MOODUS RESERVOIR PRESERVATION GROUP, INC.

Volume 2, Issue 1- Spring 2016

Moodus Reservoir News Spring 2016

Welcome to the Moodus Reservoir Spring Newsletter

MRPG Annual Spring Meeting on July 2, 2016

We will hold our annual spring meeting at the Sportsmen's Club, 299 East Haddam/Colchester Turnpike on July 2, 2016 at 9:00 am. Please make plans to attend as we have a number of topics to discuss.

In addition to Officer and Committee Reports, our Agenda includes a discussion of the following:

1. Election of Officers and Board Members
2. Status of Grant Applications and Town Funding.
3. Review of 2015 Herbicide Treatment Results
4. 2016 Whole lake water chemistry and aquatic vegetation survey
5. Invasive aquatic plant management options
   a. Benthic Barriers
   b. Boat Launch Monitors
   c. Eco Harvester
6. Membership Dues and fundraising initiatives- open discussion

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Grant Status

The Connecticut Department of Energy and Environmental Protection (DEEP) provided us with a 2016/2017 matching grant of $6,000 to conduct a second herbicide treatment of a small portion of the reservoir. While we were pleased with this grant we determined that, following our 2015 herbicide treatment results, a second herbicide treatment was not warranted. See the following article discussing our 2015 Invasive Weed Treatment Update. We subsequently submitted an amended grant application with DEEP with a new set of objectives for the use of the grant funding. See the article on page 4 discussing our 2016 Invasive Weed Treatment Program. Unfortunately, DEEP determined that they were not going to accept the amended application since we removed herbicide treatment from our 2016 program.

Fortunately we still have matching funds of $8,000 from The Town of East Haddam to pursue our 2016 program, though not to the extent that the DEEP grant would have provided. The loss of the DEEP grant makes it even more important that we collect member dues and contributions to be able to match the Town's funding.

Our thanks go to the Town of East Haddam, and to all those who have provided us with contributions for the support necessary to conduct our 2016 program.

ELECTION OF MRPG OFFICERS AND BOARD OF DIRECTORS

All current Officers and two Board Members will have concluded their terms of office as of June 30, 2016 and elections must be held for new candidates. The Board of Directors recommends that the following slate of officers be elected for a one year term and that two current Board Members be re-elected to new terms per the MRPG By-Lays.

Officer Recommendations		Board Member Recommendations
Jeff King	President	Bob Falletti
Martha Cohen	Vice President	Barbi Batchelder
Tim Varriale	Treasurer	
Al Howat	Secretary	

PLEASE HELP US CONTINUE OUR EFFORTS

Once again, Membership Dues are only $25 per year, due by the beginning of the new fiscal year on July 1, 2016. Dues are payable in cash, by check to "MRPG" at 76 Falls Bashan Road, Moodus, CT 06469. And this year we have added another payment option…you can contribute by credit card via our website at www.moodusreservoir.org .

Also, when speaking with your neighbors please mention the good work that the Moodus Reservoir Preservation Group is doing to improve the quality of this key recreational resource in East Haddam and invite them to become members.

REMEMBER, AS A CHARITABLE ORGANIZATION, ALL CONTRIBUTIONS TO MRPG AND MEMBERSHIP DUES ARE DEDUCTIBLE FROM YOUR FEDERAL INCOME TAXES!

Visit our website to Donate!!

www.moodusreservoir.or

2015 INVASIVE WEED TREATMENT UPDATE

In our Spring, 2015 Moodus Reservoir newsletter we proposed a pilot study of two contact herbicides, Clipper and Reward, to treat 25 acres of Upper Moodus Reservoir. The purpose of the pilot study was to determine the herbicide's effectiveness in controlling Fanwort and Variable Milfoil, two invasive plants which now cover more than eighty percent of the littoral zone of the lake.

Because the cost of a whole lake treatment was prohibitive we decided that a small study of a heavily infested area of the lake would provide a good representative sampling of results that we could expect if we chose to use herbicides as an ongoing control for invasive weeds in the lake.

Aquatic Control Technology, now known as Solitude Lake Management, was contracted to apply the herbicides and completed their work in August, 2015. A consulting firm, Northeast Aquatic Research (NEAR) was also brought on board to perform an independent post analysis and generate a white paper describing their findings.

NEAR reported that within 48 hours of treatment, there was a marked decrease of invasive weeds. Within 5 weeks, however, there was moderate regrowth of the target weeds and significant regrowth within 10 weeks. After review of the NEAR white paper and a subsequent visit to the treatment area by MRPG board members, we reached several conclusions:

- The shallowness of the lake and its heavy concentration of organic compounds make it a prime habitat for aquatic vegetation and a breeding ground for native and invasive plants. An ongoing lake monitoring effort is required to track and control the existing invasive weeds and prevent new ones from entering the lake; and a boat monitoring program is required to prevent the introduction of invasive weeds at the two state boat launches on the lake.
- The herbicides used were not systemic and therefore did not attack the root system of the target weeds, hence some regrowth was expected but not as quickly as was reported.
- A systemic herbicide would likely be more effective but has downsides. It is expensive, costing approximately $120,000 for a one time whole lake treatment with subsequent annual costs of $20,000 to $30,000 for spot treatments. Systemic herbicides need to remain in the lake for longer periods of time in order to be effective; perhaps having a negative impact on recreational use of the lake; and they are more prone to migration into native aquatic plants and areas where treatment is not wanted.
- The final conclusion was that, if the nature of the lake is such that it will require an ongoing seasonal effort to control the rapid growth of invasive plants, perhaps other options beyond herbicides should be pursued to determine their safety, cost and effectiveness.

Please see the following article on our 2016 program to control invasive weeds.

2016 INVASIVE WEED TREATMENT PROGRAM

In the wake of the findings from our 2015 herbicide treatment, our 2016 weed treatment program has several objectives:

- Our primary objective is to initiate a new Aquatic Vegetation and Water chemistry survey to update the findings from the 2012 Connecticut Agricultural Experiment Station (CAES) Study which noted a significant increase in invasive aquatic weeds.
- As part of the 2016 study to be conducted by CAES, we will locate and map the concentrations of two new invasive weeds, Brazilian Waterweed and Floating Bladderwort, and measure the spread of Fanwort, Variable Milfoil, and Curly Leaf Pondweed in the upper and lower basins of the lake.
- We have begun a program to build and test the effectiveness of Benthic Barriers (lake bottom blankets) to eradicate target invasive weeds. See the following article.
- We held an "Invasive Investigators" workshop sponsored and taught by the CT DEEP to educate volunteer boat monitors and other interested parties on ways to keep our waters clean and prevent the spread of invasive weeds on boats entering and leaving the lake via the state boat launches.
- We expect to begin a boat monitoring program to interact with boaters, familiarize them with invasive species in the lake and those that may be present on their boats, and institute voluntary boat cleaning procedures before entering and after leaving the lake.
- We will continue to research other options for weed management and eradication in the lake. Towards this end see the article on a new form of mechanical harvester that may show promise for weed control.
- And finally we will continue to raise funds through grants, membership dues and contributions so that we can continue to pursue ongoing invasive weed treatment programs in the reservoir.

ALTERNATIVE OPTIONS FOR WEED CONTROL: WHAT ARE WE RESEARCHING?

Benthic Barriers (Lake Bottom Blankets)

- As mentioned in the previous article regarding our 2016 weed control program, we are going to install several Benthic Barriers or Lake Bottom blankets to determine their effectiveness in eliminating invasive weeds from certain areas of Moodus Reservoir. Barriers have shown to be very effective in many lakes for spot treatment of aquatic weeds and we have been tracking their success in some of the large lakes in Maine and elsewhere. One of our MRPG members has been using a commercial benthic barrier for two years with good success. The barrier is a heavy duty 10' X 40' plastic blanket weighted with rebar to allow it to lie on the lake floor where it is left for approximately 6 weeks. After 6 weeks the blanket is then moved to an adjacent or another location to repeat the process. The blankets can be installed via small boat or manually by walking them into the lake (if you are brave enough to walk through the lake bottom muck.) Over the course of a season a 30' X 40' area of shoreline can be controlled with a single blanket. At the end of the season the blankets are removed, cleaned and stored for the next year. Our research has shown that the blankets provide significant long term reduction in weeds when used for multiple seasons without the downsides associated with herbicides.
- Following this year's test of the blankets, MRPG is considering construction of our own Benthic Barriers with the goal of offering them to property owners on the lake at a reduced cost vs. a commercial blanket. We will post more information on our website at www.moodusreservoir.org for those interested in learning more about their use.

EcoHarvester – A Different Kind of Weed Harvester

- While Benthic Barriers show great promise for spot treatment of shorelines we recognize that there is a need for a whole lake solution for combating invasive weeds. An interesting alternative that shows promise has come to our attention. It is an aquatic machine called an EcoHarvester.
- Unlike other aquatic harvesters which simple cut the weeds in the lake, the EcoHarvester pulls the weeds using a submersible rotating drum and conveyor belt system on a floating pontoon boat. Once pulled by the drum the weeds are automatically fed onto a conveyor and then dumped into a storage area (bunk) at the back of the boat. When the boat is full, the weeds are off loaded to the shore by reversing the conveyor belt. The conveyor allows the weeds to be offloaded to a lawn, boat dock, or dump truck for disposal.
- Because the EcoHarvester pulls the weeds rather than cutting them it results in significantly less weed fragmentation and floating debris. And while it may not remove the weeds entirely, continued seasonal use will result in a reduction in regrowth of the weeds over time. We have interviewed an independent lake management company which has used the harvester for 3 seasons and they report that it has become their "go to" machine for weed harvesting. They report that it is easy to operate and maintain, and very maneuverable in as little as 10 inches of water.
- While the cost to purchase the machine isn't cheap at approximately $63,000 plus $5,000 for a custom trailer; it is about one third the price of a commercial cutting harvester, and in the long run would be significantly less costly than ongoing herbicide treatments of the lake.
- We will post more information about the EcoHarvester on our website at www.moodusreservoir.org .