Objectives and Test Questions for the Presentation by Lee Daniels on “Ensuring Soil Quality and Function in Wetland Creation and Restoration Efforts”

Objective #1 - This presentation will provide an overview of the characteristics and functions of hydric soils in wetland creation and restoration projects.

Objective #2 - Participants will also learn about common limitations in created and/or restored wetland soils.

Objective #3 – Participants will learn about what factors to consider in determining the likelihood of establishing hydric soil function.

Five test questions

1. Which is the correct NRCS definition of a hydric soil?
   A. A soil that is formed under conditions of continual surface saturation all year round.
   B. A soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.
   C. A soil that is sustained by groundwater during the drier months of the year sufficiently enough to develop anaerobic conditions in the lower part.
   D. A soil that is found only in natural tidal wetlands in the southeastern region of the United States.

   Answer: B

2. Which of the following is NOT a function of hydric soils?
   A. Nitrogen removal.
   B. Phosphorus removal.
   C. Carbon sequestration.
   D. Habitat provision for wetland flora, fauna, microbes, etc.
   E. Storm surge protection.

   Answer: E

3. Which are some common problems with created and/or restored wetlands soils? (select all that apply)
   A. Compaction.
   B. Lower soil organic material levels than natural sites/soils.
   C. Lack of microtopography.
   D. Degraded soil structure/permeability/rooting.
   E. Higher soil temps when young, leading to higher carbon loss rates.

   Answer: All of the above
4. Which of the following statements is false?
   A. Sulfidic materials are good for hydric soil health.
   B. Hydric soils take time to develop.
   C. It is important to understand hydric soils within the context of the landscape in which they are located.
   D. It is valuable to have other scientific disciplines involved with site assessments.

   **Answer:** A

5. Which of the following are ways to determine the presence of a hydric soil? (select all that apply)
   A. Learn how to accurately and completely describe soil morphology, particularly redox features.
   B. Carefully describe soil morphology before any site disturbance and then immediately after final creation/restoration, being sure to quantify redox feature abundance.
   C. Monitor and record the success of hydric plant growth on soil surfaces.
   D. At a pre-determined interval (e.g., 1, 3 and 5 years), conduct follow-up soil descriptions in “mini-pits” excavated to 30+ cm and carefully quantify color, redox feature abundance, etc.
   E. Detect and quantify development of lower overall chroma and increased redox concentrations, pore linings, or other features.

   **Answer:** A, B, D and E