



The Lay of the Land

The Newsletter of the Maine Association of Professional Soil Scientists

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PRESIDENT'S MESSAGE

Don Phillips, CSS; MAPSS President; Phillips EcoServices

Running uphill. That's how I've felt since the last issue of this newsletter went out six months ago. As President, I can say that we've had our share of setbacks and frustrations since August. But the good news is, MAPSS is continuing to run strong, I'm encouraged, and you'll see why if you read on.

To begin, while I already miss seeing the *2015 International Year of Soils* logo on this newsletter's header, I'm encouraged that its take-home message rang loud and clear throughout the state. That was apparent when four players – the USDA NRCS; the Maine Department of Agriculture, Conservation and Forestry; the University of Maine; and MAPSS – sponsored the *2015 ME Soils Conference* (aka Maine Farm Days) at Misty Meadows Farm in Clinton last August. It was truly a hands-on, optimistic day of inspiring talks and demonstrations that I like to think could point the way to where all of us with an interest in soils might want to go in the near future.

Two weeks later, the Natural Resources Workshop at Sebago Lake State Park was another rousing success, thanks once again to the capable leadership of Dave Rocque. And not unlike a concert performer after his 'final' set, we are calling him back for an encore later this summer.

While we were unable to move forward in an appreciable way with our Connotative Soil Legend, we are still actively working on it. It will take a while for it to be a valued part of our services, but when it does, it will be partly because of what we have learned from our setbacks.

Upcoming news includes the following items:

- ♣ The MOFGA Spring Growth Conference is scheduled for March 5, 2016. While we do not have an official role, it promises to be another voice in support of soil quality. It would also give those of us in Maine the chance to meet Ray Weil, the esteemed co-author of *The Nature and Properties of Soils*, who will be the keynote speaker. Oh yeah, David Rocque will be speaking there too. For more information, check out this link: <http://www.mofga.org/Events/SpringGrowthConference/tabid/190/Default.aspx>
- ♣ Our Annual Meeting will be held at Bates College in Lewiston on Thursday, March 24, 2016. Perhaps the most important thing to know beforehand is, Bates College does not have an abundance of visitor parking lot near its Dining Commons, which means many of us might have to park on the street! Get there early if you want a decent parking space. More information about the meeting - including directions to Bates, an agenda, and a registration form - is inside this newsletter.

The Maine Association of Professional Soil Scientists (MAPSS) was formed in 1975. The Mission of MAPSS is to promote soil science through the exchange of technical, political, and regulatory information that influence and guide the profession of soil science. MAPSS members have interdisciplinary professional backgrounds in both the private and public sector, including soil consultants, wetland scientists, site evaluators, state and federal government scientists and regulators, students, and others with an interest in the natural sciences. The organization's goal is to ensure the success and promote the advancement of the soil science profession. MAPSS strives to provide guidance, education, and training to its members and the public on soil science issues of interest and concern.



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Note: Opinions expressed by the authors of articles are not necessarily endorsed by MAPSS

2015-2016 EXECUTIVE COMMITTEE

President – Don Phillips
Vice President – Anna Donohue
Past President – Johanna Szillery
Treasurer – Gary Fullerton
Secretary – Amy Jones
Director – George Bakajza

Nominations
and Election for
2016 / 2017 EC
and Committee
Chairs will be
voted upon

2015-2016 COMMITTEE CHAIRS

Technical Chair – Chris Dorion
Webmaster – Matt Dorman
Newsletter – Don Phillips / Kaizad Patel
Education – David Turcotte
Membership – Unfilled
State of Maine Liaison – David Rocque
USDA NRCS Liaison – Lindsay Hodgman
University of Maine, Orono, Liaison –
Ivan Fernandez
University of Southern Maine Liaison –
Unfilled



2015 ANNUAL MEETING MINUTES
(minutes below yet to be approved by membership)

Wednesday, March 4, 2015
Unity College Center for the Performing Arts, Unity, Maine

The meeting commenced around 8:30 a.m. with an introduction by MAPSS President Don Phillips, Unity College's Dr. Michael Evans (Provost and VP for Academic Affairs), and Unity College's Dr. Kevin Spigel (Associate Professor of Geoscience). Dr. Spigel provided a brief overview of Unity College's Earth and Environmental Science major, which is in its third year of existence.

Treasurer's Report

Gary Fullerton summarized the 2014 treasurer's report, which was included in the winter 2015 newsletter (with copies on the registration table). At the end of 2014, we had \$10,613.15 in our checking account, \$889.41 less than the balance at the end of 2013. Gary is not too concerned about this drop in our checking account balance. The majority of our income is derived from our annual membership dues, followed by our annual field workshop (last year's at Mt. Blue State Park). We also made some money from our annual meetings. Last year MAPSS donated \$1,000 to the 2015 Janet Engle Cormier Scholarship and \$2,000 to Envirothon.

In 2014, we had 52 full members, 17 associate members, 3 student members, and 3 honorary members. In 2015, prior to today's meeting, we had 28 full and 8 associate members, plus those who registered for the meeting today while joining or renewing their dues for MAPSS. Gary sends out post cards each May reminding members of their annual dues, as members who don't attend the annual meeting often forget to pay their dues in the new year.

Ivan Fernandez stated that there are between 60 and 70 licensed soil scientists in the state, and that MAPSS will increasingly become the voice of soil science in the state in the coming years as several soil scientists soon retire. Jack Lord asked if a discounted inactive member fee might be a possibility to help keep retirees from permanently pulling away from our profession. The current annual licensing fee is \$170. Dave Rocque said that the Maine Board of Certification for Geologists and Soil Scientists has looked into the matter, and they were told that licensing fees are established by the Commissioner of the Department of Professional and Financial Regulation (where the Board is housed). The Commissioner informed the Board that they could create an inactive or retired category, but she would not lower the licensing fee for those categories. He said that the Department of Professional and Financial Regulation is dependent on the revenues received for all licensing fees and is concerned about the effect a lower cost category will have on their bottom line. Another concern the Department has is that other (much larger) boards will likely want to follow suit, which would have a significant impact on their revenues. Johanna Szillery suggested that MAPSS give retirees a reduced membership rate to keep them active in the Association.

Jim Logan made a motion to approve the treasurer's report and it was seconded by Dave Rocque. The motion passed.

Secretary's Report

Dave Turcotte presented the minutes from last year's annual meeting, and thanked George Bakajza for taking them on his behalf. The minutes were e-mailed to members a couple of times in the days leading up to today's meeting. There were no questions about the minutes. Dave Rocque made a motion that the minutes from last year's annual meeting be approved, and it was seconded by Ivan Fernandez. The motion passed.

University of Maine Update

Ivan Fernandez reported that undergraduate education in soil science at the University is largely carried out now in the Soil & Water Science concentration of Ecology & Environmental Science (<http://www.umaine.edu/ecologyandenvironmentalsciences>), while graduate education in soil science is carried out across a number of graduate programs. Presently there are 3 undergraduate students with the Soil & Water Concentration. The primary schools that oversee this major are the School of Food & Agriculture (<http://umaine.edu/foodandagriculture>) and the School of Forest Resources (<http://forest.umaine.edu>). The core soil science faculty at the University focuses on soils within the context of agronomic, horticultural and forest ecosystems, and environmental science. Much of the focus in these schools is on sustainability, which has the support of a lot of federal grant money.

The soil science faculty at the University continues to be Ivan (1.0), Stom Ohno (0.75) and Sue Erich (0.75). At this time, it is still uncertain as to whether the *Soil Morphology*, *Taxonomy* and *Soil Judging* classes will be taught in the fall; they weren't taught last fall. Consequently, it is difficult for a student to attain the 15 credits in soil science needed for Maine Board of Certification licensing or (federal) Office of Personnel Management employment requirements. In this regard, the MAPSS voice could become more important, especially when the time comes for the current faculty to retire.

Much of Ivan's research continues to be related to climate change, and he brought with him several copies of *Maine's Climate Future – 2015 Update* (released 5 years after the original publication). Ocean acidification is becoming an increasingly important concern in this regard. As the state's land grant school, the University of Maine in Orono is more geared towards research than are the other state universities (Augusta, Farmington, Fort Kent, Machias and Presque Isle).

Soil science graduate students at the University conduct robust research pertaining to the science, but few of them have a primary focus on the soils. Likewise, Ivan's basic soil science course continues to be very popular, but very few of these students have their primary interest in studying soil science.

Envirothon Update & 2015 Natural Resource Workshop, Sebago Lake State Park

Dave Rocque reported that this year's natural resources workshop is scheduled for September 9th. He provided an overview of what to expect there in last month's issue of *The Lay of the Land*. MAPSS has always been, and continues to be the strongest advocate and supporter of these workshops. Some of these workshops have been in very scenic locations, such as Mt. Blue and Reid State Parks.

Dave stated that Envirothon continues to be the best venue for high school students to learn about soils. The Maine Association of Conservation Districts organizes and facilitates Envirothon in this state, and our contributions go directly to them.

The subject of University of Maine soil judging was brought up, and whether we would want to allocate some funds to help support the team this year. Ivan said that it is quite unlikely that there would be a team, given the circumstances and conditions outlined in his University of Maine report. In addition, Gary Fullerton feels confident that the soil judging team has at least \$1,000 of unused donations from us, since the last year we donated funds to them they did not have a team (and haven't since).

Dave Marceau made a motion to donate \$2,000 to this year's Envirothon, and was seconded by George Bakajza. The motion passed. As a sponsor of Envirothon, we will continue to have our name and logo on Envirothon tee shirts and brochures around the state.

Education Committee and JEC Scholarship Award Winner

Steve Howell reported that two applications from University of Maine students were received for this year's Janet Engle Cormier scholarship, and that the education committee (himself, Don Phillips and Dave Turcotte) voted to select one winner, awarding all of the approved \$1,000 to Lindsey White, currently in her Junior year and majoring in Ecology and Environmental Science with a concentration in Soil and Water Science. Incoming education chair Dave Turcotte will notify Shannon Field, the University's administrator of the scholarship, about who was selected and who will presumably present the check to Lindsey at the School of Forest Resources Awards and Scholarship Luncheon. Dave Turcotte will send a formal letter to Lindsey that she was selected as the winner. He will also send a letter to the other applicant (Nathan Tomczyk) to thank him for applying and to encourage him to apply again if he is still pursuing higher education in soil science in Maine next year. Since she is a junior and should still be at the University of Maine, MAPSS will invite Lindsey to speak about her career ambitions at next year's annual meeting.

Besides the University of Maine, scholarship applications have also been sent to Unity College and the University of Southern Maine in recent years. Some discussion ensued about sending the application to other colleges (with natural resources programs) in the state, such as the University of Maine at Farmington and Colby, Bates and Bowdoin Colleges.

An article summarizing the accomplishments and activities of the education committee over the past year was included in last month's *The Lay of the Land*, including having 1,000 more copies of the original MAPSS brochure reproduced (with some slight revisions) and bringing the display board up-to-date to reflect above-noted changes at the University of Maine. MAPSS continues to maintain a presence at MOFGA's Common Ground Fair (9 years running), and a show of hands suggested that there's enough support from the membership for us to continue to have a presence there. Dave Turcotte, Don Phillips, George Bakajza, Dave Rocque and Steve Howell volunteered to help again in 2015 (Sept. 25-27).



As proclaimed by the United Nations, 2015 is the International Year of Soils, and a link for this is posted on our website (www.mapss.org). Education chair Dave Turcotte will incorporate some of this on the display board for the Common Ground Fair, and MAPSS will support Natalie Lounsbury in her effort to have the Maine Legislature pass a “Joint Resolution Recognizing the Importance of Soils to Maine’s Future Prosperity” (today’s last technical presentation).

Election of Officers

Vice president Anna Donahue presented the slate of officers for 2015-16. After some discussion and a vote, the new slate became Don Phillips as president, Anna Donahue as vice president, Amy Jones as secretary, Gary Fullerton as treasurer, and George Bakajza as director. Dave Moyse made a motion to approve the slate of officers, and Steve Howell seconded the motion. The motion passed. Dave Turcotte volunteered to become education chair, Don Phillips volunteered to continue as newsletter editor, and Matt Dorman volunteered to carry on as web master.

Vote to allow members to have a proxy vote for them at future meetings

Prior to last year’s annual meeting, there was a request to allow proxy voting at our annual meeting, as a member wanted to vote on a key issue but was unable to attend the meeting. For this to occur our constitution would need to be amended. Dave Turcotte specified that he has observed this being done in a church’s annual meeting, where one church member was given written permission in advance to vote on behalf of another who wasn’t in attendance. Dave Marceau, Jim Logan, Steve Howell and Greg Granger voiced their opposition to a motion that would modify our constitution to allow proxy (absentee) voting, thus this motion did not survive on the floor.

Technical Speakers

After the Business Meeting, a slate of speakers presented summaries of soils-related research, regulatory updates of consequence, and current happenings within the soil scientists’ community.

Respectfully Submitted,

David Turcotte, Secretary

EDUCATION REPORT

David E. Turcotte, Retired NRCS Soil Scientist

Leading up to last fall's Common Ground Fair (CGF), half of the MAPSS display board was updated with a focus on the International Year of Soils (IYS) and Soil Health, supported by an array of newly attained informational materials on Soil Health. If time permits, we will try to set it up at our annual meeting next month. *(Editor's Note: Please contact either the author or Don Phillips if you can provide assistance setting it up at Bates College.)*

Alongside the traditional tubs of contrasting parent materials for "hands on" activity, a bin of composted topsoil with earthworms was also introduced at the CGF (as a true life example of healthy soil) in 2015. We delivered an IYS / Soil Health Power Point presentation to an audience, all of which contributed to making our presence at the CGF a success. Helping out at the Fair were Dave Rocque, George Bakajza, Don Phillips, Steve Howell, and Anna Donahue, as well as students Mike Jakubowski, Kaizad Patel, Shri Verrill and Heidi Marshall.



Other outreach programs presented by MAPSS included the USDA Farm Days at Misty Meadows Farm in Clinton, ME; and an appearance on Maine Public Radio's "Maine Calling" by Dr. Ivan Fernandez, Andrew Carpenter CSS, and PhD candidate Natalie Lounsbury.

I will be stepping down as Education Chair for 2016-17, but I wish to remain on the Education Committee in a supporting role (including for the Common Ground Fair and other venues we might use to set up our display). Before doing so, I will collect completed applications (from the University of Maine and/or Unity College) for this year's Janet Engle Cormier scholarship, and distribute copies of them to other members of the Education Committee. The winner of the \$1,000 scholarship will be announced at our annual meeting.

SOUTHERN PENOBSCOT COUNTY WATER TABLE STUDY PUBLISHED

David E. Turcotte, Retired NRCS Soil Scientist

After collecting the last set of field data a full ten years ago, lo and behold, the water table study initiated in spring 2002 has been published¹. The official link to it is: http://digitalcommons.library.umaine.edu/aes_miscreports/27. I presented this study at the 2011 MAPSS annual meeting at the University of Maine. Hard copies of the paper will be available on the registration table for this year's annual meeting next month. The abstract that goes with the publication is provided below.

"Water table depths and soil temperatures were monitored for four growing seasons in six calcareous till pedons developed on gently rolling to level till plains in Corinth and Exeter, Maine. These soils are part of a new catena that supports potato production in southeastern Penobscot County. Three of these coarse-loamy to fine-loamy pedons are Moderately Well Drained [MWD] Oxyaquic Eutrudepts taxadjuncts in potato fields, and three are somewhat poorly drained [SPD] Aquic Dystric Eutrudepts (or taxadjuncts thereof) in predominantly deciduous forest. Soil morphology, hydrologic data, and a,a dipyrindyl applications support the described subgroup classification of each pedon, along with the udic moisture regime.



Despite a smooth, glaciated landscape that would suggest the presence of extensive lodgment till, five observation sites lacked a densic contact and one contained residuum (saprolite) in the substratum. Apparent water tables in the SPD very deep soils, as well as oxyaquic hydrology in the deep soils on 0 to 3 percent slopes, suggest the more permeable subglacial melt-out till predominating, rather than lodgment till in all of these pedons. It is likely that densic materials were present following deglaciation, and that the processes of soil flocculation and acid solution weathering of rock fragments throughout the Holocene has alleviated the original compaction. Similar bedrock and soil parent material have been found in the potato lands of northeastern Aroostook County, Maine. Growing season concepts were compared based on frost-free season at 0 and -2.2 degree C thresholds, soil temperatures in the plow layer, soil temperature at 50 centimeters and well water temperature. The commencement of the growing season in the spring did not differ vary much across all five concepts. However, in the fall there was a four to eight week lag between the air or shallower soil temperature growing season concepts and the deeper soil or well water temperature growing season concepts. During this lag period most terrestrial plants are dormant while soil microbial activity is presumably still active. Daytime air temperature during the first two monitoring years differed significantly between spring and fall seasons, but not between field and forest sites within each season."

1: Turcotte, David E, C.C. Dorion, N.R. Butler, and I.J. Fernandez. 2015. "Seasonal Water Table And Temperature Relationships In Calcareous Till And Residual Soils Of Central Maine." Maine Agricultural And Forest Experiment Station Miscellaneous Report 447

THE USE OF LIDAR TO PRODUCE HIGHER QUALITY SOIL MAPS

David and Natalie Marceau; Gartley & Dorsky Engineering & Surveying

Wikipedia defines LIDAR as “remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light”. Some have thought LIDAR is an acronym for Light Detection And Ranging. However, the term LIDAR was actually created as a combination of the words light and radar.

The technology most often utilizes low flying aircraft to send out pulses of laser light. When we two authors think of low flying aircraft, we think of fixed wing aircraft that people ride in. However, we learned that you could hire a company to fly a drone over a given property with scanners on board that can produce custom LIDAR data. What a country ha!

When LIDAR technology is employed a pulse of laser light is sent out which creates a three-dimensional model based upon: 1) the time it takes for the pulse of light to return, 2) the angle of the pulse of light, and 3) the absolute location of the object detected in relation the earth's surface. The concentration of light pulses is 150,000 pulses per second, which produce a dense network of highly accurate data points capable of showing the shape, location and elevation of relatively small objects. This technology is so accurate that changes in elevation of less than one foot can be determined. In fact, the precision of elevations has gone from ± 6 to 12 inches to ± 4 to 8 inches since this technology has been available.

LIDAR has only been around in this state for about four years but was only available for areas that were within approximately ten miles of the coast. This is because the fixed wing aircraft that gathered the data were flying areas along the coast for purposes of shoreline stabilization. Since these initial flights were flown many more areas have been added. We are anxiously hoping that the NRCS folks who speak to us at our next annual meeting will tell us that LIDAR coverage has spread across all areas of the state.

Information that previously was too costly or time consuming to gather by on-the-ground survey methods or old fashion aerial cartography can be more efficiently produced by LIDAR data. Being able to identify additional control, rough or uneven surfaces and small changes in elevation allows us to more accurately interpret our location and more precisely identify bedrock outcrops, changes in slopes, stream channels, stone walls and other features. The improvement in quality of base maps then allows us to more accurately place map unit boundaries and minimize inclusions.

A good example of the use of this technology is a project that we worked on this past year. A client was considering buying a 16-acre parcel along the shoreline of an island off the coast. He wished to know where septic systems, roads and one or more buildings could be placed as well as where wetlands and a power line were located. With the use of LIDAR data, careful onsite observations, and examining aerial photographs we were able to provide valuable data related to significant wildlife habitat, flood elevations, wetland boundaries, a power poles and the highest annual tide. LIDAR data can help us identify pit-and-mound topography, a narrow channel connection between the ocean and an emergent marsh, and VE flood elevations of less than one foot.

This technology has the additional ability of sorting data in such a manner that different levels of vegetation can be shown and the depths of clear bodies of water can be measured. Thus, the ground surface, herbaceous vegetation, shrubs, and trees can all be shown on separate layers of data. This allows soil scientists to interpret vegetative covers, which can have an affect on soil fertility and the ability of

soils to withstand erosion. Interpretations of vegetative cover can also provide accurate measurements of clear cuts, emergent vegetation and impervious surfaces.

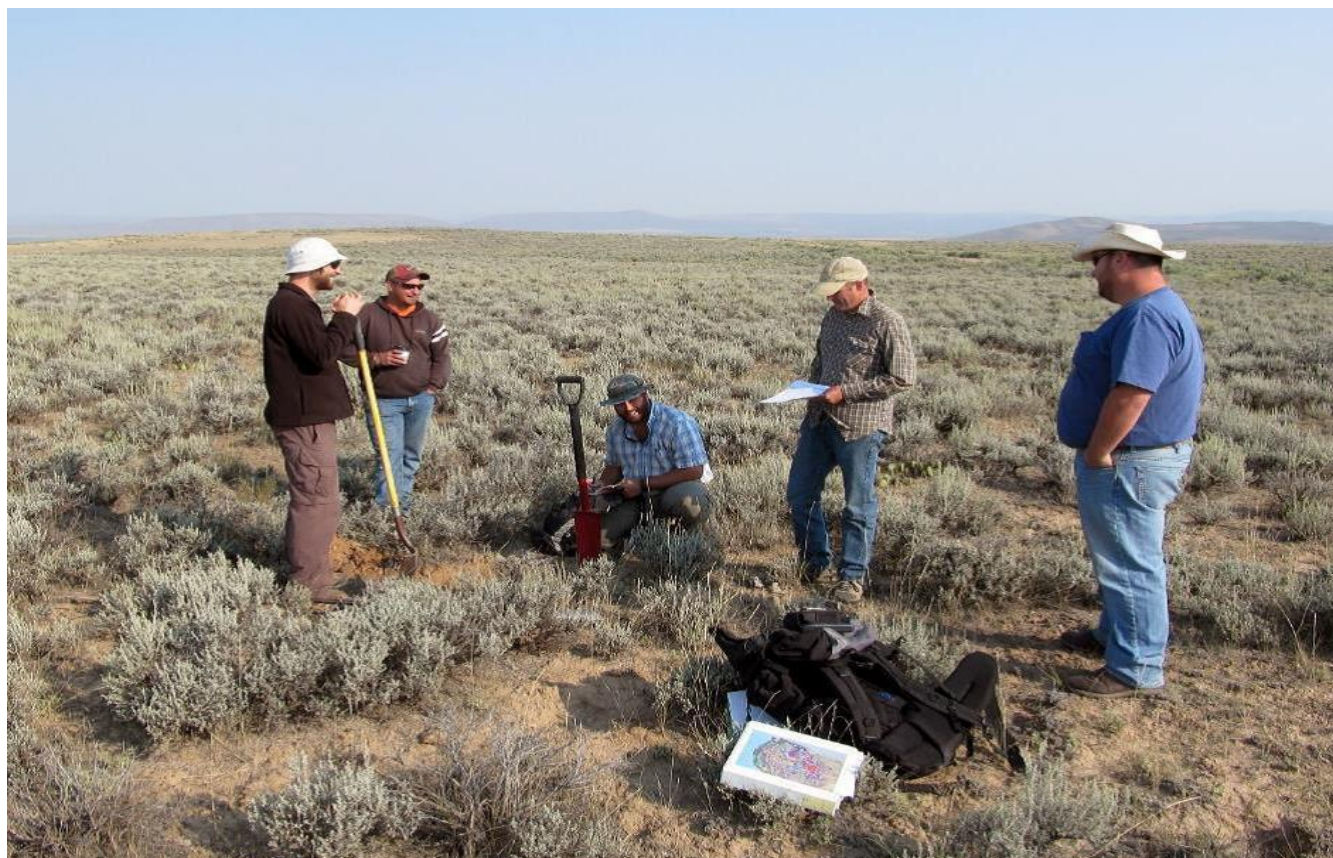
Like all technology it takes a certain skill set to interpret the data and there are definite limitations, particularly in thick tree covers. There is no substitute for onsite observations and gathering critical soil data.

WYOMING DETAIL WRAP-UP

Matt Dorman, USDA NRCS 12-DFX Soil Scientist

This past summer, I spent 3 months working on the Initial Soil Survey in southwestern Wyoming. The Management Land Resource Area office is located in Pinedale, two hours south of Jackson near Yellowstone National Park. The cadre I worked with was stationed in Kemmerer, WY near Fossil Butte.

On a summit of a fan remnant landform near Fossil Butte

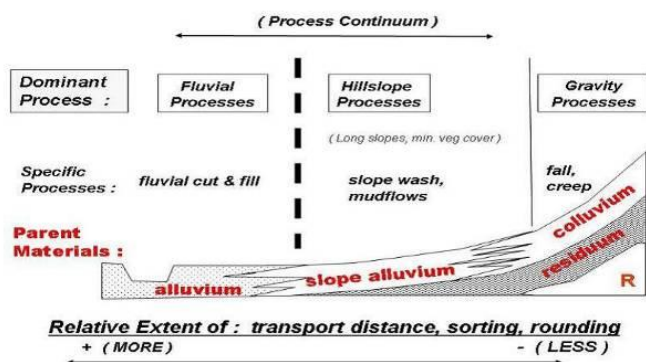


This area is known for being rich in fossils formed in its sedimentary bedrock. During the Pleistocene Era, the landscape was submerged by a large lake, hence the plethora of fish and aquatic life captured in time in the stone. The majority of these fossils are found in the Evanston formation along with some small coal deposits. Though there are some coal deposits, there isn't enough to be commercially mined.

Our task was to assist MLRA 46 develop a map unit legend with map unit descriptions and capture pedon descriptions and ecological variation across the landscape. Throughout our detail, we worked within frigid temperature and aridic/ustic moisture regimes. We utilized 33 existing Ecological sites to reach a mapping goal of 50,000 acres each.

The landscapes of this part of Wyoming are comprised of breached anticlines, fold-thrust hills, intermontane basins, foothills, mountains, and erosional landforms. The landforms in my mapping area consisted of hills, slumps, fan aprons and terraces, fan remnants, escarpments, hillslopes, stream terraces, eroded fan remnants, alluvial fans, and drainage ways. The parent materials these landforms were derived from were alluvium, slope alluvium, colluvium, residuum, and colluvium over residuum.

Landform: alluvial fans & drainage ways



Landscape: foothills



Drainage way in Saline Lowland Ecological Site

Some of the common soils in the area were fine, fine loamy, and coarse loamy mixed frigid Calcic Haplustalfs, Torrertic Haplustalfs and Aridic Natrustalfs. Here are a couple of examples of some of our pits.

Pit #1 - Key soil features:

Argillic horizon: 4-45 cm (Bt, Btk)

Calcic horizon: 45-100 cm (Bk)

Particle-size control section: 4-45 cm (Bt, Btk)

Horizons:

A: 0-4 cm fsl 12% clay 7.0 pH

Bt: 4-30 cm scl 26% clay 7.2 pH

Btk: 30-45 cm loam 26% clay 8.2 pH

Bk: 45-100 cm loam 25% clay 8.4 pH

BCK: 100+ cm loam 24% clay 8.4 pH

Photo taken on the summit of the fan remnant.

Pit #2 - Key soil features:

Argillic horizon: 12-100+ cm (Btk1, Btk2)

Calcic horizon: 40-100+ cm (Btk2)

Particle-size control section: 12-62 cm



Horizons:

A: 0-12 cm; loam; 25%; clay; 8.2 pH

Btk1: 12-40 cm; cl; 39% clay; 8.2 pH

Btk2: 30-45 cm; clay; 42% clay; 8.2 pH

Clay films on ped faces & not in root channels



columnar structure with caps

**Saline
Lowland
Ecosite
Pit #2**

I finished up the detail right before the visibility got too bad from all of the neighboring state forest fires blowing all the smoke within the valley.

Note: All photos and diagram taken by Bob Spokas, the SDQ. Special thanks go to the State Conservationists, State Soil Scientists, Assistant State and Regional Soil Scientists, Administrative Assistants and the Pinedale BLM & MLRA offices working together to make this detail possible and a success.

USDA is an equal opportunity provider, employer and lender.

SOIL SCIENCE LOSES ONE OF ITS GIANTS: NYLE C. BRADY 1920-2015

Dr. Ray (R.R.) Weil

Nyle C. Brady passed away on 24th November 2015 at the age of 95. Dr. Brady was a global leader in soil science, in agriculture, and in humanity. He was born in 1920 in the tiny rural town of Manassa, CO. He earned a B. S. degree in chemistry from Brigham Young University in 1941, and went on to complete his Ph. D. in soil science at North Carolina State University in 1947. Nyle then served as a member of the faculty at Cornell University in Ithaca, NY for 26 years, rising from assistant professor to professor and chair of the Agronomy Department, and finally to Assistant Dean of the College of Agriculture. Soon after arriving at Cornell University, he was recruited by Professor Harry O. Buckman to assist in co-authoring the then already classic soil science textbook, *The Nature and Properties of Soils*. The first edition of this textbook to bear Nyle Brady's name as co-author was published in 1952. Under Nyle's hand, this book rose to prominence throughout the world, and several generations of soil scientists got their introduction to the field through its pages. He was the sole author of editions published between 1974 and 1990. He continued to work on revised editions of this book with co-author Ray Weil until 2004. To this day, Dr. Brady is listed co-author of this textbook and is widely known and respected throughout the world in this capacity.

Dr. Brady was of that generation of American soil scientists that contributed so much to the original green revolution. He conducted research into the chemistry of phosphorus and the management of fertilizers and he was an early researcher on minimum tillage. Known for his active interest in international development and for his administrative skills, he was called in 1973 to the International Rice Research Institute (IRRI) in the Philippines to become its third Director General. During his eight years as Director General at IRRI, he pioneered numerous major advances that would have significant impacts in soil science in rice production. At a time when China was still quite closed off to the outside world, Nyle Brady worked to begin collaborations between IRRI and agricultural scientists in that country, leading a seven-member delegation to visit China in October of 1976. Dr. Brady also pioneered new cooperative relationships between IRRI and the national agricultural research institutions in many Asian countries. He oversaw the transition to a second generation of green revolution soil management and plant breeding designed to overcome some of the shortcomings of the first generation.

After leaving IRRI, he moved to Washington, DC, where he served as Senior Assistant Administrator for Science and Technology at the U.S. Agency for International Development from 1981 to 1989. He was a fierce champion of international scientific cooperation to promote sustainable resource use and agricultural development. He often stuck his neck out to defend US government scientific and technical assistance to the developing world when these programs were being strongly criticized by some at home as destroying markets for US agricultural goods and creating competitors for the US agricultural industry. At his urging, the US National Research Council funded a study on Alternatives to Slash and Burn Agriculture. That study stimulated much activity in international research centers and eventually led to many of the programs that were championed at the International Center for Agroforestry Research. Dr. Brady was also an outspoken advocate for sustainable agriculture at a time when many of his peers were fighting a rear guard battle against forces that were calling for agriculture to be based more strongly on ecological principles. During the 1990s, Dr. Brady, then in his 70s, served as senior international development consultant for the United Nations Development Programme (UNDP) and for the World Bank, in which capacity he continued to promote scientific collaboration in advances in environmental stewardship and agricultural development. Dr. Brady was a strong defender of science in general and soil science in particular. Yet he was always open-minded and ready to accept new truths supported by scientific evidence. This can be seen in the way that the discussion of topics such as pesticide use, fertilizer management, manure utilization, tillage, soil organic matter and soil acidity management in *The Nature and Properties of Soils* evolved under his guidance for more than half a century. Nyle Brady had a larger-than-life personality, a deep sense of empathy, and an incredible understanding of how to work with people to get positive results. He was the kind of person to whom friends, associates and even strangers would go for advice when they found themselves in a perplexing position as a scientist, administrator or even in their personal life. His sound advice and support for many leading soil scientists has multiplied and kept alive his legacy, worldwide.

Dr. Brady is survived by his beloved wife, Martha, two daughters, a son (a second son preceded him in death), 22 grandchildren and 90 great grandchildren. He will be very much missed for a long time to come by his family and by all who knew him or were touched by his work.



SEBAGO LAKE STATE PARK SOILS AND NATURAL RESOURCES WORKSHOP II

By Dave Rocque

Looks like I have been talked into organizing one more Soils and Natural Resource Workshop. It will primarily be a repeat of the workshop held at Sebago Lake State Park last September, but with an expanded wetlands component. I realize that I have been saying “this is the last one” for several years now but retirement is looming ever closer, I turn 65 next year. It’s time for the younger folk to step forward and probably time for a different type of workshop. I am, however, very willing to assist with organizing future workshops.

The MAWS Executive Committee thought an expanded wetland component would be a good addition to the workshop, and I agree. With MAWS folks in the lead for this component, at least three of the sites will be further developed by one or more of the following: detailed vegetation data plots, wetland delineations (by several persons to show the variability of boundaries by different individuals), identifying secondary hydrology indicators and vernal pool assessments. MAWS representatives will be present at each of these stations to show what was done and how it was done and to answer questions.

This year’s workshop will be conducted on Wednesday, September 7, 2016. It will once again be sponsored by the Maine Association of Professional Soil Scientists (MAPSS), the Maine Association of Wetland Scientists (MAWS), and the Maine Association of Site Evaluators (MASE).

For those who attended the workshop last year, you will remember that it was a very dry spring and summer, quite the opposite of what was experienced at Mt. Blue State Park the previous two years. As a result, the soil pits were dry, as were the streams and wetlands used for the workshop, and I was unable to collect much useful groundwater table data prior to the workshop. Sebago Lake never completely filled up. 2016 will be a wetter year, giving workshop sites a much different look – this, I believe, is one of the benefits of repeating a workshop. Conditions are likely to change, and all of us, including regulators, have had a year to think about our original determinations. Most of the sites I select are difficult with “gray areas”, allowing for considerable subjectivity, which makes for some very interesting and lively discussion with the regulators. Repeat attendees will also benefit from the expanded wetland sites. For folks who missed out last year, I think you will find the sites very interesting, and the setting is hard to beat on an early September day. Throw in comradery with folks we don’t get to see often enough and it makes for a most enjoyable and useful day in the field. Another benefit is being able to mingle with folks we don’t know, particularly from different professions. I have been told that mixed groups often tour the sites together, sharing professional knowledge and making useful connections. Rumor has it that a couple of folks met for the first time at one of my workshops a number of years ago and ended up getting married! Finally, for those of you who need continuing education credits, it’s hard to beat this opportunity. Good price, great setting with interesting sites and discussions. I look forward to seeing you there on September 7.

PS: Refer to the MAPSS 2015 summer newsletter article “Reminder: Sebago Lake State Park Soils and Natural Resources Workshop” for specifics about workshop sites.



2016 ANNUAL MEETING PROGRAM AGENDA

Bates College
Dining Commons, Room 221-222
136 Central Avenue (Next To Garcelon Field)
Lewiston, ME

March 24, 2016

8:00 - 8:30 **REGISTRATION** (coffee and pastries provided)

8:30 - 8:45 **WELCOME TO BATES COLLEGE**

Dr. Holly Ewing, Associate Professor & Chair, Environmental Studies Program, Bates College

8:45 - 11:00 **BUSINESS MEETING**

- President's Introduction – *Donald Phillips*
- Treasurer's Report – *Gary Fullerton*
- Secretary's Report – *Amy Jones*
- Technical Committee Update – *Chris Dorion*
- UMaine Update – *Cheryl Spencer for Ivan Fernandez*
- Envirothon Update & 2016 Natural Resource Workshop
- Education Committee and JEC Scholarship Award Winner(s) – *Dave Turcotte*
 - Vote to determine amount of JEC Scholarship for this year, then same for next year
 - Discussion followed by a vote to establish a new Subcommittee to address Soil Quality/Health
- Election Of Officers - Nominating Committee (*Anna Donahue*)

11:00 - 12:00 **The Future Of Soil Mapping Using LIDAR Technology**
Jessica Philippe; NRCS Saint Johnsbury, Vermont, Soil Survey Office

12:00 - 1:00 **BUFFET LUNCH**

1:00 - 1:45 **Why Improving Soil** Heath is Good for Your Soil & Your Business: A 30+ Year Perspective
Chris Bales, Casella Organics, Portland and Unity, ME

1:45 - 2:30 **Soil Health for Professional Soil Scientists: Opportunities and Outlook**
Tony Jenkins, NRCS Maine State Resource Conservationist

2:30 - 2:45 **BREAK**

2:45 - 3:15 **Multidecadal Response in Soil C, N, and Hg to the 1947 Mt. Desert Island Fire Using Paired Watersheds in Acadia National Park, Maine**
Michael Jakubowski, University of Maine Master's Student

3:15 - 3:45 **An Overview of Recent NRCS Changes in the Classification and Description Standards when Describing Urban Soils**
Nick Butler; USDA-NRCS 12-DFX Soil Scientist

*Maine Licensed Site Evaluators will be awarded 6 professional development hours for full day attendance



2016 ANNUAL MEETING REGISTRATION*

Bates College
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136 Central Avenue (Next To Garcelon Field)
Lewiston, ME

March 24, 2016

Name: _____

Company or Affiliation: _____

Address: _____

Work Phone: _____ Cell Phone: _____

Fax: _____ E-mail: _____

Are you a Maine Certified Soil Scientist? _____ If yes, License #: _____

Are you a USDA-NRCS Soil Scientist? _____ If yes, how many years in Maine? _____

Are you SSSA Certified? _____ APSS _____ CPSS _____ Certification #: _____

Membership Dues: _____

*Full Members - **\$25** Associate Members - **\$15** Students - **Free**

*Full members must be Certified Soil Scientists in Maine, NRCS Soil Scientists working in Maine for at least 3 years, or have taught collegiate courses in soil science in Maine and been an associate member for at least 3 years.

Registration Fee: _____ *Note: Registration deadline is Friday, March 11, 2016*

Full and Associate Members - **\$40** Non-members - **\$50**

Students - **Free** for just the meeting (no lunch)/ **\$15** (including lunch)

(add \$10 if registering at the door; lunch will not be guaranteed)

Total Amount Enclosed: _____

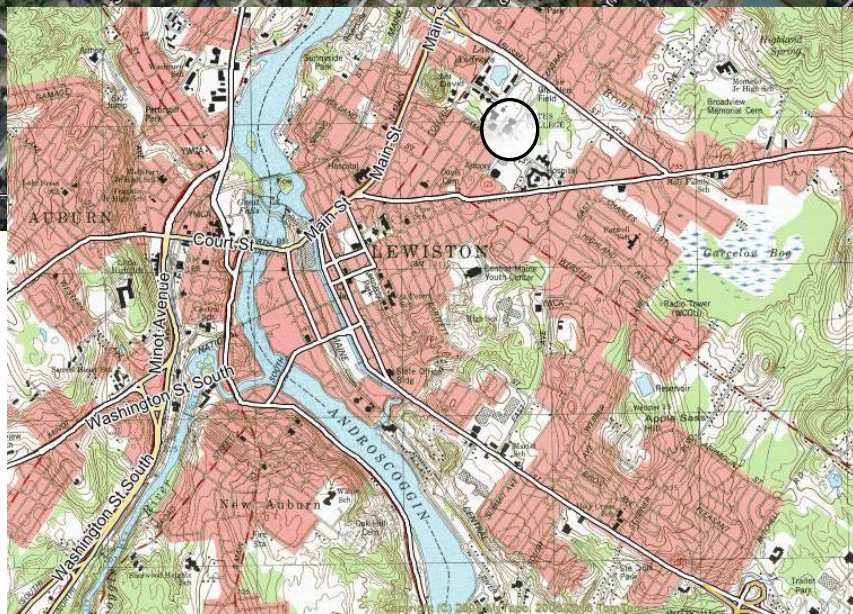
Please submit form and check made payable to **MAPSS** and mail to:

Gary Fullerton 104 Millturn Road; Limington, ME 04049

[**gfullerton@sebagotechnics.com**](mailto:gfullerton@sebagotechnics.com)

*Maine Licensed Site Evaluators will be awarded 6 professional development hours for full day attendance

MAPS SHOWING STREET LAYOUT AROUND BATES COLLEGE



"Do you see any spot where we can park in front of the place where we're supposed to meet?"

"No! Looks like we might have to walk some."

"Good thing we car-pooled, eh?"

