

North Central Standards and Taxonomy Committee

(John Warner, Chair. Members present include: Doug Malo, Erin Bush, Dan Wing, Shawn McVey, Curtis Monger)

7/9/2018 with updates 7/11 to the Urban Soil Order

Urban Soil Order – voted yes to proceed. Wants to see move forward with more discussion. Needs proposal and comparison of what exists, what would change, pros, cons, how would it help from a workload perspective.

RO5 doesn't have enough to warrant this (John Warner). How would it compete with the Anthropic? Key out? (Dan Wing) Proposal was made this weekend to have urban soil order (Shaw/Gailbrath). The diagnostic property/feature would be artifacts. E.g. presence of artifacts would go to new soil order. No artifacts would go to existing orders. What would this do to epipedons like plaggen and anthropic? Most anthropics are mine reclamation. It would grab mine spoils to include them in urban soil. Is there an issue with the name "urban soil order." How much gain is there for the user? In terms of taxpayers/acre, the change is huge. An order would keep soil survey more relevant to those people as a selling point, making soil survey more robust. Urbasols, anthrosols, and now artisols. Not restricted to urban areas. These areas were previously classed as arents, then demoted to subgroup, and now going to an order? Is there something that isn't getting caught in the existing classification? Can it be dealt with at the family level? Is there a selling point at the order level rather than the family level. If it improves understanding, then go with it (Doug Malo). Maybe call them disturbed rather than urban?

SAS Soil Order – voted yes. Keep going with the SAS order, but not to include the aquic soil moisture regime. (peraquic/subaquic only).

Many of the same issues as above apply to SAS order (fresh and marine). Big value in having this one as a new order. Where is the cutoff for this order? Like to have it exclude the aquic SMR and keep that separate. Clear argument for this as a new soil order due to management and use as compared with urban soil order, which is less clear cut to group.

Densic Materials – voted to keep Cr for geologic/weathered bedrock, keep Cd for mechanically compacted. Add a Db definition of 1.8 or greater due to where root growth stops. Leave slaking to where pertinent, but not everywhere (not to be combined with densic).

Drop cementation for coherence class (coherency). Comments from Mickey R – 1) decision tree is flawed, not verified by research. No confidence in slake test. Per Curtis, in some cases slaking does work as in marine sediments from TX. 2) Densic issue has become more complex than needed due to regional bias. Densic should be removed from materials from mechanical processes. Likes the R/CR tie, but not with a d. 3) da and rd make it too complicated. Graham said not to let the alphabet constrain our science. 4) Table 3-7 in SSM is flawed for slaking. Maybe add a column to specify where it works and

doesn't work. 5) Results from slaking test are in question. Mickey wants more research on densic/cemented. Maybe tie to rooting, dropping slaking/coherence/crushing. Use Db of 1.8 or 1.9.

Organic Soil Material – voted to look at whether changing existing series is worth it.

Sliding scale with clay/OM was maybe made to show the overriding effect of clay on the system. If go to 12%, soils in northcentral region would likely change from Mollisols to Histosols or some other order (farmed depressional areas) and changes to the wetland criteria. Need a proposal that looks at the impacts/changes this proposal would make to existing classifications. Suspect the costs outweigh the benefits of the change by potentially messing things up elsewhere.

Kandic Oxic Issues – voted to agree with the Southeast (both proposals) as it does not impact the North Central states.

Proposal to remove ECEC from kandic and oxic criteria (CEC is enough) – fine.

Proposal to revise clay increase criteria for relatively coarse textured surfaces for kandic to be consistent with argillic criteria (make both of them 3% increase, not one 3% and one 4%) – fine.

Anthropic Properties in Mollisols – voted to review all orders and where to apply and fix.

Proposal to make Mollic epipedon exclusive from Anthropic and Plaggen – Further study needed to resolve. Probably want them to be exclusive.

Proposal to leave epipedon criteria as is and make updates at the subgroup level – Further study to resolve (maybe check with Engle/Ditzler).

Proposal to update the Spodosol order criteria to remove Anthropic soils - Further study to resolve.

Flooding Types – voted reluctantly to accept.

Think it is too complicated and should just be in the component table and move on. Not sure this will be implemented. Concerned about having enough data to actually populate this table, concerned about having money to update the data model and having NSSH updated and out of sync with data model. Don't like tsunami verbiage (abnormal stuff). Needs more discussion on component month table population regarding probability.