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Soil Survey Region 12

Newsletter

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Inscrutable Graminoids

by Nels Barrett, NRCS Regional Ecological Site Specialist–Amherst, Massachusetts

Sedges have edges
rushes are round,
and grasses are hollow
with nodes from tip to the ground.

Two NRCS ecologists, Nels Barrett and Michael Margo, were among 15 participants joined from different government agencies, non-government organizations, consultants, and others that attended, "Inscrutable Graminoids: Field Identification of Late-season Coastal & Tidal Grass-like Plants," an Aton Forest workshop. William "Bill" Moorhead, instructor and contracting botanist, led the workshop on September 27, 2016, at the Saybrook Point Pavilion in Old Saybrook, Conn.

This plant identification workshop focused on the field identification and ecology of important grasses, rushes, and sedges, collectively referred to as "graminoids." As a group, true grasses and other grass-like plants are often very challenging to identify in the field. After introductions, overview, and a few anecdotes, the class headed immediately to the field. The first site visited was Fenwick Meadow, an ecologically important site supporting a rich and diverse meadow flora dominated by graminoids. With the aid of the instructor, many species of *Panicum* grasses and closely related *Dichanthelium* grasses put everyone's field ID skills to the test. The second site visited was Ragged Rock Creek, a brackish tidal marsh and meadow complex. Among the many graminoids encountered, two noteworthy plant identifications were, the New England Bulrush (*Bolboschoenus novae-angliae*) and American common reed (*Phragmites australis* ssp. *americanus*), both plants with a conservation status as species of special concern. As it turned out—with a good identification key, a 10X hand lens, and a lot of patience—many of the graminoids were not as inscrutable as originally thought.

Top left photo: NRCS ecologist, Michael Margo, takes a break from identifying plants to smile for the camera at the Aton Forest workshop.

Top center photo: NRCS soil scientist, Martha Stuart, records sample data for a national project. *Read more on page...3*

Top right photo: NRCS booth set up for Paul Smith's College 32nd Annual Spring Career Fair. *Read more on page...3*

Soil Science Division

Natural Resources Conservation Service

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This newsletter is a biannual publication produced by USDA-NRCS, Soil Survey Region 12 (SSR 12) in Amherst, Massachusetts. SSR 12, one of 12 regions under the NRCS–Soil Science Division, provides technical leadership and support in the production, quality assurance, and delivery of scientifically based soil and ecosystem information throughout the northeastern United States.

Regional Director's Message

Luis A. Hernandez
Regional Director

Greetings and Happy New Year!

I hope you had a great time with family and friends during the holiday season. We are beginning calendar year 2017 with a new design of the newsletter. The newsletter was redesigned in order to comply with NRCS's new visual identity and design guidelines. I would like to thank Kristie Wiley, region 12 editor, for her efforts ensuring our publications are compliant with USDA and NRCS design standards.

This edition of the newsletter will highlight activities completed during the second half of 2016—special thanks to all those who contributed articles for this issue.

As we begin the new year, this is a good time to reflect on our collective accomplishments in fiscal year 2016. Without question, we had a very successful and productive fiscal year. We updated soils information for about 3 million acres, dedicated 3,816 hours of soil technical assistance to support implementation of NRCS programs, assisted 206,430 customers with soils and ecological technical information, developed 107 provisional ecological site descriptions, and continued strengthening the National Cooperative Soil Survey (NCSS) program. We anticipate an equally successful fiscal year 2017.

MLRA soil survey offices, technical teams, management teams, and NCSS cooperators evaluated and prioritized activities for fiscal year 2017. We plan to update soils information on about 2.5 million acres. The urban soil survey for the city of Detroit is projected to be released and available on Web Soil Survey within the next few months. The Coastal Zone Mapping Initiative has been established as a top priority in region 12. MLRA soil survey update of Lake Champlain Basin is also a top priority in the region. We will continue moving forward with developing provisional ecological site descriptions, and many other exciting soil survey activities are planned in fiscal year 2017.

Planned work for fiscal year 2017 is the result of a collective and collaborative effort among State Conservationists, MLRA soil survey offices, MLRA technical teams, MLRA management teams, NCSS cooperators, and the regional office. Thank you for your participation in this cooperative effort. As always, we want you to continue to engage and invite others to participate in this collaborative process.

Again, thank you, and have a very happy, productive, and prosperous 2017!

Luis Hernandez
Regional Director

Career Fair at Paul Smiths College

by Janella Cruz, Soil Scientist–Paul Smiths, New York

Soil scientists Janella Cruz and Rebecca Fox represented NRCS at the Paul Smith's College 32nd Annual Spring Career Fair on March 31, 2016. The day started with a gymnasium full of future employers from different parts of the Northeast, including several government agencies. It wasn't long before students and alumni were circulating the gymnasium, some with hesitation while others made a beeline to their potential employer of choice. Students majoring in forestry, hospitality, culinary arts, and environmental management programs had their resumes in hand, and some were even in suits! The students eagerly gathered information and connected with employers, determining the best fit for themselves and employers. Networking also occurred among professors and career professionals to address students' needs entering the workforce.

Soil scientist Rebecca Fox, representing NRCS at the career fair, hands a student information about the Pathways program.

At the end of the day, NRCS had a great showing with over 80 students stopping by our booth to pick up promotional materials and chat with us. Twenty-five of those students signed up for our email list with the purpose of getting updates for online and in-person USAJOBS application opportunities. Many of the students were really excited about the work NRCS does, and discovered that it was directly aligned with their career goals. With another positive career fair under our belt, we will continue to motivate and support students with the proper tools. We hope our work will result in students joining the agency—and one day taking our place at the career fair and encouraging other students to help people help the land.

NRCS Soil Scientists Provide Technical Assistance for Three National Projects

by Roger Dekett, NRCS Soil Scientist–Saint Johnsbury, Vermont

The Saint Johnsbury Soil Survey (12-STJ) office was responsible for sampling work for three nationwide sampling projects this year: the Conservation Effects Assessment Project (CEAP), the National Ecological Observatory Network, and the National Wetlands Condition Assessment efforts for a total of 20 sampled pedons.

CEAP is a multi-agency effort to quantify the environmental effects of conservation practices and programs and develop the science base for managing the agricultural landscape for environmental quality. Project findings will be used to guide USDA conservation policy and program development and help conservationists, farmers and ranchers make more informed conservation decisions.[1]

12-STJ staff with assistance from local field office personnel, scouted sites in Franklin County, Vt. during the autumn of 2015 and spring of 2016 looking for a pedon that fit the Enosburg series. Once an appropriate pedon was located and permissions were acquired, the 12-STJ staff visited the site on a cool but sunny, late April day, only to find that the field which had been in hayland when scouted, had been plowed just a few days before. The pedon site was located using GPS; then the pit was dug and the pedon was described and sampled.

National Ecological Observatory Network (NEON) is a continental-scale ecological observation facility, sponsored by the National Science Foundation and operated by Battelle, that gathers and synthesizes data on the impacts of climate change, land use change and invasive species on natural resources and biodiversity.

[1] *USDA, NRCS. Conservation Effects Assessment Project (CEAP). Retrieved from http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/nra/ceap/*

Monadnock Pedon

The NEON observatory is designed to collect high-quality, standardized data from 81 field sites (47 terrestrial and 34 aquatic) across the U.S. (including Alaska, Hawaii, and Puerto Rico). Data collection methods are standardized across sites and include *in situ* instrument measurements, field sampling, and airborne remote sensing. Field sites are strategically selected to represent different regions of vegetation, landforms, climate, and ecosystem performance. NEON data and resources are freely available to enable users to tackle scientific questions at scales not accessible to previous generations of ecologists.[2]

The Bartlett experimental forest in Bartlett, N.H., part of the White Mountain National Forest, is host to 34 NEON sites. Fifteen sites were chosen to represent the soils on the landscape within the experimental forest. 12-STJ staff met with NEON personnel to go over national protocols for collecting the samples, including how to access each plot, siting of the pit in the plot area, placement of excavated soil, and how deep to excavate. A GPS waypoint was taken at each pit along with distance and azimuth from the southwest corner of the plot. Pits could be excavated no deeper than one meter (~3.3 feet). Work was done mostly in groups of two, often carrying as much as 90 pounds of soil and equipment. The longest hike was a bit over three miles round trip with an elevation gain of about 400 feet. The series sampled included Adirondack, Berkshire, Danforth, Knob Lock, Marlow, Monadnock, Rawsonville, and Wilmington, along with a couple of series not determined. Bartlett is about an hour and a half from Saint Johnsbury and about two hours from White River Junction—so, between the drive and the hiking needed to reach the sites, only one pedon per day was sampled.

The National Wetlands Condition Assessment (NWCA) is designed to answer basic questions about the extent to which our nation's wetlands support healthy ecological conditions and the prevalence of key stressors at the national and regional scale. It is intended to complement and build upon the achievements of the U.S. Fish and Wildlife Service Wetland Status and Trends Program, which characterizes changes in wetland acreage across the conterminous United States. Paired together, these two efforts provide government agencies, wetland scientists, and the public with comparable, scientifically defensible information documenting the current status and, ultimately, trends in both wetland quantity (i.e., area) and quality (i.e., ecological condition).[3]

Soil scientists Roger DeKett and Martha Stuart collect soil samples.

The Environmental Protection Agency (EPA) contracted with state and private entities to collect vegetative and soils data from designated plots across the country. They also contracted with the Kellogg Soil Survey Laboratory (KSSL) to run analysis on the samples collected. The soil survey office was responsible for the quality assurance (QA) of the soils descriptions and for attending about ten percent of the site visits with the EPA teams to be on hand for soils assistance. This was also considered an opportunity for NRCS to collect

[2] *NEON, About. Retrieved from http://www.neonscience.org/about*

[3] *EPA. What is the National Wetland Condition Assessment? Paragraph 2. Retrieved from https://www.epa.gov/national-aquatic-resource-surveys/what-national-wetland-condition-assessment#tabs-1*

Medomak Pedon

characterization data as part of an “intensification” project. In other words, we do our own description of the pedon (or a pedon within the plot) and collect samples for characterization and determine which analyses we would like to run. By combining our information with the EPAs site information, like vegetation, land use, etc., and their requested analysis, we have intensified the amount of data collected associated with those soil series. There were 40+ sites combined in Vermont and New Hampshire, somewhat evenly split between the two states. The 12-STJ office was responsible for collecting two characterization samples in each state. Fortunately for this project, it was a dry year and on two of the four sites, we were able to dig quite deep before the water table became an issue. The series sampled were Bucksport, Medomak, and Wonsqueak (2 pedons).

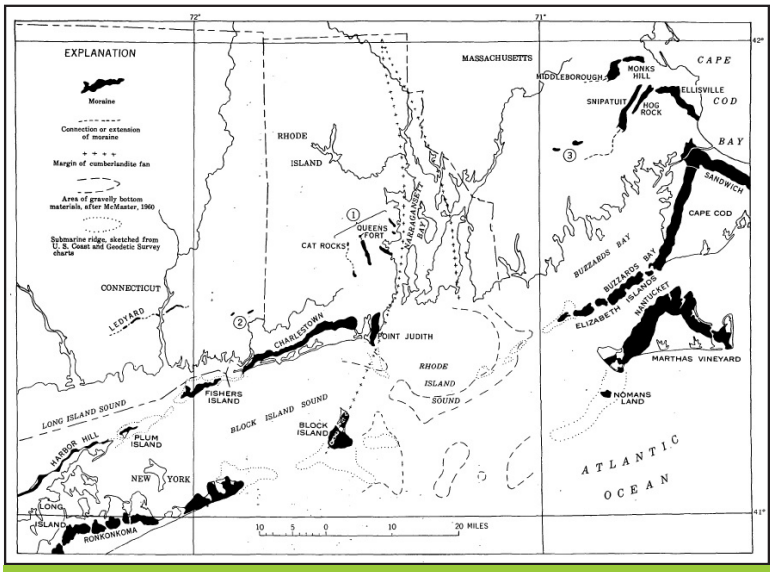
Between CEAP, NEON, and NWCA, we dug, sampled, bagged, and shipped 20 pedons worth of samples totaling over 1,200 pounds. That’s just under 100 horizons sampled, over 10 miles hiked, and as much as 90 pounds of samples and equipment carried over terrain with a total vertical gain of more than 1,700 feet.

MLRA Soil Survey Office 12-TOL joins RI-NRCS to Map Great Salt Pond on Block Island

by Jacob Isleib, NRCS Soil Scientist–Tolland, Connecticut

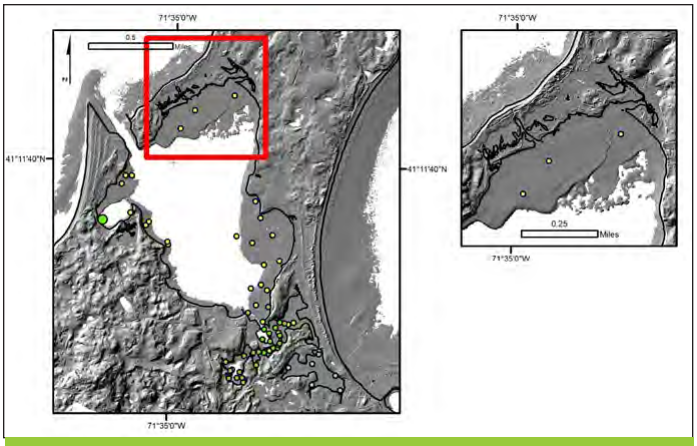
MLRA Soil Survey Office 12-TOL soil scientists, Marissa Theve and Jacob Isleib, teamed with RI-NRCS soil scientist, Jim Turenne, to complete subaqueous soil mapping fieldwork on Block Island in the town of New Shoreham, R.I. The purpose of this project was to characterize and map soils in shallow water areas (<3 meters water depth) to enhance coastal zone management activities including aquaculture (i.e., shellfish production), subaqueous vegetation restoration, estuarine protection, and other conservation efforts. This project also served as a pilot for the use of remote-sensed topobathymetric elevation data (topobathy) in subaqueous soil mapping.

Block Island is a roughly 6,200-acre island about 14 miles east of Long Island and 13 miles south of mainland Rhode Island. The island is part of a system of end moraines that extend from the south fork of Long Island to the Elizabeth Islands and Martha’s Vineyard in Massachusetts. Terrestrial Block Island features a diverse mix of parent materials including thrusted pre-Wisconsinan fine-textured coastal plain sediments, Wisconsinan-aged glacial materials, and Holocene-aged eolian sands and tidal organic materials. The project area included Great Salt Pond (including the Trims Pond and Harbor Pond areas) and Sachem Pond, both coastal lagoons (the former featuring a breachway connecting it to Block Island Sound). The subaqueous soils are expected to contain a mix of marine or estuarine sands and silts along with a potential for submerged terrestrial parent materials.



Location of end moraines in part of southern New England.

Source: Shafer, J.P., 1961. Correlation of End Moraines in Southern Rhode Island. U.S. Geological Survey Professional Papers 424-D-D68-D70



Great Salt Pond hillshade (created from 2014 NOAA topobathy) with 0 (zero) elevation indicated by black line and point observations symbolized with dots. Inset on right shows topobathy hillshade detail for overwash fan on northern side; white space indicates areas where LiDAR returns were insufficient to interpolate DEM at targeted resolution.

To begin the project, staff organized all equipment, including a specially outfitted pontoon boat (R/V Dorner) and dinghy, vibracore outfit (mechanical resonant vibrahead, clamp, and generator), fathometer (for collecting bathymetric soundings), HydroBox echo sounder (for characterizing bottom type), plus Macaulay augers, GPS handhelds, and typical soil survey site description tools. Following the hour-long ferry ride to Block Island, we met up with Block Island local Kevin Hoyt, a soil evaluator and M.S. candidate at the University of Rhode Island, who is active with Great Salt Pond conservation. Kevin volunteered to assist USDA-NRCS with logistics, bathymetry, and soil sampling. He also kindly made arrangements for our pontoon boat mooring. The complicated logistics of subaqueous soil survey work create a real need to engage local expertise wherever possible. Efficient work and high data quality hinges on these partnerships.

The first full day of fieldwork focused on deploying tide gauges and collecting soundings using fathometer and survey rod to verify the topobathy data collected in 2014 by National Oceanic and Atmospheric Administration (NOAA). Most previous subaqueous soil survey projects have involved staff creating completely new bathymetric data using a fathometer. For Block Island, topobathy data was used to identify landforms to target sampling, and later to delineate soil map units. Validation work specifically involved Marissa and Kevin cruising bathymetry using a fathometer mounted to a zodiac and collecting soundings in Trims Pond, while Jim and Jacob deployed a tide gauge in Cormorant Cove and collected soundings in the shallows on the main pond using the pontoon.

The rest of the week was used to sample soils in Great Salt Pond and Sachem Pond using both the vibracoring method from the R/V Dorner and augering the extremely shallow areas from dinghies with Macaulay samplers. Eight total vibracore samples were collected, ranging in lengths from 1 to nearly 2 meters in varying water depths (the deepest of which approached 3 meters). Reconnaissance and observations at coring sites lead crew to believe that more areas of Great Salt Pond have a coarse-textured, hard bottom than initially predicted.

A Macauley auger sample from Trims Pond showing marine silts over buried muck.

While there is significant laboratory and GIS work left to complete the characterization and mapping of subaqueous soils on Block Island, the concentrated week of fieldwork was sufficient to collect needed samples and onsite observations. Preliminary analysis suggests the NOAA topobathy data provides sufficient coverage for use as a mapping base in subaqueous soil survey. Employing topobathy as a mapping base is essential for this project and future coastal zone soil survey project work. The additional staff time and travel costs required to create bathymetry from scratch would not be feasible given the current budget limitations. As topobathy sensor technology improves and more coastal areas are flown, soil survey staff will be able to focus on soil observation and sampling. This promises to improve mapping quality and reduce project turnaround time.

The USDA-NRCS crew would like to thank the very accommodating Great Salt Pond harbormaster, the U.S. Army Corps of Engineers survey crew who provided us monument data, and a special thanks to our excellent partner Kevin Hoyt for providing guidance and assistance with all aspects of the fieldwork.

Members of the New England Hydric Soils Technical Committee observing a sandy hydric soil at the 2016 fall tour at the Great Bay Discovery Center in New Hampshire.

New England Hydric Soils Technical Committee Update

by Jim Turenne, NRCS Assistant State Soil Scientist–Rhode Island

The New England Hydric Soils Technical Committee (NEHSTC) has been very busy the past several years putting the finishing touches on version 4 of the Field Indicators for Identifying Hydric Soils in New England. This new version will be an update to version 3 which was released in April 2004. Version 4 is intended to be a one-stop guide for identifying hydric soils using an indicator approach. It will combine the current National Indicators, Corps of Engineers Regional Supplement, indicators from version 3 that have not been approved by the national committee, along with several new test indicators including one for frigid Spodosols. The NEHSTC has spent several of their annual field tours looking at these problematic Spodosols in northern New England to develop an indicator that separates the hydric from upland soils. The new version will also include numerous appendices to help users describe and key out hydric soil morphology and properties. The NEHSTC guide is approved for use for U.S. Army Corps of Engineers wetland determinations/delineations for the New England region when dealing with Chapter 5 (Difficult Wetland Situations) problematic hydric soils.

The committee will be releasing an interim online version 4 in January, and then work on publishing a final version in the spring of 2017. For information about the new version or the NEHSTC, contact Jim Turenne at jim.turenne@ri.usda.gov.

Missouri Ecological Site Detail

by Michael Margo, Ecological Site Specialist–Tolland, Connecticut

Michael Margo, ecological site specialist from Tolland, Conn., completed a two-week detail in Missouri during the weeks of September 12th and 19th. Michael was interested in seeing how Missouri is using ecological site descriptions (ESD) in conservation planning, and how the Missouri ecological site project is working. During those two weeks, Michael had the opportunity to work with MLRA soil survey office personnel in Clinton, Mo. on developing a new ecological site legend for MLRA 112, observing the use of ESDs in conservation planning in the Columbia and Linn NRCS field offices, and participating in the reconnaissance and inventory of field ecological sites in MLRAs 116A and 115B. Throughout the detail, Michael also met with many other NRCS, Forest Service, and Missouri Department of Conservation (MDC) personnel associated with the ongoing project.

Missouri ecological sites are a multi-agency team effort with a wide range of technical experts. NRCS and the MDC led the effort along with the Missouri Department of Natural Resources, University of Missouri, USDA Forest Service, and U.S. Fish and Wildlife Service. However, what sets Missouri NRCS apart is the leverage of funds in the form of agreements and the Agriculture Conservation Experienced Services (ACES) Program. The ACES Program offers individuals 55 and older temporary paid assignments to provide technical services in support of the conservation-related programs of the USDA. Missouri hires ACES employees to focus on the ecological site inventory effort. The financial agreements with MDC allows for the hiring of dedicated ecological site field ecologists and a project leader (MDC employees). The result, so far, is a total of 244 ecological sites identified. Of the 244, 126 are national provisional, 8 are approved, and the remaining are Missouri provisional. In addition to being uploaded to the Ecological Site Information System (ESIS), all 244 ecological sites have two-page summaries that are posted on Missouri's eFOTG so the information can be used for conservation planning.

Missouri incorporates ESDs into planning by adding ecological site criteria in conservation practice standards and by including policy statements in cost-share programs that directly link application and approval to ESD delineations.

Missouri's innovative phased approach during that last approximately ten years has been a model for developing national provisional ecological site guidelines. Also, their successful collaboration with partners will serve as a model for developing ecological site descriptions in region 12.

The Missouri ecological site detail was organized and led by Doug Wallace, NRCS-ACES ecologist and Jorge Lugo-Camacho, Missouri NRCS State Soil Scientist, with the support of J.R. Flores, Missouri NRCS State Conservationist.

From left: Michael Margo, NRCS; Garrett McKee, Missouri Department of Conservation; Kyle Steele, U.S. Forest Service; and Grant Butler, NRCS-ACES, examine a Chert Dolomite Upland Woodland at Indian Trail Natural Area in Dent County, Missouri.

Celeste Mittelhauser of Maine Natural History Observatory (MNHO) and NRCS soil scientist Matt Dorman collect data from a National Wetland Condition Assessment sample plot.

photo by MNHO Director Glen Mittelhauser

National Wetland Condition Assessment

by Matt Dorman, NRCS Soil Scientist–Dover-Foxcroft, Maine

This field season there was a national mandate to assist the Environmental Protection Agency with conducting a National Wetland Condition Assessment (NWCA), which included vegetation, water, and soil characterization of fifteen sample plots. This was a joint effort with many different agencies and non-profit organizations to collect and sample the data from the NWCA sites. In Maine, the collaborative effort included the Department of Environmental Protection (DEP), Maine Natural Areas Program (MNAP), Midwest Biodiversity Institute (MBI), National Park Service (NPS), and Maine Natural History Observatory (MNHO). Members of the Soil Science Division stationed in Dover-Foxcroft were present for 7 out of 7 base sites, 1 out of 2 revisit sites, and 6 out of 6 Acadia sites.

In summary, fourteen of the fifteen site observations received soil expertise and sampling assistance by NRCS soil survey staff in Maine. This was a unique and rewarding experience that has resulted in newly formed opportunities and partnerships for the Soil Science Division. The 12-DFX office is embracing the opportunity to expand NRCS's scientific technical capabilities through cooperative projects, including the Coastal Zone Mapping Initiative. We look forward to working with these partners again in the near future.

Whiteface Mountain Field Tour

by Rebecca Fox, NRCS Soil Scientist–Paul Smiths, New York

Typic Fulvicryands, one of the soil pits examined during the field tour.

On a cool and rainy Adirondack June day, the attendees of the Northeast National Cooperative Soil Survey Workshop braved the elements to attend a field tour on Whiteface Mountain led by the Paul Smiths Soil Survey (12-PAS) staff. The purpose of the tour was to present the change in spodosol characteristics and classification based on current soil taxonomy and in relationship to the elevation and landscape position in the Adirondack Mountains. Specifically, there is an issue with spodosols without albic horizons in the cryic zone classifying as an Andisol mainly based on chemical composition.

The day before the field tour, Dr. David A. Franzi, a professor of geology from State University of New York at Plattsburgh, presented a detailed geologic history of New York—specifically detailing the changes in the Adirondacks. The field tour presented an excellent opportunity to show the landscape characteristics that Dr. Franzi talked about in his presentation.

The first stop on the field tour was Heaven Hill Farm to examine two spodosol pits and see how they differ based on land use. This was a good opportunity to discuss the sandy loam, acid till parent material derived from gneiss and characteristics of spodosols in the Adirondacks. The first pit, located in a wooded area, had a thick O horizon and a well-defined albic horizon. The second pit was located in a plowed field and had an Ap horizon without an albic horizon. The wooded pit was a great example of a Spodosol, whereas the cultivated pit had a half destroyed spodic.

Throughout the soil discussions at Heaven Hill, the weather was uncooperative with rain showers that steadily increased over time. This act of nature prompted the tour to move discussions indoors to the Atmospheric Sciences Research Center at Marble Lodge and give everyone a chance to dry off and warm up. While there, we compared the chemical data for cryic soils in the Adirondacks to that of cryic soils in other mountains in New England. The limited data available suggests that the Adirondacks have significantly higher levels of extractable aluminum and iron. More characterization data is needed for the cyric soils in New England. In addition, a short discussion was made in exploring the need to develop a Land Resource Unit in the cryic and sub-cryic areas of the Adirondacks. After the rain passed, the tour resumed on Whiteface Mountain. The group looked at four pits at different elevations on the mountain. The pit on the lower third of the mountain was within the frigid zone and had a well-defined spodic that continues until the densic layer. The next pit was on the middle-third mountain and is the first pit in the cyric zone. In the Adirondacks, the cryic zone begins at 3,000 feet. This pit looked similar to the previous pit and had similar chemical data. The only difference was the temperature regime.

The group stopped to have lunch on the summit and the clouds parted very briefly to show a view of the Adirondacks. The last stop was the upper third of the mountain where we looked at a two different spodosols in the cryic temperature regime about 150 feet apart. One with an E horizon which classifies as an Andic Subgroup of a spodosol, while the other without an E and classifies as an Andisol. The E horizon had been destroyed due to the frequent windthrow that occurs at higher elevations in the mountains. The extractable aluminum and iron, phosphorous retention, and low bulk density in this soil results in it being classified as an Andisol even though the parent material lacks the volcanic glass which is typical of andic soil materials.

After presenting the Andisol/Spodosol issue to the group, it was decided that a change in taxonomy is needed to prevent Spodosols from being classified as Andisols. It was a successful field tour with six pits examined over a 2,800 feet elevation change. All the attendees of the conference earned their Adirondack stripes by braving a cold day—which included sleet—for a productive day in the field!

Technical Soil Services and the Soil Survey Office…A Winning Combination

by Donald Parizek, NRCS Soil Scientist–Tolland, Connecticut

Soil scientists working in the Tolland Soil Survey Office (12-TOL) respond to numerous technical soil services (TSS) requests throughout the year, servicing a wide range of customers across our region and addressing a variety of soil-related questions and projects. Technical soil services are defined in the National Soil Survey Handbook, section 655.01: "Technical soil services provide five basic types of service. The types of service are: technical policy and program services; planning services; site-specific soil investigations, testing, interpretation, and evaluation; expert services for judicial requests; and information services." Soil scientists working in soil survey offices are allotted up to 15 percent of their time to conduct technical soil services—and 12-TOL soil scientists make use of all of that time. We will take on overflow work that the resource soil scientists don't have time for, or special requests that require certain skill sets—for example, GIS expertise or problematic hydric soil determinations, in addition to fielding calls for information that come in from time to time.

NRCS soil scientist, Jacob Isleib (center), providing technical soil services and working side-by-side with Army Corps of Engineers scientists to evaluate new wetland functional assessment protocols in Wallingford, Conn.

TSS work is time well spent. It is an opportunity to share and provide our expert knowledge of soils with others while solving important problems and providing vital soils information. This, in turn, advances soil science and soil survey and elevates the role of our profession. Some examples of TSS that 12-TOL soil scientists conduct include, onsite wetland determinations and delineations in support of farm bill programs, soil science workshops for consultants and students, Envirothon, FFA land judging, etc., soils lectures and field trips for students, test pit descriptions for NRCS engineering practices, specialized soil interpretive maps, interagency soils training, and helping the public properly use our soil survey information.

TSS provides outstanding opportunities for communication between soil scientists and partners—working directly with soil survey customers provides valuable insight into what is needed to improve our soil surveys for the future. As soil scientists, we are providing our customers with information that can only come from years of experience gained in the field while mapping soils. In many cases, we provide them with a service and information that they cannot receive anywhere else. The partnerships formed and information transferred are important aspects of what we do. Our customers come to rely on soil scientists to provide critical soils information that is essential to good conservation planning and resource management. Having good soils information up front minimizes project delays and misunderstandings. With time, as our customers come to soil scientists for sound soils information and answers, they realize the true value of our work and act as our strongest advocates—a winning combination for soil scientists and our customers!

TSS work provides soil scientists with opportunities to evaluate our soil survey and to learn how our customers are using the soil survey information. We take this information and use it to improve our surveys. 12-TOL has developed many soil survey projects in response to problems identified while conducting TSS work. Our future as soil scientists is dependent on providing the best modern soil survey information we can to the public. TSS is a great way to stay informed about what our customers need and want from a soil science perspective.

TSS also provides opportunities for employee growth and development. Soil scientists learn to work with a diversity of soil-related issues and topics that they typically do not deal with while working in NASIS or mapping soils alone in the woods. Soil scientists wishing to pursue a career as a resource soil scientist can gain valuable experience through TSS. There is no better way to learn than working side-by-side with other professionals from other disciplines on critical projects.

We as soil scientists have a wealth of knowledge to share with our customers. The next time the District Conservationist, engineer, or teacher calls, help them to realize the importance of good soils information. Share your knowledge. It will advance the profession and help to keep soil science and soil survey relevant well into the future.

Personnel Announcements

Promotion

On October 30, 2016, Matthew Havens was promoted to MLRA Soil Survey Office Leader in Belmont, N.Y. Matt is a New York native and grew up in Center Moriches, N.Y. He attended the State University of New York at Buffalo and graduated with a bachelor's degree in physical geography. After graduating, Matt decided to pursue more credit hours in soils and attended The Pennsylvania State University where he received a master's degree in agronomy with an emphasis on soils. Matt started his NRCS career in 1988 as a soil scientist in State College, Pa., before returning to New York as a soil scientist in the Walton Soil Survey Office in Walton, N.Y., located in the foothills of the Catskill Mountains. After almost 8 years in Walton, Matt transferred to the Belmont, N.Y. Soil Survey Office. In Belmont, he has helped finish Cattaraugus County Soil Survey, Allegany County Soil Survey, as well as mapping in Livingston County, N.Y. He assisted on completing the updates of Ontario and Yates Counties in N.Y., as well as Cortland County, N.Y. Matt has been employed with NRCS for 29 years and has served on mapping details in Gulf County, Florida; Fishlake National Forest in Utah; and the Adirondack Mountains.

Retirement

Joe Calus, MLRA Soil Survey Office Leader in Flint, Michigan, is retiring after 34 years of service. Joe was instrumental in completing the Soil Survey of Wayne County, Michigan (a.k.a Detroit soil survey). This survey is one of a few soil surveys completed in a large metro area. Thanks to Joe's leadership, dedication and efforts, Detroit soil survey information will be available on Web Soil Survey within the next couple of months. Joe's public service career is leaving a legacy that will impact the environment for generations to come, especially in the city of Detroit. Joe plans to retire in Michigan.

Pictured left: Retired NRCS soil scientist, Joe Calus, inspects a soil pit in Wayne County, Michigan.

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This document provides a six-month overview of soil survey and ecological site inventory activities throughout the northeast. Your suggestions, comments, and articles are welcome!

Articles may be sent via email as either an attached MS Word document, or pasted directly into your email message. Photographs should be emailed as a separate jpg attachment. Please include a caption for each photo submitted.

Send items to the SSR 12 editor at kristina.wiley@ma.usda.gov.

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