Honeoye Lake Watershed Taskforce
MEETING MINUTES
12/18/14

Called to order by Chairman Terry Gronwall at 5:09 pm at the FLCC Muller Field Station.

Present: P.J. Emerick (OCSWCD), Steve Barnhoorn (Town of Richmond), Stevie Adams (The Nature Conservancy), Bruce Gilman (FLCC), Bill Hershey (Town of Canadice), Dorothy Gronwall (guest), Ann Jacobs (Town of South Bristol)Terry Gronwall (Chairman HLWTF), Mark Adams (Town of Naples).

Introductions: TG welcomed everyone to the meeting, and thanked everyone for coming.

Privilege of the floor- None

Approval of the June 5th, 2014 meeting minutes- moved by SB, second by MA, carried.

Financial report: PE provided a financial report for 2014 and passed it around for the group to review. **Approval of financial report- Moved by SB, second by BH, approved.**

2014 Honeoye Lake Weed Harvesting Report- TG provided a summary of the report that Betsy Landre (OC Planning Dept.) submitted prior to the meeting (see attached). TG explained that a barge may be borrowed or rented to assist with the macrophyte cleanup in 2015.

Potential Watershed Yard Composting Project- TG explained the grant application was not awarded. However, the Honeoye Valley Association, the Towns of Richmond and Canadice will move ahead with trying to implement the program anyway. TG will send out a meeting notice to everyone soon to schedule a meeting to discuss the next steps with the project.

10 Year macrophyte Survey, Zebra Mussel Survey and grant pre-proposal submission on how climate change impacts the thermal dynamics of shallow warm water lakes in NY- BG provided an update on the macrophyte survey (see attached). BG also discussed the sampling sites in the lake where the macrophytes were sampled and gave brief explanation of the graphs contained in the project summary reports. TG feels that whatever is causing the decline in biomass is a welcome change for the lake. BG also summarized the What's Happening to Zebra Mussels poster (see attached). BG continued to explain the study locations where volunteers observed the Zebra Mussel population. There were fewer Muscles and they were smaller in size then in previous years. DG reminded everyone that ten years ago there a large number of Muscles in the lake and BG agreed. BG also found 5 clams that were unknown to him at the time. Samples were sent to NYS DEC in Albany and they were identified as European Fingernail Clams. SB asked how these clams arrived in the lake. BG feels it's difficult to tell for sure. DG questions if these clams are a threat to the environment. BG feels they are not. TG asked BG to share what the decline in the biomass means. BG doesn't think it's a lack of substrate in the water, but it's because the plankton community the organisms feed on is now comprised of Blue Green Algae and this is not a proper food source for the clams. BG also discussed the grant pre-proposal with the group. BG was asked to be a collaborator on a grant that was being written by Dr. Hairston regarding climate change. The pre proposal was submitted and they are waiting to hear if it will be selected to move on the full proposal stage. TG feels the grant would be very beneficial to determining where the external loading sources in Honeoye Lake are coming from. TG also gave a brief overview of his recent water temperature survey data he collected for the lake.

NYS DEC WQIP Honeoye Lake Restoration Grant Award $135,000.00- BH explained the WQIP grant that the District will be awarded. The grant will pay for vernal pools, settling basins, and stream bank restoration work in the watershed. BH will have the required plan of work done in January prior to the February deadline. TG explained funding and the in-kind match requirement in the grant and also discussed where the practices will be installed throughout the watershed. TG has also been discussing opportunities for internal loading grants with the NYS DEC.

Princeton Hydro Project- TG explained the project has been completed and he is very satisfied with the results. SA agreed. TG also explained the GIGP grant that was written and did not receive funding. SA explained that when she spoke to the GIGP grant award team, they were looking to fund implementation projects not design type projects. SA explained the Nature Conservancy may try to raise funds for the study through donations of their members. SA asked PE if the line item in the Environmental Protection Fund for SWCDs could be allocated to this project. PE said it cannot since it is already allocated to other projects across the State. SA feels that one option would be to apply for funding to do a complete project to include survey, design, permitting and implementation. TG feels the Honeoye Valley Association could partner with the Nature Conservancy to assist in fund raising. TG also inquired if our State elected officials could help locate funding the inlet project. SB commented on the section in the report that discussed lawn fertilizers and pesticides. SB explained he located a local law example from the Town of Queensbury in NY. The Town of Richmond is looking at this example local law now. SA feels the National Fish and Wildlife Grant is also worth pursuing for the inlet project. TG, SA and BG will meet in January to discuss this possibility.

NYSDEC Total Maximum Daily Load Meeting- TG explained the highlights of the TMDL meeting NYS DEC had on Monday 12/15/14. The Princeton Hydro report and all of the HLWTF water quality data from the last 10 years was provided to the NYS DEC in Albany. They will be using data from this report in conjunction with their own data to create the TMDL documents for Honeoye Lake. Once the TMDL reports are finalized, grants can be written to implement projects.

Blue Green Algae Sample Collection for NYS DEC- TG explained that he, DG, and BH have spent many hours observing the lake and taking samples. The blooms were down this year compared to previous years. The sampling program will continue in 2015. Scott Kishbaugh from the NYS DEC, BH and TG met yesterday and the NYS DEC requested the sampling program continue and DEC is very supportive of our program and will use it as a model for other lakes across the State. No other lake in the State has done as much sampling as we have in Honeoye Lake. NYS DEC is hoping that in 2015 lakes similar in size to Honeoye will complete a sampling program as effective as ours. BH also explained that NYS DEC has asked him to present the Honeoye lake sampling program at the 2015 SWCD Water Quality Symposium in Syracuse.

2013-2014 Ontario County Water Resources Council Grant Funded Projects- BG provided a brief update on the Tributary Stream Sampling for Honeoye Lake and the Mercury Levels in Fish of the Finger Lakes grant. BG will be assisting Dr. Lisa Cleckner of the Finger Lakes Institute. BG will assist in obtaining fish samples for Lisa. TG explained the WRC that were funded by the Ontario County WRC. Those grants are the Honeoye lake Temp and DO Data Collection meter and the Electronic Macrophyte Mapping Service. TG feels the mapping and the meter have been very beneficial to the lake because of the highly accurate data they provide. TG is very thankful the WRC agreed to fund these projects. TG feels this shows the Towns in the Watershed how their WRC contributions are used to leverage additional grant funds successfully.

2015 HLWTF Projects- TG explained the HLWTF will concentrate on four goals in 2015. The HLWTF educational newsletter, collection of lake water quality data, the enhanced Blue-Green Algae sampling for the NYS DEC and will continue to explore funding opportunities for the Inlet Restoration Project.

New Business- TG explained the work that the OCSWCD and FLCC does on behalf of the HLWTF.

Approval of OCSWCD's 2nd, 3rd, and 4th quarter invoice for services in the amount of $5,004.25. **Moved by SB, second by MA, approved.**

Approval of summer 2015 lab expenses for 8 water quality sampling trips $2,250.00. **Moved by BH, second by SB, approved.**

Approval of 2015 Electronic macrophyte mapping services for $925.00 to be reimbursed by the Ontario County WRC. **Moved by BH, second by MA, approved.**

Approval of tributary stream sampling for $4,000.00 to be reimbursed by the Ontario County WRC. **Moved by BH, second by SB, approved.**

Approval of 2015-2016 OCSWCD agreement for services $39.00/hr. maximum of $6,000.00/yr. **Moved by MA, second by SB, approved.**

Adjournment- Motion to adjourn at 6:30 pm. Moved by BH second by SB carried:

Minute recorder: P.J. Emerick - Ontario County Soil & Water Conservation District

Chairperson Terry Stowell **Date Approved** 11/4/15

2014 Harvesting Summary:

Harvesting Season Dates: July 7-September 23, 2014. The later start date was intentional to avoid conflicts with July 4 weekend, including the creation of fragments.

Vegetation was noticeably light this year.
78 loads were harvested, an estimated 390 tons.

During a week of down time due to the July 28 flood, staff helped to clear debris collected along a fence around the sewage treatment plant in Honeoye. Staff also helped clear debris around docks at the NYS Boat Launch and assisted the Town of Richmond with gravel hauling and road repairs.

Staff worked approximately 100 hours over the season clearing overgrown vegetation from the weir at the north end of the lake.

We are looking into securing (through rental, loan or purchase) a simple work barge to implement a shoreline cleanup program. The purpose of this effort will be to assist property owners who receive the brunt of fragments washing on shore following harvesting operations and to remove (within reason) the biomass and nutrients that are missed by the harvester. Cayuga County SWCD may be willing to loan or lease a barge for a pilot year. We are waiting on a cost proposal which we should expect early in 2015.

Yard Waste Composting:

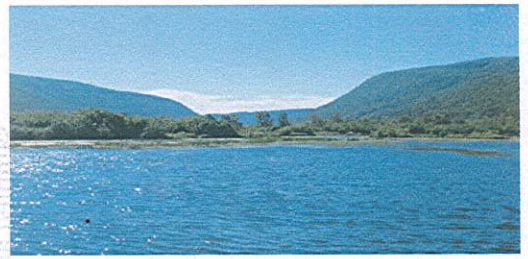
The P2I grant through RIT was rejected, and hopefully we will understand why after a conference call with the review committee on Thursday afternoon. The Planning Dept. is looking into a USDA Technical Assistance and Training Grant as an alternative grant source for funding for the education and marketing costs of a revitalized and enhanced yard waste composting program. The P2I grant focused on pollution prevention. This USDA grant is focused on waste reduction. Carla Jordan in the Planning Dept. is waiting for feedback from USDA on our project concept. The proposal is due Dec. 30, 2015. The project budget would be similar. Carla does not believe additional information or letters of support would be needed. She will coordinate with partners after hearing from USDA. We thank everyone for their support of the original proposal.

Thanks!

Betsy

Betsy Landre
Senior Planner
Ontario County Planning Department

WHAT'S HAPPENING TO ZEBRA MUSSELS (*Dreissena polymorpha*) IN HONEOYE LAKE?



Bruce Gilman, Jason Hanselman and Nadia Harvieux. Department of Environmental Conservation and Horticulture. Finger Lakes Community College, 3325 Marvin Sands Drive, Canandaigua, New York 14424.

In 2001, unusually large foam streaks appeared on the surface of Canandaigua Lake while at the same time zebra mussel (*Dreissena polymorpha*) shells were washing up in great numbers along the shoreline. It was hypothesized that a mussel die-off had occurred and that their dead remains were contributing to the foam. The following year, a PONAR dredge was used to sample the lake bottom at several locations. Using shell length as a proxy for mussel age, dredge data indicated that nearly all of the living mussels were less than a year old, verifying that a die-off had indeed taken place the prior year. To compare the Canandaigua Lake "recolonizing" population age-class structure to a normal one composed of multiple year cohorts, the Honeoye Lake zebra mussel population was also sampled in the summer of 2002.

During fall 2013, Honeoye Lake residents reported that they were finding very few zebra mussels on their docks when they were removed in preparation for the winter. Had a die-off of zebra mussels also occurred in Honeoye Lake? There were no tell-tale foam streaks or large wrack lines of empty shells, but perhaps those conditions should not have been expected. With most of the Honeoye Lake bottom composed of soft substrates, the zebra mussel populations were never as large as in neighboring Canandaigua Lake. Perhaps they had declined due to lack of palatable algae brought on by their own selective filter feeding on the phytoplankton community. The best way to verify a zebra mussel population decline would be to resample the same locations studied in 2002, and compare results. This would also provide an opportunity to discover if other benthic invasive species had entered the lake, especially Asian clams (*Corbicula fluminea*) and quagga mussels (*Dreissena rostriformis bugensis)*.

In summer 2014, the zebra mussel population in Honeoye Lake was sampled at the previous twelve locations. Samples were processed by tallying and weighing the mussels. Despite the variability created by the clumped benthic distribution patterns exhibited by their colonies (TABLE 1), mean mussel density declined by about 27% (from 1647/m^2 in 2002 to 1199/m^2 in 2014) and mean total mussel biomass declined by about 35% (from 292 g/m^2 in 2002 to 188 g/m^2 in 2014). Indeed the perception of the public was correct. And about the other benthic invasive species, both good news and bad news – no quagga mussels or Asian clams were found in the dredge samples but four European fingernail clams (*Sphaerium corneum*) were collected on gravelly substrates along the eastern shore of Honeoye Lake.

Sandy Bottom	density	biomass (g)
nearshore	-323	-205
midshore	+4651	+217
offshore	-357	-52
Trident Marine		
nearshore	-1459	-323
midshore	+467	+155
offshore	+175	+116
California Point		
nearshore	+68	-50
midshore	-1392	-360
offshore	-1742	-86
Forest View		
nearshore	-710	-309
midshore	-158	+97
offshore	-4592	-444

TABLE 1 – Net change in zebra mussel population parameters (per m^2) from 2002 to 2014.

FingerLakes COMMUNITY COLLEGE

WHAT'S HAPPENING TO ZEBRA MUSSELS (*Dreissena polymorpha*) IN HONEOYE LAKE? Bruce Gilman, Jason Hanselman and Nadia Harvieux, Department of Environmental Conservation and Horticulture, Finger Lakes Community College, 3325 Marvin Sands Drive, Canandaigua, New York 14424.

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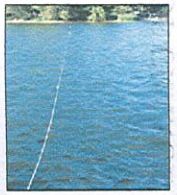
In summer 2014, the zebra mussel population in Honeoye Lake was again sampled at the same locations. Samples were processed by tallying and weighing the mussels. Overall, the zebra mussel density declined by about 30% (from 1647/m^2 in 2002 to 1199/m^2 in 2014). Total mussel biomass declined by about 35% (from 292 g/m^2 in 2002 to 188 g/m^2 in 2014). Indeed the perception of the public was correct. And about the other benthic invasive species, both good news and bad news – no quagga mussels or Asian clams were found in the dredge samples but four European fingernail clams were collected on gravelly substrates along the northeastern shore of the Honeoye Lake.

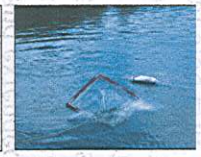
THIRTY YEARS OF CHANGE IN THE FALL STANDING CROP BIOMASS OF MACROPHYTE COMMUNITIES IN HONEOYE LAKE

Bruce Gilman, John Foust, Jason Hanselman
Department of Environmental Conservation and Horticulture
Finger Lakes Community College
3325 Marvin Sands Drive, Canandaigua, New York 14424

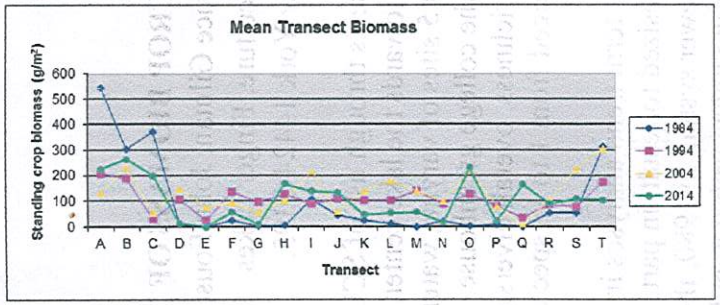


Aquatic macrophyte communities were sampled along 20 transects through use of SCUBA. Each transect began at the shoreline and extended perpendicularly towards the lake center.

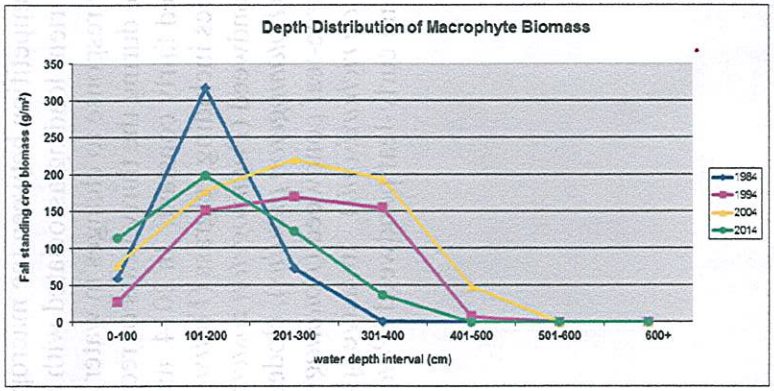
Plants were hand harvested within submerged quadrat frames from five sites of varying water depth along each transect, then sorted by species and air-dried in the college greenhouse.



Individual sites were summarized by species composition, sample richness, overall diversity and standing crop biomass. Among the year 2014 samples, richness ranged from 1 to 13 species while dry weight biomass ranged from 0.06 g/m² to 516.56 g/m².



Similar investigations in 1984, 1994 and 2004 allow for thirty year trend analyses in macrophyte fall standing crop biomass. Flux in transect data is influenced by changing maximum depth of the littoral zone (1984: 4.30 m, 1994: 5.70 m, 2004: 5.35 m, 2014: 3.72 m) among other factors.



Each year, fall standing crop biomass is affected by water clarity, nutrient loading, growing season conditions and interspecific competition among vascular species as well as with littoral algae and periphyton. Variability produces dynamic responses in plant community structure and function.

In 2014, macrophyte community composition was dominated by native species including eelgrass (*Vallisneria americana*), coontail (*Ceratophyllum demersum*), flat-stem pondweed (*Potamogeton zosteriformis*), water stargrass (*Heteranthera dubia*), small pondweed (*Potamogeton pusillus*), elodea (*Elodea canadensis*), star-leaved duckweed (*Lemna trisulca*), large-leaf pondweed (*Potamogeton amplifolius*) and clasping-leaf pondweed (*Potamogeton richardsonii*).

	1984	1994	2004	2014	mean
Eelgrass (*Vallisneria americana*)	44.2	12.7	15.0	30.7	25.7
Eurasian water milfoil (*Myriophyllum spicatum*) *	6.2	34.9	13.8	7.1	15.5
Coontail (*Ceratophyllum demersum*)	8.6	9.9	22.1	21.1	15.4
Water stargrass (*Heteranthera dubia*)	8.0	5.2	11.4	8.5	8.3
Elodea (*Elodea canadensis*)	6.5	7.3	10.0	4.8	7.1
Large-leaf pondweed (*Potamogeton amplifolius*)	7.3	7.0	10.1	3.7	7.0
Flat-stem pondweed (*Potamogeton zosteriformis*)	1.8	5.8	4.7	6.0	4.6
Star-leaved duckweed (*Lemna trisulca*)	3.8	3.4	3.5	3.5	3.6
Curly-leaf pondweed (*Potamogeton crispus*) *	3.0	4.1	0.7	3.9	2.9
Water marigold (*Bidens beckii*)	6.0	1.5	1.6	0.0	2.3
Small pondweed (*Potamogeton pusillus*)	0.0	0.9	1.3	4.2	1.6
Clasping-leaf pondweed (*Potamogeton richardsonii*)	0.6	0.6	0.4	2.4	1.0

* invasive species

TABLE 1 – Relative importance values (%) of submerged aquatic vegetation in Honeoye Lake, 1984-2014. Importance value calculated as mean of relative frequency and relative dominance (derived from standing crop biomass data).

Acknowledgments: Ontario County Planning Department, Town of Canadice, Town of Richmond, Ontario County Water Resources Council, Finger Lakes Community College and the Crusher 5000!

THIRTY YEARS OF CHANGE IN THE FALL STANDING CROP BIOMASS OF MACROPHYTE COMMUNITIES IN HONEOYE LAKE. Bruce Gilman, John Foust, Jason Hanselman, Department of Environmental Conservation and Horticulture, Finger Lakes Community College, 3325 Marvin Sands Drive, Canandaigua, New York 14424-8395.

Aquatic macrophyte communities were sampled along 20 transects through use of SCUBA. Each transect began at the shoreline and extended perpendicularly towards the lake center. Plants were hand harvested within submerged quadrat frames from 5 sites of varying water depths along each transect, then sorted by species and air-dried in the college greenhouse. Individual sites were summarized by species composition, sample richness, overall diversity and standing crop biomass. Among the vegetated samples, richness ranged from 1 to 13 species while dry weight biomass ranged from 0.06 g/m^2 to 516.56 g/m^2.

Similar investigations in 1984, 1994 and 2004 allowed for long-term trend analyses in macrophyte community structure and function. Trends are hypothesized to result, in part, from changes in water quality following the installation of a perimeter sewer system in 1980, the introduction and establishment of an invasive zebra mussel (*Dreissena polymorpha*) population, resource competition between the macrophyte and phytoplankton communities, and changes in external nutrient loading associated with an increase in extreme storm events. Macrophyte community response to changes in water clarity (Z_{sd}) has altered the maximum depth of the littoral zone during the thirty years of record but the optimal depth range of individual species has remained fairly constant. In 2014, macrophyte community composition was dominated by native species including eelgrass (*Vallisneria americana*), coontail (*Ceratophyllum demersum*), flat-stem pondweed (*Potamogeton zosteriformis*), water stargrass (*Heteranthera dubia*), small pondweed (*Potamogeton pusillus*), elodea (*Elodea canadensis*), star-leaved duckweed (*Lemna trisulca*), large-leaf pondweed (*Potamogeton amplifolius*) and Richardson' pondweed (*Potamogeton richardsonii*). Invasive species included Eurasian water milfoil (*Myriophyllum spicatum*) and curly-leaf pondweed (*Potamogeton crispus*).