

The Obligate

**Maine Association of
Wetland Scientists**

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President's Message

by Kathleen Miller, President 2005-2007

It's hard to believe that the Maine Association of Wetland Scientists (MAWS) has been around for over 15 years (our Constitution was adopted October 24, 1990). I was four years out of college in 1990 and very much interested in an organization that would advance the profession of wetland science in Maine. What I really needed was a group with whom I could discuss salient wetland issues and that would understand the challenges unique to those of us that work with wetlands for a living.

Over the past few years (having accepted the nomination for President-Elect three years ago, and also volunteering on the Certification Subcommittee) I've had a unique opportunity to spend A LOT of time discussing "issues" with practicing wetland scientists in Maine. What I've learned is most wetland scientists are extremely dedicated to their work and a little nuts (myself included).

After assimilating lots of data this is what I've learned. There seems to be a conundrum unique to our profession. Those that need and pay for our services often desire (strongly in some cases) that we don't find what we're looking for. When we do find what we're looking for (wetlands and protected resources), the hope is that they are not unique or valuable. Those that strive to understand the intricacies of the laws and regulatory guidelines, and invest time and energy to ensuring that they are applied accurately and fairly to all resources and projects, feel these efforts could put them at a professional disadvantage. In spite of the fact that many of us invest a great deal of time, effort, and

money into improving our skills, there are no limitations on who can delineate wetlands in Maine.

The challenge for us as professionals, and for MAWS as an organization, is to find workable solutions for these challenges. Some believe that Certification, or credentialing of wetland scientists, is the answer. The jury is still out on this, but it could be a step in the right direction.

In my opinion, it's critical that public perception and understanding of the value of these protected resources be improved. We need to shift the paradigm. Wetlands should not be viewed as impediments to development, but as valuable resources worthy of protection. Are all wetlands worthy of the same protection? Probably not (floating tires and refrigerators come to mind), but that's another thing we need to work on. Environmental education needs to start early, in kindergarten, and continue through high school. I believe where there is a cost to individuals (for permitting, mitigation, monitoring), there should be a requisite benefit to society. DEP's public education campaign - "If ducks were pollution" - on non-point-source pollution works. My kids "get it", my mother "gets it", it's working. The public understands the value of eliminating non-point source pollution. But does the public understand the value of wetlands? I've seen a couple of full-page articles on wetlands in the *Maine Sunday Telegram* this year. That's progress. Does the general public know what a wetland and critical adjacent habitat are? Based on my personal poll, the answer is ... "kind of". That's not good enough.

Imagine a future where every school has on-site learning wetlands...or even better, a complex of wetlands, waterbodies, and vernal pools. Imagine all

public parks, bike and walking paths having component wetlands and streams as part of the design. Imagine landowners and developers calling to ask “I have wetlands and streams on my property that I want to preserve to maximize the quality of my project. Can you help me?” Imagine DEP and Corps regulatory staff being thanked for their valuable contributions to society because of their work protecting wetlands. It could happen....and it is happening....in baby steps.

I think it was Steven Covey that said, “Start with the end in mind”. Every physical creation starts with a mental creation - an idea, a plan, an intention. I strongly recommend that all of you take a look at the MAWS *Constitution* posted on our website: www.mainewetlands.org. Look at Article II, *Purposes*. Our founding members had some clear intentions for this organization. When MAWS was formulated in 1990, the regulatory programs were, for the most part, in their infancy. We now have over 15 years of experience to draw from. I’m confident we are making progress. Maybe it’s time to start plotting a course for our future. What are MAWS priorities for the next five/ten years? What do you want from this organization? I invite you to offer your suggestions on the MAWS website: www.mainewetlands.org, or at the annual meeting on March 24, 2006.

In closing, I want to extend a sincere thanks to all who have volunteered their time this year on the Executive Committee, and especially on the Certification Subcommittee (Gary Emond, Don Phillips, Peter Tischbein, Jim Boyle, Mary Pierce, Cole Peters, Norm Famous). You deserve great credit for stepping up and volunteering your time to the advancement of wetland science in Maine. Marcia Spencer-Famous and Rich Jordan, where would we be without your consistency and dedication? *Obligate* and website –less, probably. Thanks for all you do.

Also, I want to encourage all active members who have not held a position on the Executive Committee, to throw your hat into the ring. We’ll be accepting nominations from the floor at the business meeting on March 24th. See you there.

Message from the Ethics Chair by Stephenie Swiezynski

The Maine Association of Wetland Scientists offers a wetland research stipend of up to \$1000 to actively enrolled students for use on a research project(s) related to Maine wetlands. Each year, an announcement describing the MAWS stipend is circulated to colleges and universities in Maine with departments involved in wetland-related studies. The Executive Committee reviews the proposals and awards the stipend(s) to the selected candidate(s). As part of receiving the stipend, the selected student(s) are asked to give a presentation on the outcome or progress of their research at the MAWS annual meeting.

The recipient of the 2005 MAWS wetland research stipend for \$500 was Jackey Bailey, a graduate student at the University of Maine at Orono. Ms. Bailey is studying the distribution and vegetative reproduction of the invasive aquatic plant, variable leaf milfoil (*Myriophyllum heterophyllum*) within nine lakes in southwestern Maine. She is analyzing data to determine which methods are most effective at controlling the spread of this problematic invasive species. At this point, Jackey’s research is ongoing and she anticipates concluding her research with a final check for regrowth of invasive species in the spring of 2006. We look forward to hearing about her research in March!

Rather than award 2 stipends this year, MAWS members voted to donate \$500 to fund an upcoming Smithsonian Institute exhibit on soil science. The new exhibit, which will be part of their Forces of Change Program, will include a display of state soil monoliths, including Maine’s State Soil, Chesuncook. The exhibit will provide an educational, interactive display to help visitors understand how soil is intricately linked to the health of humanity, the environment and the planet. During last year’s Annual Meeting, Don Phillips and Joanna Szillery provided an interesting presentation on the new exhibit. Don and Joanna spoke to members about the importance of this exhibit and demonstrated a desire to lead the Chesuncook charge all the way to Washington! MAWS members recognized and agreed with this significance and voted to donate funds to the project. I am hoping to hear the latest on their progress, especially if the exhibit is still on target to open in 2008.

MAWS Legislative Report for 2005
by Karol Worden, Legislative Chair

This has been another busy year for changes in regulations guiding the protection of natural resources in Maine. Following are some proposed or adopted amendments to natural resource protection laws in 2005.

Federal

On October 11, 2005, the Corps re-issued Maine's Programmatic General Permit (PGP). The PGP applies to projects that involve minor wetland impacts and is issued on a 5-year cycle. Maine's last PGP expired on September 29, 2005. There were only minor changes to this new PGP, including a revision to culvert requirements. It is important to note that an individual holding a PGP prior to September 29th who was not under contract for the work, or had not yet begun work by that date, must get a new permit. To attain a new permit, simply call the Corps. Additional information and a copy of the re-issued PGP can be obtained from the Corps website at <http://www.nae.usace.army.mil/>.

State

Amendments to Chapter 305 Permit by Rule Standards, effective as of May 25, 2005.

The DEP made numerous changes to the Permit by Rule (PBR) standards. Significant changes include the following.

- Under Sections 3(A), 7(A), 9(A), 12(A), 13(A) and 15(A), a permit will be required from the Corps for projects involving work in waterways designated as Essential Fish Habitat for Atlantic salmon, including all tributaries to the extent that they are currently or were historically accessible for salmon migration.
- Amended Section 8(A), shoreline stabilization, no longer applies to the establishment of vegetation or the installation of riprap along the shoreline of a river as river is defined by 38 M.R.S.A. Section 436-A(11), the Mandatory Shoreland Zoning Act.
- Amended Section 13(A), habitat creation or enhancement and water quality improvement projects, now states that a permit will be

required from the Corps for activities that include, but are not limited to, any activity that involves direct or secondary impacts to freshwater wetlands, activity within a coastal wetland, and activity within an open water area.

- Section 14, which applied to the construction or expansion of a pile-supported pier or wharf, the installation of pilings, or the construction of a haul out in a coastal wetland, was repealed. Projects formerly covered under this section are now reviewed under the Natural Resource Protection (NRPA) Individual Permit application process.
- Amended Section 16, activities in coastal sand dunes, has undergone numerous changes in part to bring it into alignment with Chapter 355, Coastal Sand Dune Rules.

Draft amendments proposed to Chapter 355 – Coastal Sand Dune Rules

Proposed changes include:

- The deletion or revision of several definitions. These include changing the definition of a coastal wetland and revising the significant wildlife habitat definition to conform to changes of Chapter 335, Significant Wildlife Habitat.
- Demonstration by an applicant that the increased height of a building will not have an unreasonable adverse effect on existing uses that rely on access to direct sunlight including, but not limited, to native dune vegetation and recreational beach use.
- Several changes to standards related to seawalls and similar structures.
- Relating to mitigation and enhancement (formerly referred to as restoration of disturbed areas), the DEP may require sand dune mitigation and enhancement for projects that interfere with the natural supply or movement of sand or gravel or that may increase the erosion of a sand dune system.
- Numerous changes to the standards for frontal dune projects. These include construction in the V-Zone and reconstruction of buildings.

Proposed Amendments to Chapter 355 – Significant Wildlife Habitat

Also referred to as the Significant Wildlife Habitat Rules, the proposed amendments to Chapter 355 will go before the legislature this winter, and if approved, will be effective by mid to late summer 2006. The proposed changes include:

- Inland wetland complexes determined by IFW to be high and moderate value waterfowl and wading bird habitat by definition include a 250-foot wide zone surrounding this complex. Similarly, high or moderate value shorebirds nesting, feeding, and staging areas include a 250-foot wide zone surrounding those areas.
- The general standards will require compensation to off-set lost habitat function. Similar to the goal applicable to wetlands, the goal of compensation is to attain no net loss of habitat functions and values. Compensation is required when the DEP determines that an impact to significant wildlife habitat will result in the loss or degradation of habitat functions or values. In general, compensation occurs on-site or near the affected significant wildlife habitat. The amount of compensation required will depend on several factors, but the minimum compensation will likely be 2:1 for restoration, enhancement, or creation and 8:1 for preservation.
- Section 9 of this chapter addresses significant vernal pools. A significant vernal pool is determined by the number and type of amphibian egg masses in the pool, the presence of fairy shrimp, or use of the pool by threatened or endangered species. The significant vernal pool consists of the depression that constitutes a portion of the critical terrestrial habitat 250 feet around the pool as measured from the spring high water mark. The following egg mass counts constitute a significant vernal pool:
 - Blue spotted salamander: presence of 10 or more egg masses
 - Spotted salamander: presence of 20 or more egg masses
 - Wood frogs: presence of 40 or more egg masses

Note that egg mass counts should be completed just past the peak breeding period.

The chapter provides suggestions as to peak breeding times for the different amphibians depending on the geographic region of the state.

- An activity impacting an unmapped significant vernal pool does not require a permit if the pool depression is not located on a parcel owned or controlled by the person carrying out the activity. However, if the significant vernal pool has been mapped by or is part of a GIS data layer maintained by IFW or DEP, a permit would be required regardless of ownership or control of the property. Check with IFW or DEP for mapped significant vernal pools. Forest management activities within 250 feet of a significant vernal pool do not require a permit if the significant vernal pool is not defined and mapped in accordance to 38 M.R.S.A. §480-I.
- Although not covered within Chapter 375, it is important to note that soil disturbance adjacent to a Significant Vernal Pool (i.e., within 75 feet) will require a PBR for soil disturbance. If the standards for the PBR cannot be met (e.g., no soil disturbance within 25 feet) an Individual NRPA permit will be required.

Chapter 500 and 502: Stormwater Management, effective November 16, 2005

The following is a brief summary of the applicability of the revised stormwater standards. The stormwater standards apply to projects disturbing one or more acre of land. There are five categories of stormwater standards: basic, general, flooding, urban impaired stream, and other. The basic standards deal with erosion and sedimentation control; inspection and maintenance; and housekeeping. A project that qualifies for a stormwater PBR needs only to meet these basic standards. A stormwater PBR applies to projects with less than 20,000 sq. ft. of impervious area and 5 acres of developed area in the direct watershed of a lake most at risk or an urban impaired stream; and projects with less than one acre of impervious area and five acres of developed area in any other watershed.

- **General Standards:** General standards consist of best management practice (BMP) standards and phosphorous standards. The BMP standards apply when specific

thresholds of impervious area or developed area are met within a given watershed. Phosphorous standards apply only in lake watersheds. Similar to the BMP standards, the phosphorous standards are triggered when thresholds of impervious area or developed area are met within a given watershed.

- **Urban Standards:** Urban impaired stream standards apply if the project is located within the direct watershed of an urban impaired stream or stream segment listed in Chapter 502; results in 3 or more acres of impervious area or 20 acres or more of developed area; and requires review pursuant to the Site Law, or is a Site Law modification of any size. In addition to meeting the basic and general standards, a project in the direct watershed of an urban impaired stream must pay a compensation fee or mitigate project impacts by treating, reducing, or eliminating an off-site or on-site pre-development impervious stormwater source.
- **Flooding Standards:** Flooding standards must be met if a project results in 3 or more acres of impervious area or 20 acres or more of developed area and requires review pursuant to the Site Law. Stormwater management systems for these projects must detain, retain or result in the infiltration of stormwater from 24-hour storms of 2, 10, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to construction of the project.
- **Other Standards:** Other applicable standards include management of stormwater discharges and discharge to freshwater or coastal wetlands. A project discharging concentrated stormwater runoff through an open-channel or pipe to any point that is not an open channel, an inlet to a storm drain system, or a natural or man-made impoundment must convert the concentrated flow to sheet flow to prevent erosion of the downstream receiving area.

Draft Amendments to Chapter 1000: Guidelines for Municipal Shoreland Zoning Ordinances

A number of changes have been proposed to Chapter 1000 including relatively minor edits such as the addition, deletion or replacement of individual words

and phrases and more significant changes such as the addition of new sections to the applicable Land Use Standards. One addition to the Land Use Standards applies to recreational trails within the shoreland zone [15(D)]. Standards apply to Category 1, 2 and 3 trails and all trails will be required to be designed and constructed in accordance with *The Maine Trails Manual Guidelines for Recreational Trail Construction in Maine* (Maine Department of Conservation, Bureau of Parks and Lands 2002).

A second addition to the Land Use Standards applies to statewide standards for timber harvesting [15(P-1)]. Under this standard, individuals conducting timber harvesting and related activities are required to take reasonable measures to avoid disruption of shoreline integrity, the occurrence of sedimentation of water, and the disturbance of water body and tributary stream banks, water body and tributary stream channels, shorelines, and soil lying within water bodies, tributary streams and wetlands. This standard addresses a variety of activities and effects related to timber harvesting including the treatment of slash; maintenance of adequate tree cover; skid trails, yards and equipment operation; land management roads; crossing of waterbodies; and the slope of exposed land adjacent to a shoreline.

Additional information on all of these changes is available by visiting the DEP website at: <http://www.maine.gov/dep>.



**The “Lost Ponds” of Maine: The Evolving Vernal
Pool Regulatory Environment
June 3, 2005 Workshop
by Christopher Dorion**

June 3rd found MAWS members in the Penobscot valley town of Orono to discuss evolving changes to State rules to protect vernal pools. After the morning indoor lectures at the Keith Anderson Community Building, members hiked to the first of two vernal pools. The first, long called “Lost Pond”, is a vernal pool located deep along the bedrock-framed, glacially scoured upland ridges of Orono. The second pool was found by descending off the ledgy uplands, down onto the former marine plain, a landform deposited during deglaciation of this part of the State when sea level stood 320 feet higher than present. Along the transition zone between the till-mantled uplands and the “blue clay” marine sediments, members observed groundwater discharging, forming seeps, springs, and a significant vernal pool.

Dr. Aram Calhoun (University of Maine) and others from the Orono area have been monitoring this particular vernal pool for several years. Drift fencing completely surrounds the vernal pool. At evenly spaced intervals, on both the inside and outside of the fencing, lie numbered pit-fall traps. During early spring, amphibians migrating into the pool are stopped by the fencing, and eventually fall into a pit-fall. Each morning, volunteers examine each pit-fall, remove amphibians, and move them over the fence into the pool. Tallies of species, sex, and numbers are recorded on field sheets. The reverse process occurs in late spring/early summer when the amphibians leave the vernal pool. By analyzing the data, trends can be seen as to what direction, and thus where the amphibians spend their lives outside the pool, and how large the populations are along that vector.

Both field and lecture sessions during the workshop featured lively discussion amongst consultants, researchers, and regulators. The first morning lecture was presented by Dr. Calhoun. She provided vivid slides of vernal pools and descriptions of the amphibian inhabitants. The lecture and field notes I compiled that day form the bulk of this article, and they generally focus on identifying egg masses to the species level during the springtime.

Vernal pools provide unique protection for specific amphibians, despite the fact that other amphibians such as bull frogs and green frogs come here to feed. When the vernal pool dries out in late summer, they perish. A second mechanism limiting species abundance is by early summer vernal pools become anoxic, preventing predators such as bull and green frogs, birds, and others from establishing themselves because there is not enough available oxygen.

Fairy shrimp are one of the few species adapted to life in vernal pools. They are the freshwater equivalent of brine shrimp. They have a short life cycle of ~6 to 8 weeks, and lay their eggs on dry leaves in the vernal pool during the fall. They eat zooplankton and congregate in sunny areas in the pool. Not much is known about this species - there may actually be two species in Maine, and the timing of their life cycle is poorly understood.

Wood frogs are the second species adapted to life in vernal pools. This is the most northern species of frogs, ranging northward to Canada. They have a short life span, living only three to five years. To sustain their species, they must produce more offspring, thus they are very large egg producers. The egg masses are attached to deadfalls, generally in the middle of the vernal pool where they have the highest survival rates. The tops of the egg masses are dark to absorb sunlight, and they hatch out in a few weeks. After hatching, the larvae are opportunistic feeders of microbial films, algae, and other amphibian embryos within the vernal pool. By summer (early July) they have lungs and are termed metamorphs. They leave the vernal pool, but the majority are thought to stay within 100 feet the first winter, under coarse woody debris. The females burrow into leaf litter several inches deep on uplands surrounding the pool.

In contrast, spotted salamanders have a 15 to 20 year lifespan, and do not breed every year. The same individuals return to the same vernal pool year after year. It is a well-worn path along their annual migration trail. “Big Night” in Orono usually occurs in late April, when a strong low-pressure system tracks up the St. Lawrence valley, bringing heavy, warm rain and gusty south winds that wring the last frost out of the ground. This is the night of the peak annual migration back to the vernal pool. Shortly thereafter, a “congress” occurs in the vernal pool. The males lay their sperm, and the females and males

perform a ritual dance, with females picking up the spermatophores and completing the fertilization process. The egg masses are greenish to cloudy, and there are ~30 to 100 eggs per mass. These egg masses can be distinguished from other amphibians' because spotted salamander egg masses have an outer jelly coating that is firm and relatively impenetrable to the touch.

The third dominant amphibian that migrates to and from a specific vernal pool is the blue-spotted salamander. In Maine, it is believed that blue spots are hybrids of jeffersons and pure blues. The pure blues are smaller, and hybrids lay large numbers of white eggs that are infertile, a characteristic of hybrids. Pure blues' egg masses contain a loose, clear jelly, and the number of eggs in each mass is highly variable, although single eggs and up to 10 eggs per string can occur. The emerging metamorphs leave the vernal pool during their first year, but there is no scientific data yet on their migration to surrounding uplands.

Among the many types of wetlands, vernal pools are unique in the amount of amphibian biomass produced. For example, Dr. Calhoun described Carolina Bays, the southern analogue to northern vernal pools. The author of this article has visited "Carolina Bays", which are synonymous with "whale wallows" and similar landforms on the Atlantic coastal plain and piedmont of Delaware, Maryland, and New Jersey. It was the author's observation, after visiting many backhoe-dug soil pits in these three states during the Northeast Pedology Field Trip of 2001, that these landforms were found in areas of significant loess deposition during the last glacial maximum (22,000 to 18,000 years Before Present). Although the Laurentide ice sheet only extended as far south as northern New Jersey, periglacial processes extended well southward of the ice sheet terminus, producing thick loess accumulation, significant glaciofluvial outwash throughout the major rivers (Delaware, etc.) draining the ice sheet margin, and enhanced colluvial activity on hillslopes. These same processes occurred in Maine after regression of the sea at ca. 12,200 years ago. This author has observed vernal pools in central Maine that are preferentially located in Elmwood-type soils, which resulted from either glaciofluvial or eolian deposition of sands above blue clays. Permafrost features such as pingos, formed from ca. 12,200 to ca. 9,500 years Before Present, may account for vernal

pool formation in coarser textured soils such as Salmon-Nicholville, Croghan-Naumberg, and Skowhegan-Adams series or variants. This occurred on outwash plains where groundwater froze in large mounds, displacing the overlying and adjacent soils outward. Subsequent collapse of the pingo mound as the climate warmed produced the familiar isolated depression or kettle.

Vernal pools of New England are extremely productive. In a study at Hubbard Brook in New Hampshire, amphibian biomass was greater than birds and small mammals. Small mammals, such as raptors, feed heavily on these amphibians. Thus, a vernal pool is a "keystone" habitat: a very small habitat in size but with a very large influence on the greater ecosystem. These habitats are fragile, because the amphibians are biphasic, spending part of their lives in water and the remainder on land. They require both of these environments in close proximity and are therefore highly sensitive to habitat degradation and stress. Only vernal pools contain the needed hydrologic timing of filling in the spring and drying out by mid-summer. Thus, although vernal pools are classified as wetlands, they are far different and infinitely more critical than some of the more common wetland types.

Other factors contributing to this "keystone" habitat are the natural arrangement of multiple vernal pools close enough to each other so that genetic diversity is maintained. The SWANCC decision resulted in the United States Army Corps of Engineers (ACOE) no longer regulating "isolated" vernal pools or wetlands, despite the evidence of the importance of isolation. In addition, large mammals such as deer and moose use vernal pools as open areas to feed on fresh green herbaceous matter. The current focus of research is on the ecological connection of vernal pools to other wetlands. As described earlier in this article, vernal pool monitoring can establish from which direction amphibians are migrating into and out of the vernal pool. Thus, if development occurs near a vernal pool, planning of the project can minimize upland disturbance in the area of highest utilization. Research has shown that wood frogs in one vernal pool migrated back and forth along one vector (northeast, for example). This direction allowed the wood frogs to leap along a "string" of isolated vernal pools to ultimately reach forested wetland. Wood frogs can travel up to 1,500 feet from their vernal pool, while spotted salamanders can crawl up to 800

feet outward. In summary, these species of amphibians have complex life requirements. Wood frogs need a vernal pool to reproduce, a forested wetland with *Sphagna* hummocks for summers, and dry upland soils for winter.

Ms. Judy Gates, Licensing Chief of the Maine Department of Environmental Protection (MDEP), presented a history of vernal pool protection in Maine. As a result of the importance of vernal pools, as partially described in the preceding paragraphs, a bill was introduced in the State Legislature, LD 261. This bill would classify vernal pools containing the four indicator species as “Significant Wildlife Habitat” under the definitions found in the NRPA Chapter 310.4.A(2) and Section 480-B(10). MDIF&W would be the State agency overseeing this new rulemaking. This definition is based on rarity of the species and Statewide abundance. For example, a minimum threshold level of egg masses would need to be present in the spring so that it was clear that the vernal pool contained Significant Wildlife Habitat. This would eliminate drainage ditches or wheel ruts or similar ephemeral ponded water situations. This new rulemaking would add predictability to lands containing vernal pools, increase consistency in State and Federal (ACOE) permitting, increase protection of vernal pools, and reduce potential costs to MDIF&W (they would not have to map every vernal pool in the State, but rather have private, qualified/certified consultants perform the mapping). Lastly, this would be a proactive approach to land use planning. If a landowner believes there may be a vernal pool(s) present, the 250 foot horizontal setback can be designed into any proposed project.

Resources Committee (NRC) last year; as such, a floor vote was not needed. Following the NRC vote, the bill was passed to MDEP for specific rule-making. The basic process for these types of bills is that the Legislature develops the basic policy, and the appropriate regulatory agency writes the specific language that will allow implementation of the bill. These bills can be of two kinds: 1) Minor Technical, in which the proposed new policy contains small details, or, 2) Major Substantive, of which LD 261 qualifies. Major Substantive bills must return to the NRC after the State agency writes the new rules. So, during this coming winter session, the new vernal pool rulemaking will come back to the NRC. When this occurs, the NRC can approve the rulemaking or

amend the rulemaking, but in any case the Legislature cannot reject it outright.

Mr. Jay Clement, U.S. ACOE, presented a short lecture on vernal pool protection at the Federal level. At present, their setback distance for vernal pools is 500 feet horizontal distance. They do not have a threshold number for egg masses found in a vernal pool. After the SWANCC decision, a vernal pool must be adjacent to a wetland that meets the definition of “water of the United States” in order to be regulated. In Maine, very few wetlands are truly isolated, so SWANCC does not apply to most situations. In terms of Functional Assessments of wetlands, a vernal pool located within a wetland will increase the Functions of that wetland. For proposed projects located near vernal pools, disturbance within 500 horizontal feet of the vernal pool edge shall be avoided and minimized to the extent practicable. Lively discussion followed Mr. Clement’s presentation, centered on the difference in setbacks (buffers) between MDEP and ACOE standards.

For the private consultant advising clients, this new rulemaking would classify vernal pools contained Significant Wildlife Habitat as Wetlands of Special Significance (WOSS). These wetlands would not be eligible for “Minor Alterations” or the automatic 4,300 square foot exemption. Forest Management and Agricultural activities near vernal pools would not face increased regulation because these activities do not convert forested or vegetated land to impervious surfaces or urban use. A “Permit Shield” would extend to abutting property owners. This means that if a vernal pool containing Significant Wildlife Habitat was located closer than 250 feet horizontal distance to a property line, this 250 foot setback would not cross over the property line onto an abutter’s property. However, it must remain clear that the 250 feet is not a no-build zone. All the regulation says is that one will need a full NRPA permit if there are proposed impacts within 250 of a Significant Vernal Pool.

MAWS would like to thank Dr. Calhoun, Ms. Gates, Mr. Clement, and workshop organizers for a successful day. Updates on the vernal pool rulemaking will be presented at the MAWS Annual Meeting on March 24.

Workshop Wrap-up and Preview 2005-2006 by Richard Jordan

This year, as usual, saw a bevy of wetland related workshops throughout the State. Three workshops were held at the Delta Institute of Natural History in Bowdoin, Maine. Arthur Haines, noted local Botanist and Author, led discussions on terminology and identification of rushes (species of the genera *Juncus* and *Luzula*), taught a workshop on the terminology and identification of common species of New England's asters, and taught a workshop on goldenrods, goldentops, and flat-topped goldenrods. We are looking forward to at least three more Haines workshops at the Delta Institute in 2006.

MAWS also held two vernal pool workshops in the spring and early summer, one in southern Maine and one in Orono. Both workshops had great attendance, providing more evidence for the incredible amount of support garnered by these basins of fascination. The Orono workshop was the first of what we hope will be numerous collaborations between MAWS and the Maine Chapter of The Wildlife Society. In December, MAWS was invited to another meeting of The Wildlife Society, during which there were several presentations on Significant Wildlife Habitat in Maine. Our recently expanded relationship with The Wildlife Society has proven to be a fantastic addition to the list of possible partners with whom we can conduct workshops. In the past, MAWS has co-sponsored workshops with the Maine Association of Professional Soil Scientists, the Maine Association of Planners, and the New Hampshire Association of Natural Resources Scientists, among others. Given that good science looks to understand the interactions of all parts of the whole, it is important that wetland scientists work with those in other natural resource fields to incorporate all our unique and important understanding and experience. These combined workshops are a great way to bring scientists from different communities together.

We hope to continue to work with other groups in 2006 expanding the understanding of wetland science and increasing our knowledge in related fields. In 2006, in addition to the Delta Institute botany workshops, MAWS subcommittees will continue to hammer out the issues and details associated with credentialing wetland scientists in the State of Maine and working on issues related to WOSS. Like all aspects of our organization - we are only as active as

our volunteers and members are free to be. If you have ideas for workshops or would be willing to volunteer to help set up workshops, please contact a member of the MAWS Executive Committee.

Go to www.maine-wetlands.org for information on upcoming workshops or if you have time and/or ideas to contribute to future workshops.

MAWS Workshop Minutes and Findings – WOSS Group By Albert Frick (w/ edits by Norm Famous)

A group of Wetland Scientists (herein: MAWS task force) and representatives of the MDEP met on February 7, 2006 in Topsham. The group was comprised of Lauren Stockwell, Albert Frick, Mary Pierce, David Rocque, Marcia Spencer Famous, Norman Famous, Jeff Simmons, Steve Pelletier, Doug Stewart, Lauren Leclerc, Jim Boyle, and Dale Knapp. The discussion was about issues related to Maine DEP's definition of Wetlands of Special Significance (WOSS). MAWS received a reply from DEP; letter dated May 27, 2005, clarifying the definition of 'Wetlands of special significance' (WOSS) and their official permitting position. Essentially, the letter stated that if a portion of a wetland body meets the definition of WOSS, the entire wetland body is considered WOSS and is subject to the requirements, including the 75' adjacency jurisdiction.

This determination, although a literal reading of the statute, appears to present real practical problems both to wetland scientists involved with permitting and to the regulators. (There are numerous situations where very large wetland bodies can contain a small area that meets the definition of 'special significance' a significant distance away from the subject land of evaluation. Potentially this area of special significance could be off the parcel or even several parcels away from the subject site.)

MAWS representatives had spoken to Mike Mullen at DEP, and he is willing to entertain recommendations/proposals to address this potential problem or issue. MAWS Task Force on 2/7/2006 discussed:

1. Whether MAWS agrees that this is a significant area of concern? (Regulatory, liability etc.)
2. Whether the definition of WOSS could be improved to better define or clarify a clear boundary for the regulatory control limit.
3. What buffer distance might be appropriate if a finite limit to the resource protection was to be established (i.e. 100', 250', etc.).
4. Is there a mechanism to address the relevant issue such as 'due diligence', guidance document, rather than making changes to the Law?

Many good thoughts, ideas and comments were shared; however a consensus was not obtained amongst the participants on any specific issues. The Task Force reviewed the specific wording in the Law 38 MRSA 480-C and felt that the specific wording that said "contained within" seemed to be problematic and perhaps should state "consisting of" ..

Task Force also expressed concern with other issues within Section 480-C regarding

1. Definition of 'Peatlands'
2. Exception of 'Impoundments'

MAWS Task Force discussed option to continue exploring this topic with MAWS full body membership at the March 24 Meeting and perhaps invite Mike Mullen of DEP to the discussion. MAWS TASK FORCE delegated Mary Pierce to contact Mike Mullen to discuss the following questions and received the summarized answers:

1. Is the DEP willing to write a guidance document that consultants and others could use to make their own determination about waiving application requirements from a full NRPA to a Tier permit?

No. Basically, it would be a conflict of interest for consultants or others to make their own determinations about waiving application requirements.

2. Would DEP consider changing the NRPA Statute to give 20K WOSS and peatlands the same 250ft buffer that other wetlands of special significance have?

DEP would consider it, but would need to hear from other interest groups as well, for instance Audubon

and NRCM. Putting a 250 ft cutoff around those wetlands would mean that connected wetlands outside of 250 ft are not WOSS, therefore are subject to exemptions. Also, currently under NRPA the only standard that applies to Tier 1 application is water quality, so impacts to habitat could not be considered outside that 250 foot line. (This is proposed to be changed during this legislative session so that more standards apply to Tier 1 activities... stay tuned.)

Mike Mullen said that he supported the idea of MAWS coming up with an internal memo about how to do due diligence before making a WOSS/not WOSS call, and said he'd work on adding that same kind of information to DEP Standard Operating Procedures, so that field services staff were looking at the big picture before writing a field determination for a landowner. How does DEP presently define 'due diligence' or what are their 'due diligence' standards?

On the topic of consistency, Mike again stated that it is very important to the DEP, and he wants to hear about it if staff is giving what you think is bad advice in the field. There have been several meetings and letters sent around to the staff on this topic, and Mike is confident that everyone in all offices has at least had exposure to the topic and what the right answers are.

DEP has an internal policy to consider peatlands to be areas with ericaceous plants and *Sphagnum* moss and organic soil (What is the depth of organic soil that DEP uses as a standard? The peatland community typically defines peatlands as having 15 inches of organic soil. Mike said he'd listen to suggestions for a definition change/addition to the statute, if MAWS wanted to present some. (The definition of peatlands used by LURC should be adopted.)

This will be discussed at the Annual Meeting with a chance for all members to comment and join in the formation of a new Subcommittee to continue WOSS work with the state.



Certification Subcommittee Update
by Gary Emond,
Certification Subcommittee Chair

The certification subcommittee has been very active this past year researching the issue of certification of wetland scientists in Maine. The result of this effort is an exploratory paper that discusses different certification options, certification processes and general levels of effort, and pros and cons associated with certification. The goal of this report is to provide information to the MAWS membership upon which decisions can be made relative to whether or not the issue of certification should be explored further. The report will be finalized by February 10, 2006 and will be available in PDF format on the MAWS website at www.mainewetlands.org. The report contains a list of contributors. I encourage the MAWS membership to thank the folks who volunteered their time and contributed to this document. I personally want to thank everyone who attended certification subcommittee meetings, conducted research, and contributed to discussions and the exploratory paper.

On a different note, due to work and family time commitments I am stepping down as the certification subcommittee chair effective following the upcoming MAWS annual meeting on March 24, 2006. However, I still want and plan to be involved with the subcommittee. That being said, a new chair will be needed and I urge anyone who might be interested to contact me at 621-7085, or Kathleen Miller at 879-9496. I can inform any prospective chairpersons about the time commitment and responsibilities involved with this chair position.

Wetland Delineation: Learning the Language
by Richard Jordan

Wetland delineation is the process of mapping those areas that hold enough water for a long enough time to provide the chemical, hydrological and biological setting for wetland characteristics to develop. However, determining the location of a boundary line when the boundary is often a diffuse and transitional blur is not an easy task. In most places, water moving over and under the ground varies from tide to tide, from season to season, from year to year, and often,

from week to week. In order to determine the upland/wetland boundary, the delineator must study the plants, the soil colors and textures, and the topography, and look for clues indicating that the area is often flooded or saturated. Stringing all of the information together to determine the jurisdictional break between upland and wetland can be as difficult as learning a new language.

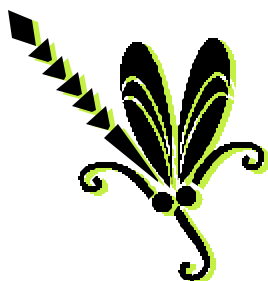
According to federal guidelines, when making a jurisdictional determination of wetland boundaries, Wetland Scientists must look for three parameters: wetland hydrology, hydric soils, and a dominance of wetland vegetation. If these three factors are present, the area is wetland. If the area is lacking one or more of the three parameters, the area is upland. However, the delineator does not always conduct extensive analysis of the three parameters at every boundary flag location. So, how do they determine the boundary?

In order to locate and delineate the wetland/upland boundary, the delineator must first learn the language of the particular wetland. The type of soil, the kinds and density of plants, topography, direction of flow, and signs of flooding and ponding all combine like words in a sentence to spell out where the wetland is and where the wetland is not. Wetland data plots establish the nuances and style of the language of the wetland, and the successive hanging of boundary flags is done by interpreting the signs and translating the messages.

In a red maple swamp that I recently delineated with a colleague, we analyzed our data plots and found that in this particular area, all of the land at a certain elevation showed distinct signs of saturation. A few inches higher in the landscape (in this case, on small inclusions of sand,) the topsoil was a little lighter in color, the sensitive fern began to mingle with Canada mayflower, and eastern hemlock began to dominate over the balsam fir. A few more inches in elevation, and the sensitive ferns were gone altogether, replaced by princess pine, bracken fern and sarsaparilla. We determined that the wetland boundary was located somewhere between the sarsaparilla sandbars and the sensitive fern gullies. In this example, the ferns and the firs became the words of the sentence, the topography the paragraphs, and the soils the punctuation. As we walked the apparent wetland boundary, we tried to read the landscape, interpreting the signs on the landscape like words on a page. As

we interpreted the pages, they spelled out for us the location of the upland/wetland boundary.

As with reading any language that is highly developed, full of nuance and subject to interpretation, there will occasionally be parts of the translation upon which delineators disagree. Ultimately, however, as long as we formulate our interpretations on the same base language, and on an educated understanding of what all the words mean, we will interpret a similar story line. Although our flags may vary a few feet from sentence to sentence, our wetland lines will generally overlap and the story's theme will remain the same.



MAWS

2005-2006 Executive Committee Members

President: Kathleen Miller (thru '06)

President Elect: Lauren Stockwell (thru '06)

Treasurer: Dana Valteau (outgoing)

Ethics: Stephenie Swiezynski (outgoing)

Legislative: Karol Worden (thru '06)

Program: Jennifer West (thru '06)

Secretary: Eugenie Francine (thru '06)

Membership: Richard Jordan (outgoing)

Member-at-Large: Gary Emond (thru '06)

Elections will be held for these Executive Committee and Standing Chair positions at the 2006 Annual Meeting. Nominations will also be accepted from the floor.

Position

Current Nominees

Treasurer

Dale Knapp
Sarah Watts

Membership

Richard Jordan (current)

Ethics

Lauren Leclerc

******* Delta Institute Notice *******

Tom Vining of the Delta Institute of Natural History will be on hand at this year's Annual Meeting selling a variety of botany and natural history books.

ALSO – Don't forget! MAWS hats and T-shirts will be on sale at the annual meeting as well...

MAWS Financial Statement -- F.Y. 2005-2006

(For period of Jan. 15, 2004 to February 6, 2006)

Respectfully submitted to MAWS Membership 6 February 2006 - Dana Valleau, Treasurer

Balance 01/15/2005	\$2,988.36		
Balance 02/06/2006	\$4,335.66		
Income		Projected	Actual
2005 Membership		\$1,730.00	\$2,615.00
2006 Membership		\$0.00	\$190.00
Annual Meeting Attendance		\$1,055.00	\$1,265.00
Other Workshops		\$1,400.00	\$1,408.00
Other Sources of Income		\$550.00	\$29.00
		Total Income	\$4,735.00
			\$5,507.00
Expenditures			
2005 Annual Meeting		-\$1,100.00	-\$1,435.43
Postage and Copying		-\$400.00	-\$205.31
P.O. Box Rental		-\$60.00	-\$93.00
2005 Workshops (not including mailing)		-\$1,000.00	-\$971.46
Non-Profit Registration		-\$25.00	-\$25.00
Student Research Grant(s)		-\$1,000.00	-\$500.00
Web Hosting		-\$130.62	-\$261.24
Bank Fees (incl. balance discrepancies)		-\$120.00	-\$97.41
Other (purchases, sponsorships, etc.)		-\$200.00	-\$570.85
		Total Expenditures	-\$4,035.62
			-\$4,159.70
		Total Projected Income 2004-2005	\$699.38
		Projected Balance, January 2005	\$5,035.04
		Actual Balance, February 6, 2005	\$4,335.66
		Difference between Projected and Actual	-\$699.38
		Actual Total Net Income 2005	\$1,347.30



**Maine Association of Wetland Scientists
2006 Business Meeting Agenda
3:00 – 4:00 p.m.**

Secretary's Report – Eugenie Francine

Reading and Acceptance of the Minutes of the 2005 Annual Meeting

Treasurer's Report – Dana Valleau

Executive Committee Reports

Ethics – Stephenie Swiezynski

Legislative – Karol Worden

Membership – Rich Jordan

Program – Rich Jordan for Jennifer West

- 2005 Program Recap/Discussion of Possible 2006 Programs
- Volunteers for Interim Program Committee Chair



Certification Subcommittee Resolution Vote

Membership is asked to vote on the following resolution:

It is *Resolved (to be revised to "I motion at the annual meeting)*, that the MAWS Certification Sub-Committee should continue with investigations into the Credentialing of Wetland Scientist in Maine including meeting with necessary regulatory staff and public officials, as necessary, to obtain additional information. The results of these additional investigations will be presented when completed and a notice of availability will be distributed to the membership. No final decision will be made without a formal vote by the MAWS membership.

Floor Discussions

- MAWS for the future: Goals and Agenda, 5 year plan – President Kathleen Miller
- 2006 Stipend
- Suggested topics for 2006 workshops

Election of Executive Committee Officers

- Treasurer
- Membership
- Ethics

Adjourn

Maine Association of Wetland Scientists
Annual Meeting
Friday, March 24, 2006 **Augusta Elks Lodge**

The Maine Association of Wetland Scientists will be holding its annual meeting at the Augusta Elks Lodge (north on Route 11/27, off Exit 112 of I-95 in Augusta, ME) and we hope to see you there! To cover the cost of the facility and food, registration for MAWS members is \$25 (not including annual dues); for non-members is \$35, and for students is \$15. Please check your status online – members who did not pay dues in 2005 will be required to pay the non-member registration fee. Members, please take this opportunity to continue your support of MAWS by paying your annual dues (Active: \$25; Affiliate: \$15; Student: \$10)

- 8:00 – 8:30 **Registration**
- 8:30 – 8:45 **Welcome, Introduction of Speakers** - Kathleen Miller, President
- 8:45 –10:30 **Wetlands of Special Significance, Consistency in Field Determinations and Consultant Responsibilities (followed by open discussion and Q&A)** – Mike Mullen (MDEP) & Lauren Stockwell
- 10:30 – 10:45 **Break**
- 10:45 – 12:00 **Improving the Effectiveness of Stormwater Management in Maine (Recent Revisions of Chapters 500 and 502) (followed by open discussion and Q&A)** – Don Witherill, MDEP’s Bureau of Land and Water Quality
- 12:00 – 1:00 **Lunch**
- 1:00 – 1:45 **Habitat Selection for Spotted and Blanding’s Turtles in Southern Maine** – Frederic Beaudry, University of Maine, MAWS 2004 Stipend Winner
- 1:45 – 2:30 **Myriophyllum heterophyllum: Distribution, Vegetative Reproduction and Control in Southwestern Maine** – Jacolyn Bailey, University of Maine, MAWS 2005 Stipend Winner
- 2:30 – 2:40 **Break, hand out ballots and vote on new Executive Committee chairs**
- 2:45 – 3:00 **Certification Subcommittee Update** – Gary Emond, EPro Consulting
- 3:00 – 4:00 **Business Meeting (all members are welcome and encouraged to attend)**

If you have any questions, contact MAWS President Kathleen Miller @ (207) 879-9496, or by e-mail at kmiller@neamaine.com or check in at www.mainewetlands.org

REGISTRATION FOR MAWS 2006 ANNUAL MEETING

Please mail registration form and payment to: MAWS c/o Dana Valleau, PO Box 361, Augusta, ME 04330. **Registration and check should be received no later than March 10, 2006.** Make checks payable to MAWS (please indicate that the payment is for the 2006 annual meeting, membership, or both - and for whom it is paying).

Name: _____ Membership Level: _____ Affiliation: _____
Address: _____ City/State/Zip: _____
E-mail address: _____ Phone # _____

RETURN TO:

Maine Association of Wetland Scientists

Attn: Kathleen Miller

P.O. Box 361

Augusta, ME 04330

TO: