

24th Region 1 NYS Federation of Lakes Conference Report

Sat., Oct. 21, 2017 at The Club at Silver Lake of Castile, NY

Don Cook welcomed 80 people to the 24th conference, the largest group in R1-FOLA's 23-year-history. In addition to his role with FOLA, Don is President of the Finger Lakes Regional Watershed Alliance and is on the Honeoye Valley Association Board of Directors. He thanked all who send in their directories and newsletters.

Representatives of these lakes attended the 2017 conference: Chautauqua Lake, Loon Lake, Silver Lake, Cuba Lake, Rushford Lake, Honeoye Lake, Keuka Lake, Canandaigua Lake, Java Lake, Conesus Lake, Waneta-Lamoka (represented by its new president Jay White on this day), Tanglewood Lake, and Hemlock-Canadice Lakes.

Abbreviations:

Q=question; A/R=answer/response; C=comment;
ChAMP-Chautauqua=Chautauqua Aquatic Monitoring Project
CSLAP=Citizens Statewide Lake Assessment Program;
DEC=(NYS)Dept. of Environmental Conservation;
ESF=Environmental Science & Forestry;
FOLA=Federation of Lakes Association;
HAB=Harmful Algae/Algal Bloom(s);
IJC=International Joint Commission;
IS=Invasive Species;
JCC=Jamestown Community College;
PRISM =Partnerships for Regional Invasive Species Management;
TDML=Total Daily Maximum Load

PART I-PANEL



New this year was an opening segment featuring a panel discussion with college-level/agency experts on "Bringing colleges together with Finger Lakes Associations." The professionals gave a brief summary of their work, services and programs:

Dr. Anthony Vodacek of RIT's Center for Imaging Science (PH:585-475-7238/vodacek@cis.rit.edu), whose services and programs search for ways to enhance watershed research using new

imaging techniques on drones including photographing algal blooms

PART I (Cont'd.)

Dr. Joseph Atkinson, Chair of the Civil, Structural and Environmental Engineering Department of University at Buffalo, (716-645-2220/Atkinson@buffalo.edu), a hydrologic/environmental engineer who does modeling of blooms and has worked with Onondaga Lake, Lakes Erie and Ontario and in Sodus Bay to discuss how modeling. Services and programs: Assessment of Ag impacts on water quality, biological monitoring using environmental DNA, microbial source tracking, stormwater and sewer impacts and modeling

Biologist *Dr. Sid Bosch* of SUC at Geneseo (585-245-5301 ext. 5303/bosch@geneseo.edu). Services and programs: evaluation of water quality and recommendation of potential remediation projects on how college students can help associations, etc. Bosch works with undergraduates and they work with lake associations. Ex. Loon Lake macrophytes studied for its State of the Lake; for Honeoye identifying species of macrophytes where folks mapped weed beds and a student is doing geo-maps of them; zebra mussel studies, ag studies have been done. Most work has been done on Conesus Lake and now at Hemlock Lake. Research has been published in Journal of the Great Lakes.

Interested in: summer mixing of lakes per blooms—by wind? Boats? Temperatures and can blooms be predicted? Fine-tuning predictability in Lacoma (pond) in Perinton which has had a textbook case of cyanobacteria where for the last two years it was unusable except for boating and it was there that a group invested \$20K to aerate water column and in its first year after implementing management practices to eventually present as a study locally. “We’re available, cheap (no cost) and it is rewarding for students.”

Dr. Lisa Cleckner, Director of Finger Lakes Institute, Hobart and William Smith Colleges (315-781-4381/cleckner@hws.edu), whose main focus of late has been researching/info sharing on mercury levels in fish in Finger Lakes, benthic algae; using probe to determine if blooms are toxic, stream monitoring program; hosting (1 of 8 NYS) PRISMs (Partnerships for Regional Invasive Species Management), water stewardships whereby 50,000 boats were inspected throughout the Finger Lakes, serving as a clearinghouse for aquatics programs; hydrilla, starry stonewort; bringing in \$4.3 million in grants

*Dr. Jacques Rinchar*d, SUC@Brockport’s Dept. of Environmental Science & Ecology, who works with fish in Finger Lakes and on lake trout and links to alewives whose decline impacts them and on crayfish, involves a lot of students in research; wetland work is mostly on Lake Ontario. Also at Brockport: *Dr. Christopher Norment*, Environmental Science and Ecology, 585-395-5748/cnorment@brockport.edu. Services and Programs: Evaluation of water quality and recommendation of potential remediation projects; and *Dr. Douglas Wilcox* (585-395-5963/dwilcox@brockport.edu). Services and Programs: provide background information on the interactions between lake-level fluctuations and wetland invasive plant species

PART I (Cont'd.)

Q: Don asks the attendees if their organizations are thinking of doing something....

R: Loon Lake needs help weed mapping, wetland restoration and identifying if what is seen on the surface of the water is pollen or algae and if so, what kind. Loon Lake is finding blooms early in spring and late in fall. Chemical applications vs. removal/cutting of weeds. Weeds are significant in the 140-acre lake. PRISM has offered its help. Wanted is more on chemical applications in terms of safety.

C: Don says Honeoye did extensive Macrophyte Management Plan (MMP) with Dr. Bruce Gilman of Finger Lakes Community College's Environmental and Horticulture department (bruce.gilman@flcc.edu). It may be time to update Honeoye's MMP. It is effective because it deals with costs, feasibility, etc.

R: Waneta-Lamoka Lakes have more issues than Time Magazine says new Pres. Jay White. It has been treated with chemicals for 14 years approaching the \$2 million mark in costs. All it has been is a bandaid. Waneta-Lamoka would love to piggyback on any work. The lake appears stagnant. It (and its watershed) needs to manage nutrients. The money was raised through a special taxing district.

A: Finger Lakes Institute Director Dr. Lisa Cleckner spoke on plant management. FLI has EPA money for starry stonewort, a macrophyte in NYS since 1978. It has since appeared in Wisconsin where the Army Corps of Engineers is working on its management. Cleckner has traveled to Wisconsin to learn more. The collaboration of experts with scientifically-based research along with economic impacts is good when seeking grants.

C: Dr. Joseph Atkinson of UB & Doug Conroe of Chautauqua Lake spoke on herbicides Aquathol K and 2-4D used to treat milfoil and curly-leafed pondweed in an isolated area (30-acre Bemus Point). Clarification: *Bemus Bay is the busiest area of the lake and the area where all of the north basin water empties out into the south basin through a narrows. The program actually applied herbicide to 27% of that area's littoral zone so it was a small portion of the bay.* Dr. Atkinson noted that he had been informed that it was felt to be successful. Doug reported that in the greater community that there were concerns that the science that was utilized was flawed (on species data, scientific method, scientific process) and results were therefore contested. The group formed over poor shoreline conditions and a desire to eliminate nuisance macrophytes, which in turn, has become a political issue. Dr. Atkinson noted that he had heard that a collection of weeds resulted from them breaking away from the harvesting operation. Doug added that some natural fragmentation is occurring along with intense boating activity impacts and natural die-off. Harvestings loss has been used as an excuse to use herbicides.

PART I (Cont'd.)

Q. Don asks if there is increased movement on the lakes regarding harvesting or herbicides as a quick fix without science to back it up?

R: Loon Lake is going the other way and trying hard to collect data on nutrient loading and the desire is for science to play a role but it is early in discussion.

R: Rushford Lake is lucky because the level is drawn down so there are no large weeds but studies by a student found three invasive species. Some college-level and high school students are involved. There are pressures from fishermen and now there is a gate and boat-wash system though met with resistance so the lake extended the hours at the gate and provided anglers with keys to open it.

Q: Don asks if most lake associations have annual meetings with speakers.

R: One man responded that the naysayers have said that invasive species are fake news

C: Elaine Cook heard of a study in a small water body on converting algae to fuel, perhaps something the various panelists could consider

C: Dr. Bosch said it is easy to be a naysayer but having a resource in science gives you the might and the right.

Q, C: Is there any research citable on weed mats' effectiveness? The DEC says they create problems with spawning beds of fish.

C: Dr. Bosch said they are used extensively on Conesus and think they are a good thing to do.

C: Don knows regulations for them are being revised and like everything else, won't be enforced (unless complaint filed by a neighbor or angler whose hook snags a mat)

C, Q: Betsy Moll, Java Lake – rake tosses are done annually with the same results so for what reason would it want to map beds management-wise and collect data? We keep monitoring and sampling but never managed anything. Note: Java does not allow powerboats.

A: Dr. Bosch – for management purposes you want a good baseline. Ex: did this 2-3 years ago at Conesus, then established management practices knowing you can't eradicate all weeds

C: Terry Gronwall, Honeoye Lake – four years ago, three times/summer we produced a macrophyte program and harvesting, the only program that also removes phosphorus. Conclusion: harvest or do nothing.

C: Doug Conroe, Chautauqua – the 20-mile long lake requires a different management. Mapping lets us stay away from endangered species and with fishing (it is a premier Muskie lake) that needs protection. Chautauqua wants to use the right technology at the right location.

PART I (Cont'd.)

C: Jay White, Waneta-Lamoka – we do rake tosses. What will your mapping tell us. Our map dictates where we treat. We do not harvest at all.

Before break request from Meg Wilkinson of NY Natural Heritage Program's Invasive Species Database Program Coordinator (518-813-8165) to provide email addresses to learn how to report blooms, invasives, etc. on iMap Invasive System app. A walk-through on how to was given at the conclusion of the conference.

PART II – Speakers: Dr. Joseph Atkinson on “Mathematical Modeling to Support Lake Management Decisions: Application in Sodus Bay, Lake Ontario,” and Doug Conroe, Chautauqua Lake Association

Overview:

What do “restoration” and “management” mean for lakes?
What are the goals?
Where does modeling fit in?

Some of the Problems:

Population stress (human impact);
Fisheries management—quantity, quality (fish consumption advisories);
Hydrology, water levels—climate change, diversion, water management;
Invasives;
Contamination—eutrophication, persistent organics, metals

Approaches

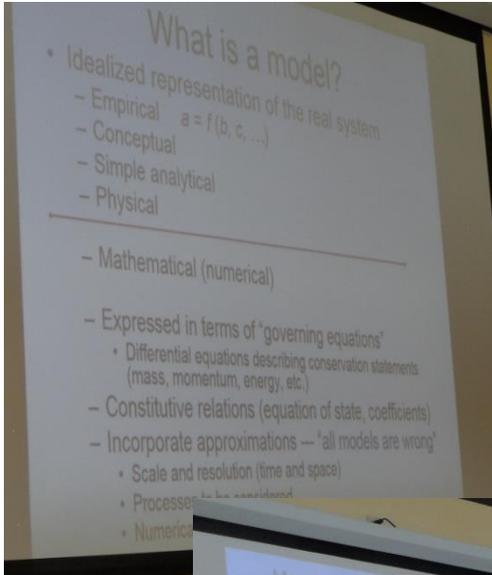
Monitoring and modeling—What do we know about the system? How do we explain what we observe? Adaptive management; Help develop policy (Ex. HABs in Sodus Bay)

Management Issues

Water quality and flows (hydrologic model)
—Recreational boating;
--- Controls at outlets (Lake Superior and Lake Ontario);
---Surface runoff;
---Changes in habitat (wetlands), fisheries
Pollution, eutrophication (hydrodynamic, nutrients)
---Algal blooms, HABs
Persistent toxic chemicals (water quality model)
---Organics, metals, etc.; bioaccumulation
---Contaminated sediments (IJC areas of concern)

PART II (Cont'd.)

Dr. Atkinson shared his work with Greg Boyer of SUNY-ESL on Sodus Bay and how engineering is used for lake management.



A model is how to represent a real system on paper. Various kinds of models are: Empirical, Conceptual, Simple analytical, physical (hydrologic, temperature, water quality), Mathematical (numerical); Expressed in terms of “governing equations”; Constitutive relations; Incorporate approximations. Computers solve equations. There are no perfect models. They are useful for integrating and synthesizing data; simulating the real world, demonstrating an understanding of a system; allowing experimentation; conveying results. Meteorology drives hydro-dynamics.

know: Blue-temperatures. phosphorus in remediation up marina keep well-is important.



The NY Sea Grant funded Sodus Bay monitoring using three buoys. Did you green algae do not like cold Modeling could develop sources of Sodus Bay and indicate sediment needed (ex: deepening channel, opening piers, aeration bubblers year-around to mixed conditions). Mixing within a lake

Q: How do you measure sediment release?

A: No a direct measurement but determined via math from total nutrient loading

C: Don – NYSFOLA contracts with DEC to run CSLAP so money from/for it is invested through Bob Thill of Java Lake. Check NYSFOLA website. NYS is putting more press on for volunteer programs. A new one at Finger Lakes Institute is for plant identification. Hopefully more will get involved. Call and ask for Patty Wakefield-Brown for info.

PART II – Speaker Doug Conroe opened by briefly talking about Chautauqua Lake Association. The Chautauqua Lake Association was incorporated in 1954 by businessmen concerned with needs of the lake. It is mainly known for weed harvesting although it is more than that. He noted that harvesters cost \$200,000 each today and there are 6 of them in operation currently.

PART II (Cont'd.)

A transport machine is used to move harvested plants from the harvester to shore. One transport generally carries two harvester loads which is good because the operation has harvesters working in pairs. There are also four flat barges in use for the collection of floating near-shore vegetation. Shoreline removal by pitchfork has been done for years. This past year CLA has experimented with a mechanized collector barge that more efficiently loads and unloads the materials. Plans are in the works to add more mechanized barges that will allow for more territory to be served due to the efficiencies gained. Shoreline maintenance is currently experiencing greater public demand than does harvesting. The Association also removes floating and accumulated debris annually and recently got into dredging. You can go to the website (www.chautauqualakeassociation.org) for a summary of operations data. 500+ large and 400+ small truckloads were removed from the lake and shoreline in 2017 totaling just over 12 million pounds overall. The weeds are landfilled on farms within the watershed. CLA programs required a \$700,000 budget this year. There are 4 full-time shop employees in winter and 20-40 seasonal laborers are hired for shoreline work and operating harvesters. Funding is acquired through donations, foundations, government service agreements, and county bed tax funds. Next year's financing will be a huge challenge due to local politics and happenings.

The 2017 Scientific Program— CLA has a long-term relationship with Racine-Johnson for ongoing macrophyte, herbivore and mussel monitoring along with relationships with SUNY Fredonia, SUNY ESF, and JCC. The Association started with CSLAP in 1987 so CLA now has 30 years of good data. Because of CSLAP, Chautauqua Lake was identified as phosphorus-challenged. Data was responsible for a 303(d) designation that subsequently resulted in the formation of a TMDL, the results of which will be evaluated based upon future CSLAP findings.. Racine-Johnson identified weevil, moth and caddis fly impacts that have resulted in Eurasian watermilfoil becoming much less of a nuisance problem. Purchasing weevils had been previously recommended by Allied Biological. The research found such was not necessary as they were there, naturally present in the lake due to having a food source. Some moths were introduced by Racine-Johnson in areas of the lake where they were absent but their impact is not yet determined.

Two years ago SUNY Fredonia started ChAMP-Chautauqua giving real time monitoring via a buoy and weather station and results have been interesting, Ex. Correlate spikes with temps, time of year, rainfall. Fredonia is also studying the nature of algal colonies that are present and how nutrients affect them in regard to producing HABs. Additionally, Fredonia is looking at CSLAP data analyzing factors influencing chlorophyll concentrations as well as timing and intensity of algal blooms.

Jamestown Community Colleges Student Undergraduate Research Institute looked at nitrates, turbidity, temps, phosphorus, plankton which gave CLA good info.

PART II (Cont'd.)

HAB Documentation Program – in its fourth year in conjunction with SUNY ESF and all results are reported to DEC. It is the only on-going program on the lake and is used by public officials in determining lake use suitability.

Invasive Species Management is critical – want to know if hydrilla coming into the lake and deal with it.

Water Steward Program – hours logged at 8 sites by paid staff (they don't wash, just inspect): 1,372 hours in 2016, 2203 in 2017 and anticipate 3100 in 2018.

Partnership for Regional IS Management (WNY PRISM) – The Association is a PRISM Partner and Doug recommended that all the lake associations become involved with their PRISM. CLA utilizes PRISM interns annually to provide surveillance for the presence of new IS and to remove any new growths found. This has been especially important at stopping water chestnut from getting a foothold in Chautauqua Lake.

Doug concluded by noting that the biggest challenge is managing community expectations. Perception is that harvesting hasn't solved plant control needs as desired by the community. Result: new organizations formed or revived. Dilemma: Maintain good science assuring quality decision-making, affording current programs and new programs; changing unrealistic community attitudes; maintaining positive momentum. Noteworthy: Chautauqua Lake provides 24-26% property tax from 1% of the county's land mass.

During his presentation, Doug showed informational PowerPoint™ slides that included photos of HAB conditions that have existed on Chautauqua Lake.

PART III: Meg Wilkinson, Database Program Coordinator of NY Natural Heritage Program walked attendees through the steps to set up iMapinvasives Mobile App for android/apple phones, tablets. (imapinvasives@nynhp.org/www.NYimapinvasives.org). At the local level, search for IS and enter observations. View nearby areas...what's approaching. You can also register online. About NY Natural Heritage Program: it is overseen by DEC and ESF. It went live in 2010. Data comes from bulk uploads from partner organizations and groups like the conference attendees today using smartphones. iMap users: botanists, ecologists, consultants, DEC, Parks, Cornell Cooperative Extension staff, master gardeners, outdoor enthusiasts, college students. 400 IS are being tracked. WISPA=Watercraft Inspection Steward Program App has over 30,000 records collected since its May-Sept. launch. Recommended reading: SUNY ESF Professor Donald J. Leopold's book, "Native Plants of the Northeast." Another email to use: imapinvasives@dec.ny.gov.

At the conclusion of this conference, the consensus was to meet at The Club at Silver Lake from 10AM-3PM, Sat., Oct. 20, 2018. Next year, Don is inviting Dr. Bruce Gilman and Terry Gronwald to talk on climate change work on Honeoye Lake through Cornell University.

Don Cook thanked all the speakers and host Silver Lake Association for their time, talent and work.

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Law School students research legal questions during fall and spring semesters

Respectfully submitted,
Lorraine Sturm, Secretary – 11/3-4-6-7-8/17