TECHNICAL SOIL SERVICES ACTIVITIES

Chris Smith

National Leader for Technical Soil Services

Helping the NRCS Soil Science Division to Recognize and Address Emerging Issues & Increase the use of Soils Data

- Major Concepts:
- Interject more soils information into agency business
- Poise SSD to address emerging environmental topics

Soil Health Management Implementation Team

- Co-lead this effort to implement Soil Health Management System option for conservation planning
- Bundles existing practices known to improve soil quality/health
- Goal to roll out to field offices by December 2012

Using Soil Survey Information to prioritize agency work: Phosphorous Loading Potential Project

- Fills a gap between Soil Test P and environmental P loading potential
- Sorted by soils grouped using properties known to affect P sorption (surface area, mineralogy, carbonates, iron and Al oxides both crystalline and non-crystalline, SOM)
- To couple with IPNI Bray P national map to highlight P management priority watersheds for conservation planning emphasis
- Details covered in Mike Wilson's talk

Arctic Research

- President's edict that all Executive agencies will contribute to this effort.
- I serve as the NRCS POC to the Interagency Arctic Research Policy Committee
- NRCS has SCAN and SnoTel sites within the Arctic Circle
- SSD has an interest in improving soil survey in Alaska to better address climate change and its ramifications

ConStat
The NRCS Annual Business Plan for 2013 - 2018

- Performance Measure: "Maintain Productive Farm and Ranchlands"
- We interpret this to mean sustaining the soil resource
- Performance Measure read as "maintain soil quality" (for cropland)
- Measurement is Soil Carbon increased
- Measured by practices applied known to increase soil carbon as modeled by mining PRS and running APEX
- Soil Survey provides the data to calibrate the models (APEX) via RaCA and DSP through update (SDJR)

Ag Drainage Water Management SSD Involvement

- Provided AgDWM soil suitability to Team for 12 upper mid-western states
  - Used NASIS data
  - Slope <=1%
  - Water table <= 41 cm during hydric soil growing season
  - 40% + of map unit meets criteria
  - 15 plus acres contiguous considered

Conservation Delivery Streamlining Initiative

- Maximixe use of soils data in conservation planning.
- Auto populate plan with data relevant to land use, practices planned
- Allow adjustment of data to fit field conditions
- Integrate Resource Soil Scientist into planning process (institute data approval authority)
- Store custom notes in plan and auto send to SSS for storage in NASIS

Technical Soil Services Course

- To be held in Lincoln, NE September week of 24th
- Field day emphasizing field conditions vs db values and DSPs

EPA 2011 National Wetland Assessment

- NRCS provided soils assistance to project:
- Developed sampling protocol, data elements needed, regional training
- NSSC Lab analysis (cost reimbursed by EPA)
- Next steps: assist in defining "condition". Interpret data in that context
- Beyond: use the soils and associated vegetation and hydrology data for the 1200 sites to better quantify wetland function

Hydric Soils - NTCHS

- Changed "Hydric Criteria" to moving away from reliance on NASIS water table query to using hydric indicators.
- NASIS 2.3 will provide 5 categories of map unit hydric status instead of 3 presently
- Also, the ACOE has included the use of the Hydric Indicators in each Regional Supplement
- NRCS uses the ACOE Wetland Manual for determinations
- All agencies now use the same procedure for determining hydric soil presence

NRCS Conservation Innovation Grants

- Improvements in project monitoring
- Incorporation of project results in agency business (new conservation practices or documentation of existing practices)

National Atmospheric Deposition Consortium

- Created protocol to group and interpret soils for their ability to buffer against affects of acid deposition
- Used Soil Taxonomy, lab data (x-ray, TGA, grain count, base/Al-Sat status, geology)
- Pennsylvania used as pilot state
- Expanding to nation pending EPA funding