volunteers and divers to target and monitor for any regrowth throughout the summer. In September, at that site some regrowth was found and pulled. In October, thanks to an alert camper we were notified of a new location where eight large plants were found and pulled. Your active monitoring works! These locations will remain high priority sites to monitor. The State finished checking all sites in October.

Moving forward into 2014 our goals are:

- Effectively control the EWM growth by vigilant monitoring of all the known sites around the lake, and continue hand harvesting with our volunteers and hired divers.
- The State of VT we will conduct a visual inspection of the milfoil growth density underneath the matting at Danforth Cove to determine whether Suction Harvesting will be necessary.
- Orange buoys will again be placed to mark where EWM is growing to warn against all human interference in those critical areas. No boaters should motor through the buoy areas and always proceed slowly with caution well outside the buoy perimeter to not disturb the Milfoil and encourage it's invasive spread.
- Build a watershed conservation group to better understand matters pertaining to the long term health of the lake. Our initial focus will be to identify stressed areas in need of restoration from culvert storm water runoff and improve vegetation buffer zones at the shoreline.
- Conduct a full comprehensive aquatic plant survey.
- Continue our EWM education outreach by designing an informational Milfoil pamphlet specific to Shadow Lake for the benefit of campers, renters and visitors.

For further information please plan to attend the Shadow Lake Association annual meeting scheduled for July 14, 2014. We have invited a watershed and water milfoil specialist to speak and answer questions.

Your support and volunteer hours are an important part of helping our efforts to battle the EWM. By continuing to work together we can make a difference to protect, maintain and ensure the long term health and beauty of Shadow Lake, its recreation and land values.

Thank you from The Shadow Lake Association Board of Directors 11/4/13

Eurasian Water Milfoil 2014 goals:

- Effectively control the EWM growth by continuing the hand pulling by hired divers and our snorkel volunteers.
- Prevent the introduction and establishment of any other aquatic nuisance species in the lake.
- Under the guidance of the State of Vermont, we will conduct a visual inspection of the milfoil growth density underneath the matting at Danforth Cove to determine whether Suction Harvesting will be necessary.
- Orange buoys will once again be placed in the lake to designate any known or new EWM locations to warn against all human interference in those critical areas. No boaters should motor through the buoys and always proceed with caution well outside the buoy perimeter to prevent the spread of this invasive species.
- Continue our education outreach by designing an informational milfoil pamphlet specific to Shadow Lake for the benefit of campers, renters and visitors.

VTDEC Eurasian watermilfoil handpulling efforts 2011-2013				
2011		2012		2013
Area #	# of Plant(s) Pulled	Volume Pulled (ft3)	# of Plant(s) Pulled	Volume Pulled (ft3)
1		33.15	32	11
2	2		3	1
3	3		8	0
4			18	0
5			2	0
6				15
7				1
Total	5	33.15	63	28

Shadow Lake Residence Eurasian watermilfoil handpulling efforts 2012-2013				
2012		2013		
Area #	# of Plant(s) Pulled	Volume Pulled (ft3)	# of Plant(s) Pulled	Volume Pulled (ft3)
1		36.46	2	7.29
2	0		1	
3	3		0	
4	49		0	
5	0		0	
6			10	
7			0	
X	1		8	
Y	1		0	
Z	2		0	
A			2	
B			1	
Total	56	36.46	24	7.29

Area #	VTDEC Eurasian watermilfoil handpulling efforts 2011-2013		Shadow Lake Residence Eurasian watermilfoil handpulling efforts 2012-2013		Combined VTDEC & Shadow Lake residence Eurasian watermilfoil handpulling efforts 2011-2013	
	Area Individual Total	Volume Pulled (ft3)	Area Individual Total	Volume Pulled (ft3)	Area Individual Total	Volume Pulled (ft3)
1	43	47.37	2	43.75	45	91.12
2	6		1		7	
3	11		3		14	
4	18		49		67	
5	2		0		2	
6	15		10		25	
7	1		0		1	
X			9		9	
Y			1		1	
Z			2		2	
A			2		2	
B			1		1	
Total	96	47.37	80	43.75	176	91.12



State of Vermont
Department of Environmental Conservation
Watershed management Division
St. Johnsbury Regional Office
1229 Portland Street, Suite 201
St. Johnsbury, VT 05819
www.vtwaterquality.org

Agency of Natural Resources
[phone] 802-751-2610
[fax] 802-748-6687
[Email] ben.copans@state.vt.us

August 2, 2013

Christine Cano

Dear Christine Cano,

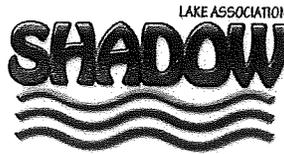
It was nice to meet with you yesterday to discuss protecting the healthy of Shadow Lake. As we discussed our department has noticed increasing trends in phosphorus levels in Shadow Lake through the Lay monitoring and Spring Phosphorus sampling programs. Increasing phosphorus levels can cause algae growth and increased plant growth in the lake. This is a particular concern in regards to Eurasian watermilfoil which your lake association has been so diligently working to control. Increases in phosphorus or sandy substrate in the lake will only make EWM control more challenging. To prevent further increases in phosphorus levels we discussed doing an assessment of the lakes watershed to identify potential sources of sediment or phosphorus which might be contributing to the increase in phosphorus levels in the lake. You showed me two areas of the lake where delta's have grown in recent years at the outlet of streams that enter the lake which suggest a source of sediment (which also includes phosphorus) in the watersheds of these streams that should be addressed.

One of the deltas that you showed me was at the base of Clark Road where a small stream enters Shadow Lake. There was evidence of elevated levels of sediment in the stream as it enters the lake of which one significant source appeared to be Clark Road and a steep ditch that runs along the road. We discussed that rock lining the ditch along this road would prevent further erosion of the ditch and minimize erosion of the road surface and would be a great proposal for a better back road grant. Clark Road is well over 5% grade and so rock lining is recommended by codes and standards as well as Better Backroads manual. We also discussed how a cross culvert may also help the situation by reducing the volume of water running down this steep ditch and allowing vegetation to filter out sediment from runoff before it reaches the lake – however this is not essential for the success of the project. Please let me know if I can be of any assistance in working with you and the Town of Glover in putting together a better back roads grant application to address this water quality concern.

Sincerely,

Ben Copans
Vermont Department of Environmental Conservation
Watershed Management Division
1229 Portland Street, Suite 201
St Johnsbury, VT 05819





Box 135
Glover, VT 05839

August 11, 2013

Dear Michael Morton,

RE: Boat Registration MS 6493 AH

The safety of our snorkel and scuba divers at Shadow Lake is our paramount concern. Enclosed for your review is a copy of the VT State boating law distance requirements re: the operation of vessels and the safety of humans in the water.

No boat can run an engaged propeller within 200 feet of a displayed red with white diagonal stripe divers-down flag that signals humans are underwater nearby and thus indicates extreme caution is required.

The divers-down flag will appear around the lake at different locations and times throughout the summer/fall season as we continue our efforts to pull the Eurasian Water Milfoil plants. This infestation threatens the decline of our water quality and the recreation of all who enjoy this lake.

We have noted on two separate occasions that you have been in violation of this VT boating law. The two incidents are:

Aug. 24, 2012 Danforth Cove, boat engine motoring 8 ft from snorkeler
Jul. 21, 2013 Inlet Cove, boat engine motoring 25 ft from scuba diver

Anyone breaking this law, endangering people's lives, will be reported to the VT State Police.

The orange buoy markers are where Eurasian Water Milfoil is growing; warning against human interference in those areas. All boaters should not motor through the buoys. Boaters should proceed with caution well outside the buoy perimeter to prevent the spread of this invasive species. Our Association has VT State, Town of Glover and Lake Community support in managing the Eurasian Water Milfoil infestation.

We sincerely ask for your full co-operation in the future as we continue working to remove the Eurasian Water Milfoil from Shadow Lake.

The Shadow Lake Association

Linda Gilman, President

cc. Shirley Therrien, 188 Allen Bent Rd, Braintree, VT 05669 (cover letter only)