



The Obligate

Maine
Association of
Wetland
Scientists
www.maws.me

c/o Danielle Tetreau, Stantec
30 Park Drive, Topsham, ME
04086



President's Message

Richard Jordan

Hi folks – well, my term is up! After two fun-filled years at the helm, I'm looking forward to some R&R at my ranch, to spend more time with my family and to reflect. Over the last couple years, MAWS held some great workshops and MAD events, we expanded our outreach to state government, and we have increased our interaction with colleges and universities (and high schools through our continued support of the Envirothon program). We rebranded MAWS, adding new hats, T-shirts, stickers and other merchandise in our effort to become a household name, and to ensure a little more stability in our coffers. These have been successful ventures, and although a lot of time was spent (*and time is a hot commodity*), it was mostly worth the efforts.

My sincere thanks goes out to the EC – the finest comrades a President could ask for! The EC has been incredibly hard working and is a thoroughly dedicated group of talent - please read their ensuing reports in this edition of the Obligate, and give them thanks when you see them around. This year I will hand MAWS's presidential reins to Brad Agius of Tetra Tech. Brad's work as President-Elect has been very helpful, and I hope to reciprocate while I savor the golden autumn of downtime in my role as Past-President (I just pray that Brad doesn't rely on me as much as I relied on the past two Presidents...*by the way, thanks Jeff and Dale!*). If I had to single-out an MVP from the last two years, I would have to choose Sarah Watts. Sarah has done an exceptional job organizing workshops and our Annual meetings, and in piecing together my rambling, often incoherent, back-of-the-envelope ideas into concrete outcomes and events. The runner-up for MVP goes to Tim Forrester – MAWS' Treasurer *extraordinaire*. Our ledger has never been cleaner and we have enjoyed living comfortably "in the black". This success has come while we have all had very busy years, both professionally and

personally (*i.e., we have at least eight kids under age 10 parented by this overworked EC!*) so thanks again for your time and sacrifices!

The next couple of years look to be even busier. Maine is finally digging out after a devastating recession. The economies within and around our state are beginning to hum with the lovely sound of energy (*both real and metaphorical*). With this backdrop of increasing activity, the environment and the regulations designed to protect the environment are changing. In the face of these changes, Maine needs intelligent and informed people helping to navigate the state through economic recovery and environmental stewardship. Maine needs people who can understand the concerns facing the environment and who can articulate the risks of failing to prepare for the known and unforeseen environmental changes that will inevitably affect our economic growth.

Badly paraphrasing Heraclitus, *the only thing that ain't gonna change is that we'll always face changes*. As a reflection of the dynamic times we are in, and the need for practicing scientists to stay well-informed, MAWS's 2015 Annual Meeting is themed "*Ch-ch-ch-ch-changes*". MAWS has always strived to keep members current in the knowledge and understanding of environmental and regulatory changes, especially those within the purview of wetland science. As scientists, wetland advocates and consultants, MAWS members should be active and positive participants in the planning and protection process. Our members must be integral parts in keeping MAWS relevant and a source for news, information and knowledge. I urge everyone to get and stay involved with this group. Join a committee, forward news to the MAWS website committee and EC for distribution, write articles for the Obligate, volunteer to speak to classes, run for the EC, lead workshops, and attend conferences. Change is inevitable – let's be a part of it and make sure it is for the better.

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Assembled by D. Tetreau February 2015



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Report of the Webmaster – Communications Subcommittee David Brenneman

Greetings MAWS members! For those that are unaware, I took over the duties of webmaster from Rich Jordan in 2012. Rich did a great job getting the MAWS website started, but it was high time to bring the site out of the HTML days of the late 90's and into (at least) the 21st century! The new site was unveiled in February of 2013. The design is more modern and formatted for today's web browsers and mobile devices.

I'd like to give a quick overview of the site's key pages to help people find the information they need. The "News" page is where you can find organization updates, industry news and more. Also, the "News" page is where you'll find reports of vernal pool activity during the breeding season. Individuals can post activity occurring in a locale and see what others are observing across the state. This has been popular the last couple of years and is helpful for timing vernal pool surveys from afar. The "Events" page catalogues upcoming workshops for MAWS and other organizations that may be pertinent to the membership. You can also find follow-up information on past workshops such as handouts and results. The "Employment" page lists job and internship opportunities. Keep an eye on "Events" and "Employment" for continual updates. The "Membership" page contains a (relatively) up-to-date list of the membership and has a form for becoming a member and renewing annual dues. You can also sign-up for the e-mail list. The "About" page contains several sub-pages with a list and contact info for current executive committee

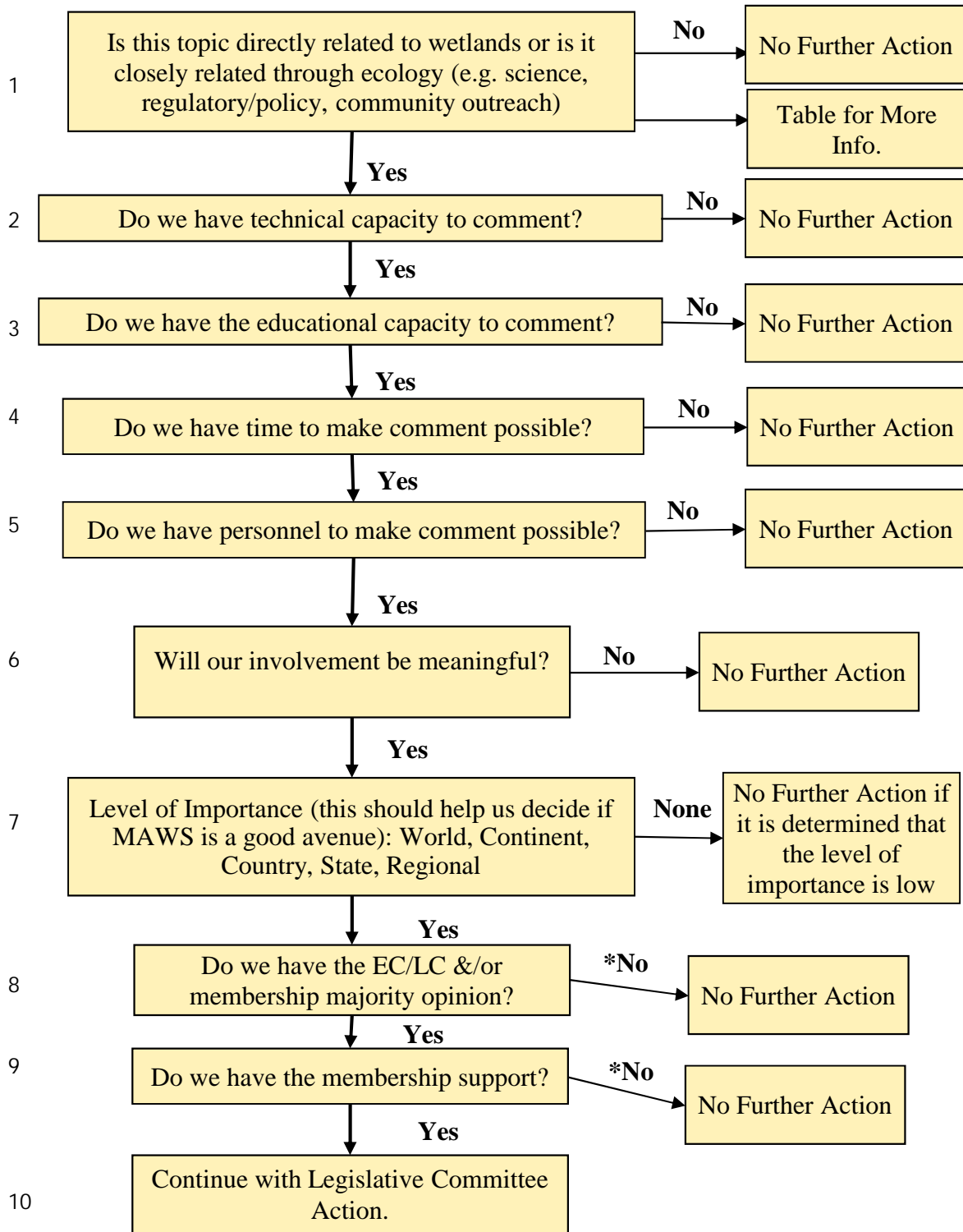
members, subcommittee updates, and houses past issues of the *Obligate* newsletter.

This winter I'm working with the Executive Committee to add the much requested ability to sign-up and pay for workshops and meetings online. Soon a "web store" will be added where you can pay annual dues, sign-up for workshops and purchase MAWS t-shirts, hats, mugs, and other items. Also, we will soon be able to accept credit card payments for all of these items on-site at workshops. Look for the incremental rollout of these features in the coming months.

As a volunteer web designer for the organization, I strive to add features to the site that make things accessible for the membership and meet their needs. I am always open to suggestions or help on more technical updates to the site. Feel free to contact me any time with ideas, suggestions, additions or issues with the site or the e-mail list. You can also send information regarding upcoming events, employment, or other news that you wish to be posted to maws.webmaster@gmail.com.

If anyone would like to be part of MAWS executive or other committees please contact Brad Agius (brad.agius@tetrattech.com) or any member of the EC.

MAWS Action Item Flow Chart



* = due to time requirements the MAWS Executive & Legislative Committee(s) may take committee action without consulting the membership



Legislative Committee Update *Rodney Kelshaw*

In November 2014 Mainers went to the polls and elected new state representation and once again the power of the Maine State Legislature changed hands. Now that it is winter 2015 text for newly proposed bills has been submitted and the subsequent list of Legislative Documents (LDs) is streaming out daily. Word has it there will be over 1,500 new LDs. At this point almost 300 have been released and I have looked through the entire list. So, who wants to be the new MAWS Legislative Committee (LC) Chair? Anyone? Hello? Anyway, the MAWS LC is back in business. We are:

- Signed up for weekly updates from relevant legislative committees
- Preparing letters to email to relevant legislative committees to introduce MAWS to them
- Reading the list of new LDs to find potentially relevant LDs for MAWS comment
- Running potentially relevant LD's though the "MAWS LC Action Item Flow Chart" to determine which LDs MAWS will become involved.

Thus far there are several LDs that have potential for MAWS involvement:

- LD 40 An Act to Protect Maine's Ponds
- LD 70 An Act to Assist Towns in Eradicating Invasives
- LD 147 Resolve, Regarding Legislative Review of Portions of Chapter 500: Stormwater Management, a Major Substantive Rule of the Department of Environmental Protection
- LD 153 An Act To Amend Setback Requirements and Standards Related to Species Migration under the Laws Regulating Development Near Vernal Pools
- LD 162 An Act To Protect the Rights of Property Owners

If you want to keep abreast of legislative happenings here are a few websites to watch:

The Maine State legislative page:

<http://legislature.maine.gov/>

127th Legislative Documents:

http://www.mainelegislature.org/legis/bills/bills_127th/billtexts/

If anyone is interested in becoming involved with the MAWS LC please contact me at

Rodney.kelshaw@stantec.com or call (207) 944-6776.

I have included the Draft letter to the Environment and Natural Resources Committee and the "MAWS Action Item Flow Chart".

widespread agreement that the wetter end of a wetland occurs where the water is too deep for rooted, emergent vegetation to take hold. The difficulty is in precisely defining the so-called *drier end* of the wetland, the boundary beyond which exist nonwetland, upland systems in which the plant-soil-animal community is no longer predominantly influenced by the presence of water-saturated soils.

The controversy is probably more political than scientific, however. Since uses and management of wetlands are regulated by governments in the United States and in many other countries, billions of dollars are at stake in determining what is and what is not protected as a wetland. (Consider, for example, a developer who wants to buy a 100-ha tract of land on which to build a shopping center. If 20 versus 60 of those hectares are declared off-limits to development, how will that affect the developer's willingness to pay?)

Because so much money is at stake, thousands of environmental professionals are employed in the process of **wetland delineation**—finding the exact drier-end boundaries of wetlands on the ground. **Wetland delineation is not done in front of a computer screen, but is a sweaty, muddy, tick- and mosquito-ridden business that those trained in soil science are uniquely qualified to carry out.**

What are the characteristics these scientists look for to indicate the existence of a wetland system? Most authorities agree that three characteristics can be found in any wetland:

1. A wetland hydrology or water regime
2. Hydric soils
3. Hydrophytic plants

We shall briefly examine each.

Member Don Phillips submitted this photo from the Soil Science text book, giving a shout-out to wetland scientists.

Ethics Update *Lee Burman*

Last year we awarded \$500 research stipends to each of two graduate students, Jared Homola and Shri Nageshvari Verrill.

Jared Homola is enrolled at the University of Maine, working towards a PhD in Ecology and Environmental Sciences. His research topic is: Adapting to transforming environments: Consequences of climate change and urbanization on vernal pool amphibians (very interesting!). We checked in with Jared to find out how his research is going and this is what he had to say.

"Last spring, I was honored as one of the recipients of the 2014 MAWS research stipend. The news came in late May, after several busy weeks visiting over 80 vernal pools throughout central and southern Maine. Last spring was both the first field season for my research and my first spring living in Maine. As a recent transplant to New England, I quickly gained an appreciation for the region's beautiful wetlands. I am excited to have an opportunity to contribute to improving the conservation surrounding these unique natural features.

My dissertation research at the University of Maine examines the ecological and evolutionary implications of environmental change on Maine's wood frog and spotted salamander populations. My approach uses the genetic structure of



amphibian populations, paired with land use and land cover data to understand how natural and man-made features can influence gene flow among populations. I am then using that information to build a series of individual-based models that will examine the consequences of various rates and types of environmental change on amphibian populations. For instance, these models will simulate how population size fluctuates when landscape patches suddenly experience a drastic change. These types of projections will be valuable for anticipating consequences of potentially disruptive events, such as those related to climate change and urbanization, on the likelihood of persistence of amphibian populations. Moreover, the models that I am constructing will give explicit consideration to role of genetic evolution and phenotypic plasticity in determining population persistence. Inclusion of these factors will allow me to identify the conditions that could allow populations to use adaptive evolution to cope with habitat degradation.

Over the past year, I have been busy genotyping over 2400 egg and larval stage wood frogs and spotted salamanders collected during my first field season. The MAWS Research Stipend provided an important contribution to this effort by purchasing supplies required for extraction of DNA from tissue samples. Additionally, I have begun the process of building the individual-based models that will allow me to use that genetic data to evaluate the consequences of environmental change. I look forward to continuing to share my research with MAWS members as my dissertation progresses.

Shri Nageshvari Verrill is enrolled at the University of Southern Maine, working towards a Masters degree in Biology. Her research topic is: Effects of Inundation and salinity on shifting vegetation borders in the high marsh transitional zone dominated by *Typha angustifolia* in Fluvial Minor salt marsh tidal restoration (also very interesting!). We checked in with Shri to find out how her research is going and she responded in a very creative way!

The goal of my thesis research was to better understand vegetation response to tidal restoration in a fluvial minor marsh in order to prepare for sea level rise. Increased groundwater saturation and reduced pore water salinity due to groundwater from adjacent uplands makes the high marsh transition zone of fluvial minor marshes hydrologically distinct. The primary objective of my study was to investigate the brackish zone dominated by *Typha angustifolia* and observe the response of *Typha* stands to the interacting gradients of increased flooding frequency and salt water inundation resulting from tidal restoration.



Cat Tales: Adventures of Tang and Tyla by Shri Verrill. Tang in purple represents *Typha angustifolia* and Tyla in orange represents *Typha latifolia*.

Congratulations Jared and Shri, and we look forward to hearing your presentations at the MAWS Annual Meeting in March!

The 2015 stipend application was mailed out to an extensive list of college and university professors. We are always looking to add to our list, however, so please feel free to forward the names and e-mails of professors/advisors that you think should get the stipend information to blburman@gmail.com.



Maine Association of Wetland Scientists

January 21, 2015

127th Maine State Legislature
Committee on Environment and Natural Resources
100 State House Station
Augusta, ME 04333-0100

Re: Maine Association of Wetland Scientists Informational Letter

Dear Co-Chairs Senator Saviello & Representative Welsh:

The intent of this letter is to establish a relationship between the Maine State Legislative Joint Committee on Environment and Natural Resources (ENR) and the Maine Association of Wetland Scientists (MAWS), and to offer the MAWS membership's broad technical experience and field expertise to the ENR whenever questions arise regarding proposed natural resources legislation.

MAWS was established in 1990 by a group of environmental professionals, scientists and students who work, live and learn in and around the great State of Maine. The purpose of establishing MAWS was to institute a non-profit organization that will promote the profession and understanding of wetland science in Maine and to protect the public interest by:

- Establishing a code of ethics and maintaining high professional standards of practice.
- Establishing professional qualifications and certifying those qualifications to the public.
- Promoting policies that contribute to the sound stewardship of wetlands and related natural resources.
- Implementing educational programs pertaining to the study of wetlands and related natural resources for wetland professionals, the Association membership and the public.
- Supporting and contributing to the expansion of the wetland science research base.

Annually MAWS gathers to discuss changes in the regulatory climate, new scientific and technical information, and to further public appreciation and understanding of Maine wetlands and wetland ecology. Several times a year we sponsor natural resources workshops on topics such as natural resources regulation, vernal pool identification, stream identification and wetland delineation. The Association currently has approximately 150 members. Our membership

currently works closely with state and federal regulatory agency staff during all phases of planning and permitting of projects, and assists private landowners in complying with municipal, State, and federal regulations for wetlands and other protected natural resources on a daily basis.

Thank you for taking the time to read this letter. We invite you to contact MAWS if you have any questions regarding implementation of proposed legislation in the field, or if you have questions regarding natural resource science. If you would like to contact us please feel free to call or email Rodney Kelshaw, MAWS Legislative Committee Chair or Richard Jordan, MAWS President. We hope we can provide useful technical information to NRC now and in the future.

Rodney Kelshaw, MAWS Legislative Committee Chair

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Your Input is Needed to Plan the Next Ten Years of Maine's Wildlife Conservation

Amanda Shearin, Ph.D, *Beginning with Habitat Coordinator*

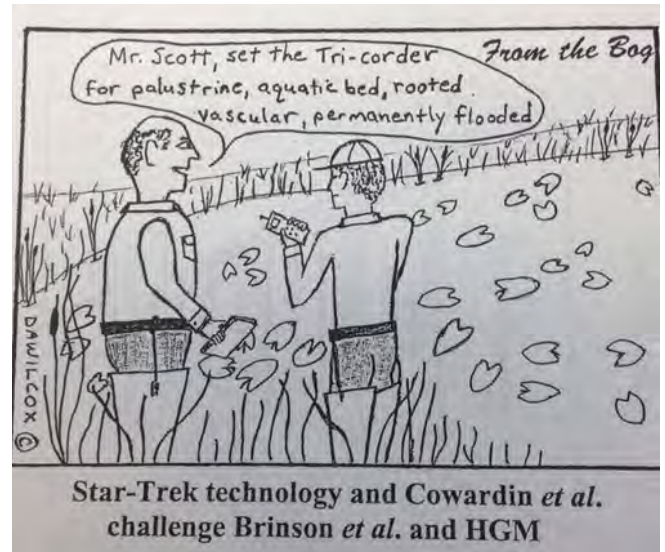
Did you know that MAWS is one of over 70 conservation partners working with the Maine Department of Inland Fisheries and Wildlife (MDIFW) to update Maine's blueprint for conserving our state's fish and wildlife? Did you know that you can participate? You can join with individuals from across Maine working to revise Maine's 2015 Wildlife Action Plan.

What is Maine's Wildlife Action Plan? It is a ten-year strategy developed collaboratively among non-profit organizations, private landowners, the public, and state, federal, tribal, and local agencies for conserving Maine's most vulnerable fish and wildlife species. The plan identifies species and habitats (including freshwater and tidal wetlands) in the greatest need of conservation, the factors stressing these species and their habitats, and potential conservation opportunities that citizens, partner organizations, and agencies can undertake to address these stresses.

Since our state's first Wildlife Action Plan was completed in 2005, Maine has accomplished over 50 conservation projects benefiting hundreds of species including brook trout, Atlantic puffins, wood turtles, Atlantic sturgeon, little brown bats, butterflies, rare freshwater mussels, rare dragonflies, migrant birds such as Bicknell's thrush and black-throated blue warbler, and globally rare species, such as the Tomah mayfly.

Now, Maine is identifying practical and voluntary fish and wildlife conservation opportunities for the next ten years to include in our 2015 Wildlife Action Plan. The plan recognizes that landowner and public participation are essential for wildlife conservation, and your input will ensure that the 2015 Wildlife Action Plan reflects the values and priorities of Maine's people. To learn more about Maine's 2015 Wildlife Action Plan revision, please visit <http://www.maine.gov/ifw/wildlife/reports/MWAP2015.html> or contact MDIFW at mainewildlifeactionplan@gmail.com. You may also share

your thoughts directly with your MAWS representatives Brad Agius (Brad.Agius@tetrattech.com).



Comic by Dr. Douglas Wilcox of SUNY Brockton

Membership Update *Katelin Nickerson*

MAWS gained eight new members in 2014 and welcomed back one old member. I received a number of requests last year to update physical or email addresses. Thanks for keeping us up to date! I plan to post an updated membership list soon, so please check the membership tab on the website. If you notice we have some old or missing contact information, email me at katelin.nickerson@stantec.com and I will update your information. At the very least your current email will be used for our mailing list. It's that time of year for me to nag about dues, so please pay up! And while you are at it, sign up for the annual meeting at the end of March. Hope to see you all there!

Program Chair Update *Sarah Watts*

Hello MAWS members! We're heading back to Bowdoin for the MAWS Winter Conference and Annual Meeting this year! Based on feedback from last year's meeting, and the positive balance that resulted (we did better than break even!), we're sticking with it for 2015. So this year's MAWS Winter Conference and Annual Meeting will be held on Tuesday, March 24, 2015, at Thorne Hall,



Bowdoin College, in Brunswick, Maine. As always, for anyone with an opinion on such things, I welcome your feedback!

Hold on to your seats! We've got an AWESOME slate of speakers this year! Our theme this year is Ch-Ch-Ch-Ch-Changes! To start the morning, we'll hit on regulatory changes, starting with a regulatory update from MAWS Legislative Chair Rod Kelshaw, and then Special Guest, Commissioner Patricia Aho of Maine Department of Environmental Protection will update us on Maine DEP Environmental and Energy Resources Working Group's work devising and implementing the State's climate change recommendations. Following her, our friends at Maine DEP Mike Mullen and USACE Jay Clement will provide regulatory updates from their respective organizations. Then, we've got two 2014 stipend winners speaking this year, and miraculously they both fit under the topic of change: Shri Verrill, M.S. candidate at USM will talk to us about changes in vegetation zones in response to culvert enlargement on a tidally restricted salt marsh, and Jared Homola, Ph.D. candidate at UMO will talk to us about population structure of vernal pool amphibians in a changing landscape! Just before lunch, we'll get an update on invasive species in Maine from the Maine Invasive Species Network's 2015 annual meeting (to be held February 25th), and hear about an online mapping tool that is helping MISN better understand invasive species distribution in Maine. Cool stuff!



Shri Verrill's research site: tidal marsh restoration area.

After a jam packed morning, we'll have some extra time during the lunch break to check out the Student Poster Session – something new we're trying this year! If you know any students, encourage them to participate– it will be a low key, informal way for students to talk to current wetlands professionals, build their contact list, meet potential future employers, and get feedback from the industry about their research. To round out the day and keep everyone on the edge of their seats, we've got a fantastic afternoon planned! First, Amanda Shearin from Maine Department of Inland Fisheries and Wildlife will talk to us about Maine's Wildlife Action Plan: A Collaborative Approach to the Next Ten Years of Wildlife Conservation. Then from MaineDOT, Judy Gates will update us on the Department's experience with culvert replacement and climate change, followed by Dr. Charlie Hebson's talk on enhancements to StreamStats. Lastly, Elizabeth Hertz will wrap up with a talk on marsh migration in response to sea level rise. After a quick afternoon break, we'll hold the Annual Business Meeting to round out the day. Anyone that's interested, I'm sure a contingent of hearty wetland professionals will head down the street after the meeting to further discuss the hottest wetland topics over a couple of beverages.

As usual, we are pursuing Continuing Education Units (CEUs) for the MAWS Winter Conference and Annual Meeting, and will provide certificates of attendance for this event (and any other of our events) that include the associated professional time spent.

We will attempt to provide handouts (PowerPoint notes pages) of the speaker presentations again this year, making a handful of copies (hoping to avoid unnecessary waste of paper) available at the registration table! Come early to make sure you get a copy! We hope that this will allow everyone to sit back, relax, and enjoy the presentations.

We are keeping the registration fee structure consistent with last year: if payment is received by March 10, 2015 (2 weeks prior to the event), registration for MAWS members is \$45 (not including annual dues); non-members is \$60 (begging the question: why not become an affiliate member for the same price!), and students are \$20. For payment received AFTER March 10, 2015,



including payment at the door, add \$10: MAWS members \$55, non-members \$70. Student registration fee will remain \$20.

We hosted or co-sponsored several events this year including:

In September, MAWS again participated in the annual Dave Rocque/ Maine Association of Professional Soil Scientists, MAWS, Maine Association of Site Evaluators and SSSNNE field workshop, returning to Mount Blue State Park. Revisiting these sites gave scientists another opportunity to visit some interesting sites and ruminate over past determinations! We'll see if we can convince Dave to continue doing what has become an annual and valuable event for the Maine natural science community!

In August, we presented a workshop to review changing and updated methodologies for wetland functions and values assessments. We were fortunate to have author and scientist Ralph Tiner of USFWS there to present a discussion on the (fairly) new, web-based NWI-Plus program. Paul Minkin from the New England Division of the USACE also presented information and guidance on the early "beta" version of an updated and revised methodology for Functional Assessments in New England, and Greg Granger from NRCS discussed NRCS' efforts on a nationwide functional assessment methodology. Following the classroom component, there was a field component, to look at a couple of different wetlands and field-test what we learned in the classroom. Then the group reconvened back at the classroom for closing discussions.

In December, we did a MAWS After Dark (M.A.D.) event at Frontier in Brunswick, with well-known botanist and wetland scientist, Matt Arsenault of Stantec. Matt is a co-author of *Sedges of Maine, A Field Guide to Cyperaceae* (University of Maine Press, 2013). It's always a pleasure to see how this incredibly intelligent plant nerd can dumb things down for us regular nerds! Matt presented info on this fantastic identification tome and discussed changes, additions, updates, and stories of all things sedge. Sounds like Matt's starting work on another book about Grasses and Rushes, and we look forward to seeing the caryopses of his labor.

Looking ahead to 2015, we are thinking about a couple of events, including a workshop on the Final Rule related to the definition of Waters of the U.S. under the Clean Water Act, a revisit to Sebago Lake State Park with the MAPSS and MASE crew, and maybe we'll sneak in an Orono Bog site visit or a workshop on edible plants. Stay tuned for more details! If you have ideas for other workshops, please don't be shy! I'm always looking for new ideas!

See you in March!!

If anyone would like to assist in organizing workshops and activities for MAWS, please contact Program Chair, Sarah Watts (sarah.watts@tetrattech.com) or (207) 358-2383. She would gladly accept your help! ☺

Incoming President's Message – Brad Agius (2015 – 2017)

I am honored to take the helm from Rich Jordan and continue to move the Maine Association of Wetland Scientists (MAWS) forward over the next two years. Rich has done a tremendous job as President, and he adds to the long line of effective and charismatic leaders of this very fine association. We, the collective membership, are indebted to the hard work and expertise of the Executive Committee (EC) and Standing Committees that keep this association running smoothly. MAWS is a diverse yet tight knit community of scientists that contribute to the stewardship of wetland resources in Maine and beyond. We face a suite of challenges ahead, but I am confident that we will be prepared for and adapt to these changes, be it climate change, invasive species, vector borne diseases and parasites, sea level rise, or evolving regulations.

After years of a sputtering economy, 2015 so far appears to bring increased opportunities. Many MAWS members I've spoken with have been quite busy this past year and continue to be so even in the dead of winter. Consider this: there are now numerous jobs on the MAWS Jobs Board! With members fully ensconced in their respective jobs, balancing workloads and deadlines in Maine and farther



afield, MAWS provides a crucial link to the latest wetland news. Rod Kelshaw, as Legislative Committee Chair, has done an amazing job keeping us informed of legislative happenings, as well as making sure MAWS has an active voice in the legislative process by providing our subject matter expertise on relevant bills.



Ringed Boghaunter (*Williamsonia lintneri*) taken by member Josh Brown.

In addition to keeping our voices heard in the legislature, my goals are to continue to support and enhance the following MAWS focal areas to keep us poised for the challenges and opportunities ahead: 1) education, 2) science, 3) outreach, 4) partnerships, and 5) membership. I would like to take a moment to highlight our accomplishments in each area and set the stage for things to come:

- 1) Education. Education is a multi-faceted core component of MAWS. As mentioned above, the Legislative Committee provides MAWS members with continuous legislative and regulatory updates from the Environmental Protection Agency (EPA), Maine Department of Environmental Protection (MDEP) and U. S. Army Corps of Engineers (USACE). The Program Committee Chair, Sarah Watts, has provided us with excellent professional development and training opportunities over the years that strengthen both individuals and MAWS as a whole. This past year (2014), MAWS hosted/co-hosted a Functions and Values Workshop in August, the Mt. Blue Soils Workshop in September, and the MAWS After Dark (MAD) series in December featuring Matt Arsenaault, co-

author of *Sedges of Maine, A Field Guide to Cyperaceae*. In 2015, MAWS is co-sponsoring the Sebago Lake State Park Soils and Natural Resources Workshop (September 9), and many other exciting workshops are in the works (e.g., a Clean Water Act Reauthorization Workshop with the EPA). Many MAWS events also provide Continuing Education Units for professional credentials. On the national scale, several members will be representing MAWS at the Society of Wetland Scientist 2015 Annual Meeting (May 31- June 4) in Providence, RI.

Perhaps the most important MAWS educational event is our Annual Meeting, this year on March 24 at Bowdoin College in Brunswick. In addition to hearing from experts on a variety of topics, MAWS undergraduate stipend winners will present their original research findings. This year, we have added a poster session which allows additional students to showcase their research and provides an opportunity for students to network with our natural resource professionals. Lee Burman, Ethics Committee Chair, has done a tremendous job coordinating the MAWS stipends and new poster session. Your attendance at the Annual Meeting and other events is an important source of revenue, which in turn allows us to support these undergraduate wetland research stipends and the Envirothon program.

- 2) Science. Staying at the forefront of emerging and evolving wetland science, especially as it pertains to regulatory requirements in the state and our understanding of wetland ecology, is a necessity of MAWS and we will continue to make this a primary focus. For example, the MAWS Vernal Pool Technical Committee (VPTC), chaired by Roger St. Amand, typifies our commitment to understanding of the science behind the regulations. Over the years the VPTC has remained focused on the changing requirements for identifying and managing vernal pools. The VPCT collaborated with natural resource and regulatory agencies to create a consistent methodology and standard for surveying potential vernal pools in Maine. Another example of our direct involvement in emerging science has been as a Conservation Partner for Maine Department of Inland Fisheries and Wildlife's (MDIFW) 10 year update of the State



Wildlife Action Plan (SWAP) this past year. MAWS continues to support the SWAP process by providing valuable input for the Species of Greatest Conservation Need and their habitats in Maine. The MDIFW SWAP update will be one of the featured presentations during the annual meeting.

- 3) Outreach. In our fast-paced and busy world, an active and engaging online presence is essential. The Outreach Committee plays a vital role in how MAWS represents itself to the public and communicates with its members. Danielle Tetreau has done an outstanding job producing the Obligate as well as maintaining our Facebook and LinkedIn pages. Dave Brenneman has done an excellent job maintaining the MAWS website (<http://mainewetlands.org>). The Outreach Committee will continue to increase our online presence to connect with existing and attract new members. Maybe we'll start tweeting!
- 4) Partnerships. MAWS members and the association have a vast network of connections to outside organizations and agencies that we will continue to foster, maintain, and grow. Whether it be teaming with The Wildlife Society for commenting on Legislative bills; co-sponsoring events with Maine Association of Professional Soil Scientists (MAPSS), Maine Association of Site Evaluators (MASE) and the Society of Soil Scientists of Northern New England (SSSNNE); or having experts from state (e.g., Maine Department of Agriculture, Conservation, and Forestry, MDEP, MDIFW, and Maine Natural Areas Program), and federal (e.g. Natural Resources Conservation Service, USACE, U. S. Fish and Wildlife Service) agencies and academia (e.g. Bowdoin College, University of Massachusetts, University of Maine, University of New England, University of Southern Maine) present at our events adds tremendously to our knowledge base. Expanding these partnerships enhances the MAWS mission and keeps members informed of the latest science and regulations. Such is the African proverb, 'If you want to go fast, go it alone; if you want to go far, go as a group.'
- 5) Membership. Membership is the foundation of MAWS. In the next few years, we will continue to grow our membership with a two-part approach. First, we hope to retain, engage, and invigorate our

current members. Secondly, we aim to encourage aspiring new wetland scientists and welcome incoming wetland scientist to Maine. Katelin Nickerson has done a wonderful job as Membership Committee Chair and will continue to focus on the growth of the MAWS membership. You can even help grow the membership right now: invite a colleague or peer to attend a MAWS event or join the association.

Lastly, I would like to build upon the groundwork the EC is undertaking to develop options for online registration and payment for events, membership and dues, merchandise, as well as the ability to pay by credit card for events at the door. Tim Forrester, Dave Brenneman, and Rich Jordan have been working hard to pull this together, and we will ensure a successful transition to the new Treasurer to see this effort through. Many thanks to Tim for his outstanding work as Treasurer over the last 4 years.



Spotted salamander (*Ambystoma maculatum*) larvae taken by member Tom Tetreau.

MAWS keeps us connected to the latest wetland news, research findings, regulations, and trends. Given the diversity of wetland resources and sheer vastness of our state, we are fortunate to have an organization such as MAWS that serves as a central and reliable clearinghouse of information. I encourage you to get involved and volunteer, as MAWS will only be as great as the efforts put forth by its members. I look forward to working with you.



Maine Association of Wetland Scientists Annual Meeting

Minutes of Meeting

Subject: Maine Association of Wetland Scientists (MAWS) Annual Meeting

Date: March 26th, 2014

Time: 8:30 AM – 3:40 PM followed by a MAWS Executive Committee Business Meeting from 3:49-4:41 PM

Location: Thorne Hall, Bowdoin College, Brunswick, Maine.

Attendees: MAWS Membership, Executive Committee, and Guest Speakers (approximately 90 attendees)

The Maine Association of Wetland Scientists (MAWS) held its annual meeting on March 26th, 2014 at Thorne Hall, Bowdoin College in Brunswick, Maine. The session consisted of eight speakers given by local professions and one MAWS stipend winner; each followed by an interactive discussion.

8:40-9:10 Jordan kicks off the meeting and introduces the speakers for the day.

8:40-9:10 ***Maine DEP Regulatory Update***, Mike Mullen, Maine Department of Environmental Protection.

- Mike noted that there were not a lot of changes to the wetland and wildlife legislation.
- Mike gave an overview of items from the legislative session:
 - o Updates to chapter 335 which aligned the rule with statutory law from the prior year.
 - o Clarified approach if a significant vernal pool is located on an abutting property owner.
 - o Artificial vernal pools are not regulated as significant.
 - o Straddle-pools without permission: pool significance is based on the side which occurs on the survey parcel (the parcel with survey permission).

- Some changes to rules related to coastal sand dunes.
- 305 PBR rule standards updated in 2014.
- Rule Changes:
 - o Site Law:
 - New Exemptions
 - Educational facilities
 - Existing Facilities
 - Ski Areas
 - Exemption for 1 year, up to 10,000 sq. ft. for a total of 20,000 sq. ft. before updating the site law permit.
 - o Requires that additional requirements (special conditions) are met.
 - o Wind:
 - Expand scenic analysis from 8 to 15 miles.
 - Make application requirements subject to rule making.
 - Law passed which requires, within no timeframe, to develop requirements for mitigation of scenic and wildlife impacts.
 - More public meeting requirements.
 - o NRPA:
 - Artificial wetland exemption.
 - LD-794- allow directional buffers on vernal pools (concept bill).
 - Only if habitat was already compromised.
 - This bill died a “horrible death”
 - Update for recreational gold prospecting.
 - o Allowed for suction dredging.
 - o Updated to limit waters in which suction dredging is allowed.
 - o Identified restricted waters.
 - o Maine Forest Service:
 - Bill delegated authority for NRPA in unorganized towns for forestry stream crossings.
 - State needs to update crossing standards.
 - o Shoreland Zoning:
 - Chapter 1000
 - Relaxed regulation of clearing within 75 feet in certain areas.
 - Exempted remediation with brownfields.
 - DEP would not require compensation for lost habitat function.

- Septics, wells, and geo-thermal heating fields are not considered “structures.

9:10-9:40 *USACE Regulatory Update*, Jay Clement, US Army Corps. Of Engineers, New England District.

- Maine In Lieu Fee:
 - Program running for ~5 years.
 - ~\$5 million provided to various projects with a total of \$7 million given out over the life of the program so far. Projects include:
 - Dam removal
 - Fish passage
 - Wetland restoration
 - MNRNCP.org for more information
 - The ILF program is the preferred method of compensation for USACE and MDEP.
- New England General Permit:
 - Maine GP expires October 2015.
 - No change in delineations
 - Functional Assessments:
 - Moving toward a new method.
 - NE District method to move from qualitative to quantitative and replace the highway methodology.
 - Use the Highway Method until further notice.
 - The base model for the new method is NOVA-Wet (Ralph Tiner)
 - ESA:
 - Northern Long-Eared Bat most likely will become protected.
 - Impacts result primarily from tree clearing.
 - May impact wind, t-line, and corridor projects.
 - Vernal Pool Assessment Form:
 - Suggested by the USACE, not required.
 -
 - Open for field trials.
 - No decisions have been made on final use.
 - The form is available on the internet.

- Jobs:
 - Interested in working for the USACE or looking for summer internships:
 - Usa.org or usa jobs.

9:40-10:10 ***Clonal growth invasion or stability. Clonal architecture, leaf morphology, and diversity in conspecific native and introduced Phragmites***, Vlad Douhovnikoff, Assistant Professor, Biology Department, Bowdoin College.

Vlad discussed results from research which examined the differences of clonal growth between native and invasive Phragmites. In addition the research found that sexual reproduction within introduced Phragmites was more common than previously thought.

10:10-10:30 **BREAK**

10:46-12:20 ***All About Bogs***, Norm Famous, Spencer-Famous Environmental Associates & Marcia Spencer-Famous.

Norm and Marcia gave an overview of the importance of bogs and results from various research projects. Highlights from the presentation included:

- Definition of bogs and importance of bogs in the environment.
- An example of Maine bogs including Lower Beddington Bog and Jonesport Heath.
- Examples of peat harvesting methods and issues related to harvesting peat and peat restoration.
- Restoration of mined bogs and considerations.

11:45-1:00 **Lunch (Including a bog slide-show)**

1:20-1:50 ***Legislative Update***, Dave Brenneman (on behalf of Jim Boyle)

Not a lot of activity related to new legislation this session. Rod is looking for help tracking legislative items.

Four primary bills of interest:

- LD 794: Directional Buffers (Vernal Pools)
- LD674- Decrease in significant wildlife habitat buffers- DOA.

- LD 695- SLODA (Described in Mike Mullen's update).
- LD793- NRPA changes dealing with development- DOA.

Sarah gave a brief program update as well:

- Functions and values workshop is scheduled for August 1st (Minkin/Tiner)
- Site visit/Orono Bog walk, possible in October.
- Backbay 5k possibly in July
- Dave will be hosting another workshop likely in September 2015.
 - o Sebago Lake Park as a possible location.
 - o Asked if MAWS would like to co-sponsor.
 - o Envirothon, Dave thanked MAWS for support and gave an update on the now 70 teams participating.

1:32-1:50 ***Transport Regimes of Common Reed (*Phragmites australis*) in the Saco River Estuary, ME***, Michelle Slater, Student, University of New England.

Michelle gave an overview of Phragmites, both native and invasive, and then described research related to her hypothesis that, if dispersal is partly a function of water current strength and direction, then it stands that higher genetic diversity will occur toward (but not at) the river mouth. To date her research has identified a positive correlation with density and height of Phragmites with area and that the larger the patch, the less plant species richness is at the center of the patch. Next steps include: processing genetic samples, inclusion of land use data in the analysis, and a management plan for the estuary.

1:50-2:35 ***Trophic Status and Methanogenesis in Bogs and Fens: Implications for Climate Change Effects on Greenhouse Gases***, Mark Hines, Acting Dean, College of Earth and Climate Science, University of Maine-Orono.

Mark gave an in depth overview of the implications of climate change on methanogenesis. Implications related to climate change include:

- Local consequences of uncoupling decomposition:
 - o Enhanced importance of fermentation and acetogenesis.
 - o Carbon (C), flow to acetate that is degraded to CO₂ (fuels bacteria); unique microbial populations; recycling of C to mosses.
- Global consequences of decoupling:

- Slight increases in vascular plants (Sedges) may lead to sharp increases in methane formation.
- Worst case scenario:
 - Climate warming leads to methanogenic use of acetate at current production rates (temp alone: 2° increase with a ~15% increase).

2:35-3:20 ***Assessing the Influence of Hydrology on Peatland Processes through Computer Simulation***, Andrew Reeve, Professor, School of Earth and Climate Science, University of Maine-Orono.

Andrew discussed the role of water in peatlands, including chemical and mechanical processes as well as importance to ecology, gas dynamics, peat accumulation, and downstream water quantity/quality. The discussion focused on using models to predict water movement within various types of peatland scenarios based on a number of inputs such as hydraulic head, conductance, and other factors.

3:20- 3:40 **Break**

3:40-4:41 **Annual Business Meeting**

Rich called the meeting to order at 3:40 Pm. There was a brief discussion about the new venue for the annual meeting following the change from the Maple Hill Farm in Hallowell to Bowdoin College in Brunswick. Overall the venue was a success and the cost was ~ \$1,000.00 less than Maple Hill. There was agreement that holding the meeting at a University was good as students are needed to maintain the membership. Attendance at the meeting was similar to years past at around 90 attendees.

Executive Committee

Secretary's report:

Meeting minutes from the 2013 annual business meeting were presented in the obligate. Chris Dorion made a motion to accept the meeting minutes as presented in the 2013 Obligate newsletter. Sarah Watts seconded, the motion passed. None opposed.

Treasurer's Report:

The 2013 treasurer's report is presented in the Obligate. Tim gave an overview of MAWS finances; the current balance is \$5,063.66.

-Rich thanked Danielle for taking care of purchasing MAWS merchandise which was available at the meeting.

Rod Kelshaw made a motion to accept the Treasurer's report as presented in the Obligate. Sarah Watts seconded, all in favor, motion passed, none opposed.

Program Update

Ethics Report:

Lee noted that there were no new ethics items. Sarah Watts noted that it might be worth looking into another ethics workshop.

Legislative Report

Legislative updates were covered during the meeting. Johanna asked if there were any bills that we are tracking that are still "alive", Rod mentioned that there are currently none

Membership Report

Katelin gave an overview of the current membership of MAWS:

- 7 new members
- 146 current members

There was discussion that members who have been in-active (paid no dues) for 5 years could be taken off the membership list.

Program Report

An update of program activities was given during the body of the meeting. There was discussion of a potential bog workshop put on by Norm, sometime in June.

Standing Committee Report

Rich updated the membership on the VPTC. "Draft" to be removed from the MAWS Vernal Pool Protocol.

Other Items

Elections:

Membership Chair: Katelin Nickerson

Program Chair: Sarah Watts

Secretary: Steve Knapp

Ethics: Lee Burman (Interim for Laura Lapierre)

Rich asked for nominations from the floor, none were presented.

Chris Dorion moved to elect the slate of nominations as presented, Rod seconded. The motion passed, none opposed.

Environthon:

Rich mentioned the merits of the program and that MAWS has been a longtime supporter of the environthon.

Rod Kelshaw moved to provide the customary \$1,000.00 to the Environthon.

Chris Dorion seconded. None opposed the motion passed.

Rich moved to close the meeting. Chris Dorion seconded and the motion carried.
Meeting adjourned at 4:41 pm.

Respectfully submitted by:
Steve Knapp
MAWS Secretary
February 5 2015



MAWS Financial Statement - 2015
From January 21, 2014 - February 16, 2015

Respectfully Submitted to MAWS Membership, February 16, 2015, by Tim Forrester, Treasurer

Beginning Balance 1/21/2014 \$ 6,389.66
 Ending Balance 2/16/2014 \$ 5,963.92

INCOME

1 Annual Meeting (Bowdoin College)	\$ 3,170.00
2 Functional Assessment Workshop	\$ 2,375.00
3 Membership Dues	\$ 2,180.00
4 MAWS After Dark (Sedges of Maine)	\$ 0.00
5 MAWS Merchandise	\$ 758.73

(A) TOTAL INCOME \$ 8,483.73

EXPENDITURES

1 Annual Meeting (Bowdoin College)	\$ 3,229.30
2 Functional Assessment Workshop (Location fee, pizza, drinks, printing)	\$ 1,173.39
3 Envirothon Grant	\$ 1,000.00
3 Student Research Stipend Award (2@\$500)	\$ 1,000.00
3 Sec. State Fee	\$ 35.00
3 BOA, Bank Fees	\$ 18.00
3 MAWS Domain Name, Website Hosting	\$ 115.00
3 PO Box Fee	\$ 100.00
3 EC Meeting supplies (Frosty's X2 and DD)	\$ 43.27
4 MAWS After Dark (Sedges of Maine)	\$ 250.00
5 MAWS SWAG	\$ 1,233.00

(B) TOTAL EXPENDITURES \$ 8,196.96

(A-B) \$ 286.77

GAIN / LOSS

1 Annual Meeting	\$ -59.30
2 Functional Assessment Workshop	\$ 1,201.61
3 Membership Dues - all other expenses	\$ -131.27
4 MAWS After Dark (Sedges of Maine)	\$ -250.00
5 MAWS Merchandise	\$ -474.27 *
	<u>\$ 286.77</u>

* Danielle Tetreau has some additional sales money and extra merchandise.



MAWS Merchandise: pre-order on your registration form!



Mug: \$10.00



T-Shirt: \$15.00



Koozie: \$2.50



Knit Hat: \$12.50

MAWS Business Meeting Agenda 2015 Annual Meeting - March 24

1. Outgoing President's Introduction and Update
2. Executive & Standing Committee Updates
 - Secretary Update (approval of minutes from 2013 annual meeting) – Steve Knapp
 - Program Chair Update – Sarah Watts
 - Legislative Chair Update – Rod Kelshaw
 - Treasurer Update – Tim Forrester
 - Membership Chair Update – Katelin Nickerson
 - Ethics Chair Update – Lee Burman
 - Ad-hoc Subcommittees:
 - Education/Student Outreach Committee – Lee Burman
 - Vernal Pool Technical Committee – Roger St. Amand
 - Outreach Committee (maws.me & Obligate) – Dave Brenneman and Danielle Tetreau
3. Executive Committee Elections (*2-year terms*)

Open Committee Chair Position	Nominees (<i>nominations will also be accepted from the floor</i>):
President-Elect	Danielle Tetreau
Treasurer	Lee Burman
Ethics	Kevin Ryan, Shri Verrill
Legislative	Rod Kelshaw (<i>incumbent</i>)

4. Obligate Committee Chair – Lauren Leclerc Appointed
5. MAWS Research Stipend Discussion and Award Vote
6. Envirothon Donation - Discussion and Award Vote
7. Open Floor Discussion
8. Incoming President's Closing Message, Meeting Adjourns



**Maine Association of Wetland Scientists
Winter Conference & Annual Meeting
Tuesday, March 24, 2015
Thorne Hall (Bldg 67), Bowdoin College, Brunswick, ME
(See attached map showing location and parking)**

**CH-CH-CH-CH-CHANGES!
AGENDA**

- 8:00 – 8:30 **Registration**
- 8:30 – 8:40 **Welcome, Introduction of Speakers**, Rich Jordan, MAWS President
- 8:40 – 9:00 **MAWS Regulatory Update**, Rodney Kelshaw, MAWS Legislative Chair, Stantec Consulting (20 Min)
- 9:00 – 9:50 **Maine DEP Environmental and Energy Resources Working Group: Devising and Implementing the State's Climate Change Recommendations**, Patricia Aho, Commissioner, Maine Department of Environmental Protection (50 Min)
- 9:50 – 10:20 **Maine DEP Regulatory Update**, Mike Mullen, Maine Department of Environmental Protection (30 Min)
- 10:20 – 10:35 **Break**
- 10:35 – 11:05 **USACE Regulatory Update**, Jay Clement, U.S. Army Corps of Engineers New England District (30 min)
- 11:05 – 11:25 **Shifting vegetation zones in response to culvert enlargement of a tidally restricted salt marsh in Northern New England**, Shri N. A. Verrill, M.S. Biology candidate, University of Southern Maine (20 min)
- 11:25 – 11:44 **Comparative population structure of vernal pool amphibians in a changing landscape**, Jared Homola, Ph.D. Ecology and Environmental Sciences candidate, University of Maine – Orono (20 min)
- 11:45 – 12:00 **Maine Invasive Species Network (MISN) Update**, Nancy Olmstead, Invasive Plant Biologist, Maine Natural Areas Program (15 min)
- 12:00 – 1:30 **Lunch & Student Poster Session Break**
- 1:30 – 2:00 **Maine's Wildlife Action Plan: A Collaborative Approach to the Next Ten Years of Wildlife Conservation**, Amanda Shearin, Beginning with Habitat Coordinator/Wildlife Planner, Maine Department of Inland Fisheries and Wildlife (30 min)
- 2:00 – 2:30 **MaineDOT Culvert Replacement and Climate Change**, Judy Gates, Director –Environmental Office, Maine Department of Transportation (30 min)
- 2:30 – 3:00 **Enhancements to USGS SreamStats Web Application**, Charlie Hebson, Ph.D., Chief Hydrologist and Manager of the Surface Water Resources Division, MaineDOT Environmental Office (30 min)
- 3:00 – 3:30 **Marsh Migration in Response to Sea Level Rise**, Elizabeth Hertz, Planner, State of Maine Department of Agriculture, Conservation and Forestry (30 min)
- 3:30 – 3:45 **Break**
- 3:45 – 5:15 **Annual Business Meeting**

We will provide certificates of attendance for attendees at the conference and annual business meeting. We are seeking approval for CEUs for Site Evaluators and from Maine Department of Economic and Community Development (formerly State Planning Office) Code Enforcement Officers (CEO) Program and from the State Site Evaluator.

Maine Association of Wetland Scientists

Winter Conference & Annual Meeting

Tuesday, March 24, 2015

Thorne Hall (Bldg 67), Bowdoin College, Brunswick, ME

REGISTRATION FOR MAWS WINTER CONFERENCE & ANNUAL MEETING

Please mail registration form and payment to: Tim Forrester, c/o MAWS Treasurer, 135 River Road, Woolwich, ME 04579.

Any questions, please feel free to call or email Sarah Watts,
MAWS Program Chair, Phone: (207) 358-2383, Email: sarah.watts@tetrattech.com.

Registration and check should be sent by March 10, 2015. Make checks payable to **MAWS**.

Name: _____ Affiliation: _____

Address: _____ City/State: _____

Telephone and/or e-mail address: _____

Registration Fee, which includes food and facility charges (add \$12 if registering after March 10):

MAWS member:	\$45*	_____	(a)
Non-members:	\$60	_____	(b)
Student:	\$20**	_____	(c)

*2015 Dues must be paid in full to receive membership rate for this event.

Membership runs from January 1 to December 31. If you have questions about your status please email Katelin.Nickerson@stantec.com

**Proof of student status must be provided with registration.

I would like to apply for membership; a completed application is included with my registration

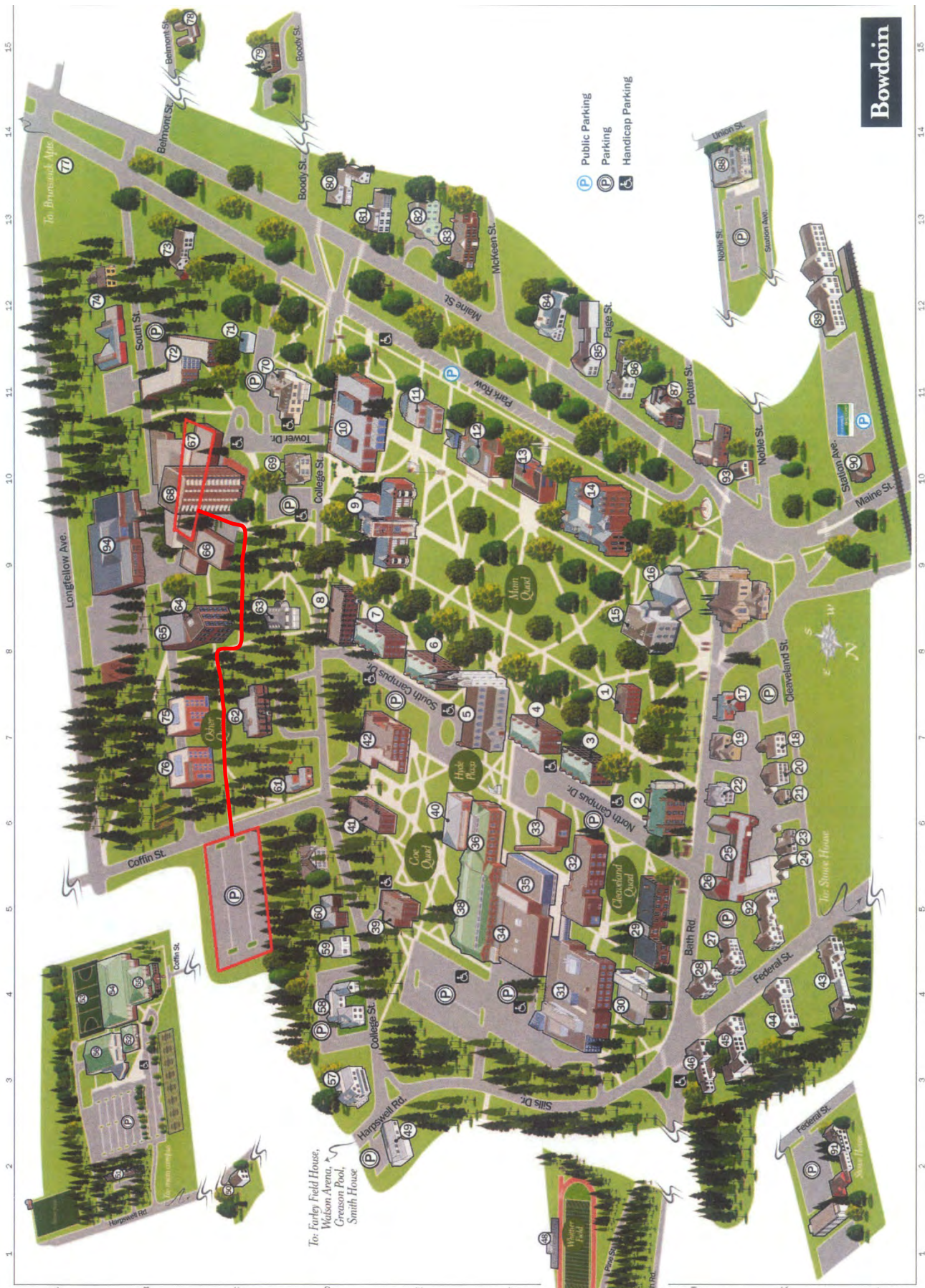
Late Registration Fee:	SENT AFTER MARCH 10	\$10	_____	(d)
MAWS Members Annual Dues:	Active:	\$25	_____	(e)
	Affiliate:	\$15	_____	(f)
	Student:	\$10	_____	(g)
	MAWS Merch:	Sticker	\$2	_____
	Drink Koozie:	\$2.50	_____	(i)
	Knit Hat (Orange):	\$12.50	_____	(j)
	T-Shirt:	\$15.00	_____	(k)
	Please specify size:	S, M, L, XL	_____	
	Coffee Mug	\$7	_____	(l)

GRAND TOTAL (sum a to l) _____

We will provide separate certificates of attendance for the conference and annual business meeting.

	Conference		Business Meeting	
Please indicate if you need a certificate of attendance (circle selection):	Yes	No	Yes	No

No Refunds for Cancellations



Bowdoin College

- Automated Switchboard
207-725-3000
- General Information
(David Saul Smith Union)
207-725-3375
- Admissions
(Burton-Little House)
207-725-3100
- Alumni Relations
(83 Federal Street)
207-725-3266
- Communications
Public Affairs, Association
of Bowdoin Friends
(McLellan Building)
207-725-3253
- Controller's Office
(McLellan Building)
207-725-3787
- Development
(85 Federal Street)
207-725-3404
- Events and Summer
Programs
(Coker Tower)
207-725-3433
- Hawthorne-Longfellow
Library
207-725-3280
- Human Resources
(McLellan Building)
207-725-3837

- Bowdoin College
Museum of Art
207-725-3475
- Peary-MacMillan
Arctic Museum
(Hubbard Hall)
207-725-3416
- Safety and Security
(Rhodes Hall)
207-725-3314
- Emergency-725-3500
- Sports Information
(Sidney J. Watson Arena)
207-725-3061

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2015 SOILS AND NATURAL RESOURCE WORKSHOP

*Sebago Lake State Park
Wednesday, September 9, 2015*

The 2015 MAPSS/MAWS/MASE/SSSNNE Soils and Natural Resource Workshop will be held at Sebago Lake State Park in the town of Casco, Maine on September 9, 2015 from 9:00 am until 3:30 pm. Check-in will be in the Park Headquarters on Park Access Road from 8:30 am to 9:00 am. You will be given a location map to sites you are to visit. **Carpooling is recommended** because of limited parking at some of the sites located beside the various access roads.

Assistants will be present at each of the sites to point out the soil pits and other areas where you are to make observations (and determinations). You have from 9:00 am – 12:30 pm to visit the sites. After visiting the field sites, travel to Songo Beach for a 1:30 pm – 3:30 pm discussion of the sites and soils by state, local and federal regulators and experts. **Lunch is on your own.** There are a number of excellent places to enjoy your lunch including Songo Beach, the park boat launch and Songo Locks where you can watch boats being raised or lowered to go up or down river. The workshop has 7 sites which include sandy spodosol soils, flood plain soils, lacustrine sediments in pit and mound topography with an albic horizon, boulder fields in wet and upland areas, streams within the shoreland zone controlled by lake levels in Sebago Lake and vernal pools. Sebago Lake water levels are carefully controlled with a drawdown of over 5 feet making it difficult to determine where to begin measuring for shoreland zone setbacks. These are challenging sites that will generate a good deal of discussion. Experts as well as State, local, Portland Water District and Federal Regulators will be present to answer questions and provide valuable guidance for dealing with these difficult sites and soils. See attached workshop description for more details.

The cost of the workshop is \$35.00 for MAPSS/MAWS/MASE/SSSNNE members or associate members and **\$40.00 for all others.**

Please send your checks, payable to MAPSS, to:

Gary Fullerton, 104 Mill Turn Road, Limington, Maine 04049-3141

If you have any questions about the workshop, call David Rocque at 287-2666 or send him an e-mail at david.rocque@maine.gov.

Though registrations will be accepted the day of the workshop, for planning purposes, we ask that you register by August 25. Check www.mapss.org for background information and updates.