

# The Forum

NEW YORK STATE WETLANDS FORUM NEWSLETTER

**MESSAGE FROM THE CHAIR**

**By: Brad Sherwood, U.S. Army Corps of Engineers– NY District**

Hi New York State Wetlands Forum members. Whether you are taking some time off to enjoy a nice cold weather activity, catching up on paperwork, or trying to find some unfrozen ground to do a quick delineation, we all continue to be busy even in what many call the “off season.” Don’t worry though, if you are bored and looking for more work, the “peak” springtime season is right around the corner. That is also the time of year we all can get together for our Annual Conference. This year we are excited to bring the conference to a part of New York State we haven’t had the opportunity to visit yet. Your 2020 Annual Conference and Business Meeting will be in Clayton, New York, along the St. Lawrence River, on April 28 and 29, 2020. The theme of this year’s conference is “Rising Waters: Issues Facing the Great Lakes & Other New York Waters, There’s 1000 Reasons to Attend.” For those of you that live and work along the St. Lawrence River and the Great Lakes, you have seen this first hand. Although this is also a topic that we all are facing, no matter where we live within New York State.

The conference will focus on the many issues and topics that surround our theme, as well as a wide variety of other topics, with great presentations scheduled both Tuesday and Wednesday. Along with being able to take in these presentations, we’ll also have the opportunity to meet up with many familiar faces, and meet some new ones, from both the private and public sectors. I look forward to seeing all of you again this year, and hope you are looking forward to attending this year as much as in the past.

As we look forward to our conference, and the spring and summer to come, we also take some time to look back at the end of 2019. We started a new training series entitled “Getting to Know...”, and were able to organize three trainings over the second half of 2019. The first was held in July around Syracuse, and was entitled “Getting to Know – Plants along the Wetland Edge.” The second was held in September in Cobleskill, and was entitled “Getting to Know – Ferns and Horsetails.” The third and final training of 2019 was held in October in Millbrook, and was entitled “Getting to Know – Potential (cont. pg. 2)



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New York State Wetlands Forum, Inc.

## New York State Wetlands Forum

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### Mission

The New York State Wetlands Forum is a non-advocacy corporation comprised of individuals and groups with diverse backgrounds, interests and viewpoints regarding wetlands and their science, use and management. Incorporated in 1994, the Forum is a 501(c)(3) not-for-profit organization. Its purpose is to improve communication among people interested in wetlands; call attention to and objectively discuss local, statewide, regional, national and global wetland issues as they relate to New York State; improve its members' knowledge and understanding of wetlands; and, make available information about wetlands to its members and the general public.

## MESSAGE FROM THE CHAIR (CONT.)

Bog Turtle Habitat.” I think all three went great, and we got some really good feedback on them. I want to thank the Training Committee for organizing them and making it happen. A special thanks and appreciation needs to go out to Joe McMullen, Mike Losito, and Dave MacDougall for leading these trainings and sharing your knowledge and expertise with our members. We are excited to see what is in store for the “Getting to Know...” series in 2020.

Once again, I look forward to seeing you all up along the St. Lawrence in Clayton. I realize that we all have many, many things that occupy our time and resources, but please don't forget to fill some of that time with those we love, doing some things we love to do. Hopefully that will include a trip up north at the end of April. Please enjoy the articles in this latest Newsletter that our Board of Governors, Members, and Guests have contributed.

## TALKING BOG TURTLE (*GLYPTEMYS MUHLENBERGII*) HABITAT

**By: Dave MacDougall, The Chazen Companies**

On Saturday October 5, 2019 I presented a bog turtle habitat assessment workshop focusing on the USFWS October 2018 bog turtle Phase I assessment protocols and datasheets. Ten people were in attendance which included consultants and agency personnel from different areas in NY and a participant from Pennsylvania. Several wetlands were investigated at two sites which included the Buttercup Farm Sanctuary and Millbrook School. Participants were given several copies of the datasheets and tasked with working through each site to come to a conclusion on its suitability for bog turtles. Calciphile vegetation was also shown and discussed where observed along with other typical fen indicator species. Bog turtle habitat assessment is similar to doing wetlands in that it is a three-parameter approach assessing vegetation, hydrology, and soils. Habitat suitability is ranked from good to low quality or a wetland not being potential habitat.

If you have questions about a site you can contact David MacDougall [dmacdougall@chazencompanies.com](mailto:dmacdougall@chazencompanies.com) or another qualified surveyor for an experienced assessment.



**Bog turtle (*Glyptemys muhlenbergii*), submitted by Dave MacDougall**

**NYS WETLANDS FORUM TRAINING INITIATIVE: THE GETTING TO KNOW SERIES– 2019 A FOCUS ON PLANT ID**

**By: Kurt Weiskotten, Greenman-Pedersen, Inc. Consultants and Kevin Bliss, TRC Companies, Inc.**

The Wetlands Forum is pleased to offer continued training opportunities to its members and the general public in the form of a Getting To Know education series. These opportunities are typically half day sessions around the state offered by experts in the field of wetland science, biology, botany, or whatever topics the Forum Training Committee are able to arrange! Keep an eye open for several more Getting to Know sessions in 2020 coming to a location near you. We will be offering a variety of topics to attract your attention. Of course, if you have any ideas for half day training opportunities, or care to assist or lead – please let the forum know.

This past year, NYSWF sponsored two plant identification workshops, under it’s “Getting to Know” theme. Both workshops were well attended. The first, “Plants Along the Wetland Edge,” was led on July 19<sup>th</sup> by long-term NYSWF member and professional botanist, Joe McMullen. Joe took his group through a remote section of a NYSDEC Wildlife Management Area known as Hamlin Marsh. In addition to teaching plant ID along the way, Joe shared some good insight from his past experiences performing wetland delineations. Thankfully, the rain held off until all got back to their cars, then let loose. Joe ended with a request that fellow botanists consider the wetland indicator status of New England aster (*Symphotrichum novae-angliae*). This species has an indicator status of FACW, whereas, Joe is inclined to think FACU is more fitting in New York state. New England aster typically has a deep blue (lilac) colored flower and is the last aster to flower in open areas in NY. As a result, it is easy to recognize from a distance. So, as you consider where you see New England aster, try to decide if you might agree with Joe’s opinion and let him know at our next conference.

The second Getting to Know workshop was conducted on Saturday, September 14<sup>th</sup> by Dr. Michael Losito, of SUNY Cobleskill fame. This was a ferns and horsetails training, which started with a classroom lecture on campus, and ended with practical application in the field at a state forest outside of town. This class did a great job of explaining how to use the 2005 Peterson “Field Guide to the Ferns” to its full advantage. Here again, the instructor put more than 100% into his class, staying in the field until well beyond the appointed ending time to ensure everyone was satisfied.

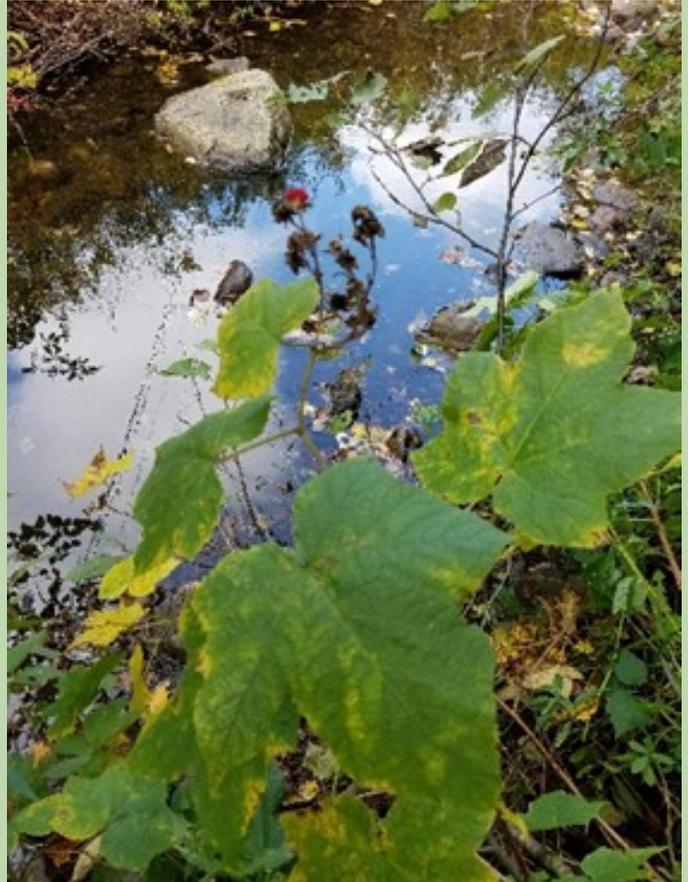
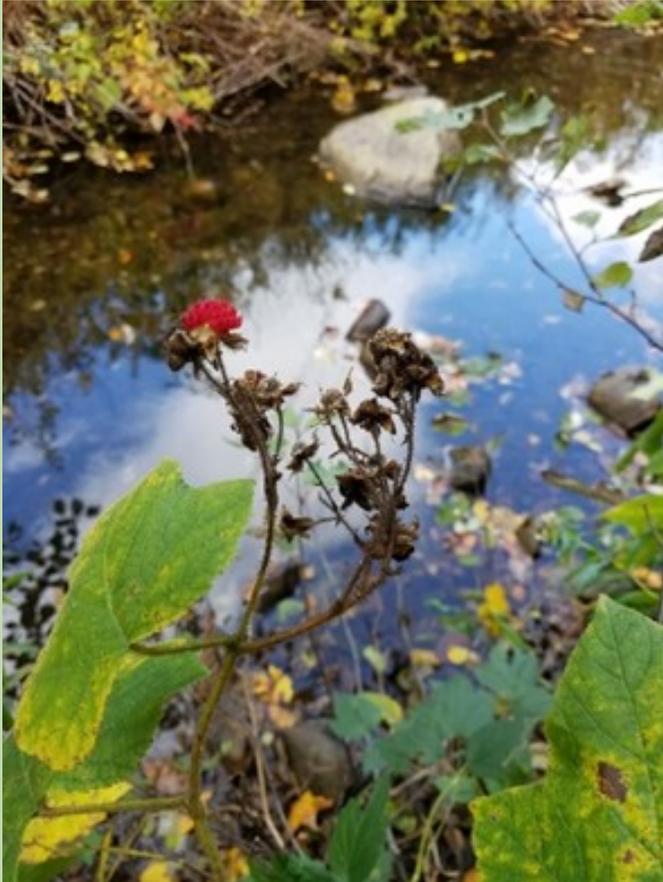
The NYSWF extends a big thank you to Mike and Joe for their involvement!



## ASK THE NATURALIST

Abby S. from Troy, NY asks:

I came across this shrubby plant while delineating a stream and wetland area. Could you help identify it?



*Based on the leaves and the inflorescence, the specimen appears to be *Rubus odoratus*, purple-flowering raspberry. This native deciduous shrub is distinguished from other flowering raspberries by its erect, unarmed stems, simple leaves, and large flowers. The shrub blooms large fragrant (odoratus) pinkish-purple flowers from June to August. The raspberries are insipid but edible and are enjoyed by birds and large and small mammals. The plant has medicinal uses and the Cherokee used leaf infusions for labor pains.*

**Please submit your “Ask the Naturalist” questions to [info@wetlandsforum.org](mailto:info@wetlandsforum.org)**

## **SAVE THE DATE!**

### **Register Today to Attend the New York State Wetlands Forum Annual Conference and Meeting!**

Rising Waters: Issues Facing the Great Lakes & Other New York Waters  
Keynote Speaker: Dr. Douglas Wilcox, Empire Innovation Professor of Wetland Science at The College at  
Brockport, State University of New York

April 28– 29, 2020

1000 Islands Harbor Hotel, Clayton, NY.

Online Registration available @ [wetlandsforum.org](http://wetlandsforum.org)



**We hope to see you there!**

Nominations Being Sought for the NYSWF's Board of Directors vacancies.

Nominations are currently being sought for individuals that are interested in volunteering their time to serve on the NYSWF's Board of Directors. Our current NYSWF Board of Directors has appointed a Nominating Committee that will look to fill all anticipated Board vacancies through a nomination process, in accordance with Article IV of the Bylaws. You may nominate yourself or another individual by submitting a nomination packet to **Johanna Duffy at [jduffy@bartonandloguidice.com](mailto:jduffy@bartonandloguidice.com)**. Nomination packets should include a biography about the nominated individual, including background, interests, work with wetlands, and past and present membership and involvement with the NYSWF. Directors hold office for a term of three years. Only active NYSWF members are eligible to serve. Once the "call for nominations" period ends, the Nominating Committee will introduce a slate of candidates to the membership prior to the annual meeting in April. The membership will vote on a slate of candidates during the business meeting held on April 28, 2020. Feel free to discuss the duties and responsibilities of the Board of Directors with any of the current Board members. Additional information can be viewed in the NYSWF's Bylaws, available on the website.

## ***NaCl TOLERANT POPULATIONS OF WOOD FROGS (LITHOBATES SYLVATICUS) DIFFER IN THEIR HORMONAL STRESS RESPONSE AND ARE MORE FIT THAN NaCl SUSCEPTIBLE POPULATIONS***

**By: Grascen Shidemantle, PhD student- Binghamton University**

Salinization of freshwater ecosystems has received increasing attention in recent years<sup>1</sup>. In New York, the primary cause of freshwater salinization is runoff from road deicing salts (NaCl)<sup>2</sup>. NaCl has been found to elicit a physiological stress response (release of glucocorticoid (CORT) hormones) and to negatively impact fitness in a number of freshwater species such as amphibians<sup>1</sup>. Despite this, some amphibian populations continue to live in salinized wetlands, suggesting that they have developed tolerance to NaCl<sup>3</sup>. Specifically, wood frogs (*Lithobates sylvaticus*) continue to breed in wetlands despite doing so during the period of peak NaCl runoff. Although NaCl tolerance allows amphibians to survive in otherwise uninhabitable conditions, tolerance to contaminants is often found to come with costs to fitness and physiology<sup>4</sup>. The goal of this study was to determine how NaCl tolerance impacts fitness and stress physiology in larval wood frogs, a species that is found throughout New York. I hypothesized that NaCl tolerance was accompanied by costs such that tolerant populations would have lower fitness (smaller size at metamorphosis), higher baseline CORT levels, and an inhibited response to future stressors (lower stress-induced CORT levels).

Using a time to death assay, I identified three NaCl tolerant and three NaCl susceptible populations of wood frogs. I then raised tadpoles from these populations in either a sublethal concentration of NaCl (0.5 g/L NaCl) or a control of 0 g/L NaCl until they reached metamorphosis. At metamorphosis, I performed a non-invasive waterborne assay to measure baseline CORT release rate and stress-induced CORT release rate in each individual<sup>5</sup>. Baseline CORT release rate reflects CORT levels during a period of little or no stress and is generally considered to be an indicator of physiological condition (high baseline CORT is considered to be harmful)<sup>6</sup>. Stress-induced CORT release rate helps us understand how an individual would respond to an acute stressor such as a predator<sup>6</sup>. After collecting CORT water samples, I measured metamorph mass and snout to vent length (SVL) in order to quantify fitness as larger metamorphs are considered to be more fit. Finally, I used an Enzyme-Linked Immunosorbent Assay (ELISA) to measure CORT in the water samples<sup>5</sup>.

I found that tolerant populations were significantly larger, reached metamorphosis faster, had lower baseline CORT release rates, and significantly increased their CORT release rate in response to an acute stressor compared to susceptible populations regardless of the salinity in their rearing environment (0 g/L NaCl or 0.5 g/L NaCl). This suggests that NaCl tolerant populations are more fit and under less physiological stress than NaCl susceptible populations regardless of NaCl exposure early in life. This contradicts my original hypothesis that NaCl tolerance would come with costs to fitness and would impair the hormonal stress response. Although I did not find evidence for direct fitness costs, it is possible that indirect ecological costs (e.g., increased disease susceptibility) that were not considered here may exist<sup>4</sup>. I intend to explore potential ecological costs in future research.

I am grateful to the New York State Wetlands Forum for recognizing the value of my research. Funds from the NYSWF grant were used to purchase ELISA kits for measuring CORT. I am currently working on the manuscript for this study and am looking forward to presenting the results at the NYSWF Annual Meeting in April 2020. Thank you for your support, NYSWF!



**Photos submitted by Grascen Shidemantle, NYS Wetlands Forum Student Grant Award Winner. Grascen is a PhD student at Binghamton University in Dr. Jessica Hua's lab. Images: Grascen conducting field work (top left), waterborne CORT assay setup (top right), wood frog tadpole (bottom left), and wood frog metamorph (bottom right).**