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2011 National Cooperative Soil Survey Conference, Ashville, NC**Final Report****Subaqueous Soil Subcommittee Co-chairs:**

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2011 NCSS Meeting

The Subaqueous Soils Workgroup met with the Interpretations Committee in conjunction with the Soil Change Workgroup on Monday. Marty Rabenhorst provided an overview on subaqueous soils and summarized some of the current accomplishments to date, especially the research on interpretations of these soils. On Tuesday Morning, the Subaqueous Taskforce met separately to discuss current issues. A final report was presented to the entire conference on Thursday afternoon.

Current work and Accomplishments

- Research is on-going in Rhode Island, Maryland, Pennsylvania, Vermont, and Florida
- 2nd National Subaqueous Soils Workshop -- The workshop was held in RI in August 2010 to help standardize techniques/methodology and teach principals applicable to various regions and SAS-types. (The 1st was held in 2003 in Delaware). Workshop Organizers were Mark Stolt, Marty Rabenhorst, Patrick Drohan, Maggie Payne, and Jim Turenne. The meeting was sponsored by UMD, URI, Penn State, and the SSSSNE. A total of 32 people attended. The workshop consisted of both lectures (e.g., Historical Overview of SAS, RI MapCoast Partnership, geology of coastal lagoons, boating safety, research and case studies, mapping and data collection, benthic ecology, restoration), and field demonstrations of techniques and principles. Examples of field sessions include vibracoring and field mapping techniques, freshwater SAS, pedon descriptions and sampling, bathymetry and landscape interpretations, and eelgrass restoration. All info, photos, talks at: <http://nesoil.com/sas/>
- Subaqueous drainage class – approved, added to NSSH 618.
- Suffix symbol “Se” for sulfidic is approved.
- Shelly Modifier – This was proposed to quantify the quantity of shells >2-mm in pedon descriptions. This proposal was discussed and dropped at the Northeast NCSS meeting in 2010.

- Satiated (0 bar) bulk density column in NASIS – approved
- 1:5 (soil:water) electrical conductivity column added to NASIS
- Manual on Sampling Procedures and Laboratory—A draft manual was produced for the National workshop, and NSSC (organized by Shawn McVey) is working on final version. This manual will institutionalize methodologies for sample handling protocols and characterization methods for critical data elements.
- Ecological Site Description work on SAS – awaiting word on staffing of ESD specialists. This work may be better pursued at a later date once more research on these ecosystems is completed.
- RI/CT completed Phase I of a Coastal Zone Soil Survey, certified and posted on SSURGO in December 2010, and available on Web Soil Survey. This product features 11 new series and 37 new map units, with seamless data from terrestrial to coast to shallow water.
- Interpretations and NASIS attributes – ongoing work on building interps, NASIS items also being added.
- Freshwater subaqueous research is ongoing. One question is how might studies of regional or local hydrology apply to mapping and updating freshwater subaqueous soil survey information? Freshwater mapping was featured during the 2nd National Workshop. Three states currently have freshwater projects; VT, PA, and RI.
- Research is on-going regarding the electrical conductivity values for Frasiwassists. Based on work in RI, the current value of 0.2 dS m⁻¹ may be too low to separate freshwater from marine systems.
- Proposal to add 3 new subgroups for inclusion in Soil Taxonomy – Terric Frasiwassists, Terric Sulfiwassists, and Terric Haplowassists. This proposal is to better accommodate subaqueous soils in freshwater systems.
http://nesoil.com/upload/NCSSC/Terric_proposal_draft1_May_2011.pdf
- Evaluation to allow histic epipedons in Entisols. Currently, soils that fail to meet Histosol criteria (but have histic epipedons) are Inceptisols rather than Entisols. There is interest in keeping weakly developed Wassents with a histic layer as Entisols.
- Other Taxonomic concerns are being raised in freshwater systems in PA in which Alfisols and Ultisols were flooded to create ponds and lakes. Soils in these subaqueous systems have thin, fresh lacustrine sediments and pedons still

classify as Alfisols and Ultisols. Do we want wass suborders in other soil orders or do we modify Soil Taxonomy to keep subaqueous soils as Entisols and Histosols?

- Coastal Marine Ecological Classification System (CMECS) sponsored by NOAA is working with soil scientists on incorporating soils information (properties below the immediate soil surface).
- List of potential and on-going interps is at:
http://nesoil.com/sas/2009_Master_Interpretations_Table.pdf
- Evaluation of changing the family particle size control section for subaqueous soils. Due to the importance of the upper few centimeters of soil, evaluations are on-going to begin the control section at depths ranging at 0, 5, or 10 cm.
- This working group is interested in becoming a standing committee of the NCSS conferences. A proposal must be submitted to the governing body for approval.