

# Agenda

## 2012 NE Regional Cooperative Soil Survey Conference

### Hydric Soils Committee

Co-Chairs: Jim Turenne (Northeast) and Jim Brewer (Mid-Atlantic)

#### June 18, 2012

Monday 10:15 – 10:30 – Committee Overview – Tony Jenkins

Monday 1:15 – 4:00 (with Subaqueous Committee): Breakout Sessions (45 minutes each).

1. Introductions of co-chairs (sign-in of participants). **done**
2. Selection of recorder for committee meeting. **Rob Tunstead**
3. Selection of committee chairs for 2014. **Rob Tunstead selected to chair – co-chair Jim Brewer to remain as co-chair**
4. List of Charges from 2010 and New Charges for 2012.
  - a. Donald Parizek presented powerpoint on TF2. New revised TF2 indicator to be bought back to life and applied in MLRA 145 younger red glaciated (Wisconsin age) lodgment till soils (test F21 and TF2 and devise new F22). Continue monitoring in MLRA 145 (CT Valley), continue to describe, assemble and analyze data and (facelift TF2). New indicator may have 5% faint concentrations instead of 2% per Dr Rabenhorst's recommendation. Revise and re-implement old TF2 with a new name.
  - b. TA6 – Jim Turenne provided background on indicator and National committee wanted 3 additional sites for TA6 selected during a NEHSTC tour. TA6 currently is applied on both sandy and loamy soils or "all." Patrick and Marty mentioned they may have some TA6 sites to test the indicator on as well. Data will be submitted to the National committee for adopting TA6.
  - c. IRIS tube removal threshold and a proposal to move from 30% removal to 20% removal within a 4 inch zone
  - d. Jim Turenne provided update and overview on the NEHSTC and the testing of organic carbon contents of soils nearing the threshold on organic vs. mineral soil. Jim asked how we get the National committee to accept or examine the data and analysis submitted for consideration and incorporation into the national keys. Some submissions were recently ignored or weren't acknowledged.
  - e. Revise and propose that we become a standing committee on hydric soils. Articles need to be drafted.
5. Updates from Mid-Atlantic (2010 featured Glaucontic, interdunal swales, limestone drainage, guide book). **Done**
6. Updates from Northeast Hydric Soil Technical Committee – hydric tour, mesic spodic final proposal, TF-2 Red Soil Study, SOC testing. **Done**

7. Updates from National – EPA wetland study results (Lenore/Other)

June 19, 2012

Tuesday 7:35 to 8:45 AM – Discussions/Votes and Complete final report.

NE Hydric Charges – from 2010:

1. Highlights of the 2010 meeting:
  - a. 1. Recommendation and adoption of 10cm 20% depleted zone as an IRIS tube indicator of reducing soil conditions thanks to study and data by Dr. Rabenhorst, UMD and others.
  - b. 2. Red soil PM found to fall into existing TF2 indicator.
  - c. 3. Interesting small study on field estimates versus lab estimates of organic carbon percentages pertaining to hydric soil indicators; crux of which indicated that field estimates tend to underestimate mineral soil OC, and overestimate organic soil OC.
2. 2010 Charges from Report:
  - a. TA-6 Mesic Spodic - Turenne/Stolt will provide update on data for TA6.
  - b. Red pm soil – Parizek will provide report on the possible re-addition of TF-2 for 144A/145/149B.
  - c. Iris tube standard – seek approval for 4” zone w/20% depleted zone over current 6” zone w/ 30% depleted zone. Current standard is difficult to achieve in New England soils and the proposed standard has supporting data by UMD.
  - d. Organic/mineral determination – NEHSTC/Mid-Atlantic study analyzed soil characteristics and data to better understand difference in organic/mucky modified mineral/mineral soils in field observations. Review SOM estimation chart by Peter Fletcher.
3. New Charges for 2014: To Be Added.

**Subaqueous Soil Committee:**

Topics include: Field book for describing SAS/Methods Manual, CMECS discussion (Stolt), Terric proposal, Freshwater survey results (Baaken/Stolt/Turenne), Inceptisols and other orders, Halinity study (Theve), Updates on other SAS projects – VT/NJ/?? Most if not all charges from 2010 have been completed – need new list.

From 2011 National – list of on-going charges (ones completed not listed):

1. 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](http://nesoil.com/upload/NCSSC/Terric_proposal_draft1_May_2011.pdf)

2. 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.
3. 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?
4. 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.
5. 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.

#### **Soil Taxonomy Committee:**

Topics discussed during pedology tour which need addressing include:

1. Epi saturation for soils with densic materials (lodgement till soil in NE) – a decision was made by NSSC to re-classify soils with Cd horizons from epi to endo due to the “fine print” on page 31 8<sup>th</sup> paragraph in Keys. These soils are classic epi-saturated soils and the definitions needs to be modified or changed back.
2. Densic materials in the Subgroup level of classification – currently soils with Cd horizons (densic materials – lodgement till) are not differentiated from soils lacking densic materials (supraglaical meltout tills). A Densic subgroup was discussed and needs to be added to keys.
3. Terric Frasiwassists – need to add.
4. Patrick – Dura vs. Petro for Aquods.

#### Hydric Committee Notes / Minutes June 18<sup>th</sup> and 19<sup>th</sup>

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- c. IRIS tube removal threshold and a proposal to move from 30% removal to 20% removal within a 4 inch zone (10 cm zone of the mineral surface). 30 to 20 is proposed.
- d. Jim Turenne provided update and overview on the NEHSTC and the testing of organic carbon contents of soils nearing the threshold on organic vs. mineral soil. Jim asked how we get the National committee to accept or examine the data and analysis submitted for consideration and incorporation into the national keys. Some submissions were recently ignored or weren't acknowledged. Chris Smith said send in the proposed change or recommendation with a cover letter and the next National meeting is scheduled for September 17<sup>th</sup>. NE committee agrees with throwing out the S6 indicator.
- e. Jim Brewer gave a powerpoint update on the Mid-Atlantic hydric soils committee and how people get involved if they seek to. Jim discussed the F21 indicator and F19 on the flooded and floodplain soils. F19 and similar soils we need to get IRIS tube data on them along with problematic Limestone influenced soils. Research is being conducted on a indicator for soils and the hydromorphology on barrier island landscapes (Rabenhorst and Rossi). There's a paper Mark and Marty put together on estimating field organic matter content. Glauconitic soils some meet F3 and some do not. The group needs to select appropriate sites to test this indicator. EPA sponsors the groups website courtesy of Ralph. The group meets every January and June.
- f. Hydromorphology in Holocene Dunal Landscapes. The islands are only a few thousand years old. There's a freshwater thin lense often over the salt water below. These soils often don't have redox and the matrix is often already a 6/2 or 7/2 color. Optical luminescence will be used to possibly date the Holocene materials. Suttle color differences are huge on these soils (e.g. 6/2 vs. 6/1.5). Dr Rabenhorst made mention of legitimately making ½ color, color chips in Munsell. Chris Smith made mention of stripped matrix and Dr Rabenhorst mentioned the indicator is not well written and is confused by it's wording. Dr Rabenhorst does not use the stripped matrix indicator at all in his field investigations.

The different aged landscapes (barrier core or washover) vary in their degree of organic accumulations. Younger landscapes that are wet or very wet often do not have significant O accumulations or anything at all.

Patrick made mention of Brian Carter doing optical analysis grain counts at the Oklahoma State Univeristy.

- g. Revise and propose that we become a standing committee on hydric soils. Articles need to be drafted.
- h. Epi vs. Endo. Propose removing densic from page 31 in Taxonomy. Change the definition of epi to include densic materials. Currently densic materials aren't considered diagnostic and there are not used in taxonomic placement.
- i. There is a need for a resolution to correct the current discrepancy between the National Indicators, Regional Supplements, and the field book for describing and sampling soils. The field book on page 2-34 from September of 2002 describes soil materials for Histic epipedons and Histosols as muck, mucky peat, or peat and for mineral soils as slightly, moderately, and highly

decomposed plant materials. The later disagrees and contradicts the National hydric indicators, regional supplements, and NASIS data nationwide may need to be changed as well.

### Subaqueous

- Discussed if a Histic is present on a subaqueous the soil moves to a inceptisol order and same for an umbric epipedon too.
- Question of Wassults and Wassods. Not supported widely and the illuviation of the argillic and spodic is trumped by the permanent positive water pressure on top. The preserved spodic and argillic isn't important much after its covered by water.
- A fairly modest proposal was presented by Mark to add 2 new suborders and was passed by the group which were Terric Sapric Frasiwassents and Terric Sapric Sulfiwassists.
- CMECS we lost the battle but won the war. The NRCS soils approach is recommended for use if further classification of the water system is required.
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