

## **Objectives and Test Questions for the Presentation by Eric Stein on “An Ecological Framework for Reviewing Compensatory Mitigation”**

**Objective #1** - This presentation will provide an overview of the onsite and offsite ecological processes that create and sustain wetlands on the landscape. Participants will learn how a compensatory mitigation plan that supports key ecological processes is essential to meeting project goals and objectives. Specifically, participants will learn that compensatory mitigation plans must appropriately identify the proper landscape setting, and demonstrate an understanding for past, present and anticipated future landscape characteristics and connections with respect to the proposed compensatory action.

**Objective #2** - Participants will gain an understanding of how the presence or absence of hydrology – both surface and subsurface - healthy hydric soils, landscape connectivity and other current landscape elements provide both opportunities and constraints for compensatory mitigation plan to meet its intended goals and objectives. The role of appropriate reference conditions (i.e. information about a similar wetland that represents the intended endpoint for the compensatory mitigation plan) can assist in designing a project and evaluating it through a monitoring plan whether it will/has met its goals and objectives. The importance of an appropriate monitoring plan to measure progress will be discussed.

**Objective #3** - This presentation will cover specific information that should be available to a compensatory mitigation plan reviewer in order to evaluate whether a compensatory mitigation plan is likely to meet the project’s goals, objectives and performance standards. This includes, but is not limited to, information on key hydrologic processes, soil conditions, biological connections and the potential impacts of anticipated future conditions including drought, flooding and sea level rise.

### **Five test questions**

1. Which are the most important determinants of successful restoration? (select all that apply)
  - A. Position in the landscape
  - B. Aquatic resource type
  - C. Physical connections
  - D. Biological connections

**Answer:** A, C and D

2. Which of the following is NOT a hydrogeomorphic (HGM) classification?
  - A. Slope
  - B. Depression
  - C. Flat
  - D. Marginal
  - E. Riverine

**Answer:** D

3. Which of the following are considerations for selecting a good reference site?
- A. If the reference site is located in a comparable landscape setting
  - B. If the reference site contains comparable and appropriate biology
  - C. If the reference site has comparable hydrology and soil conditions
  - D. If the reference site is less than 10 miles from the mitigation site

**Answer:** *A and C*

4. Why are landscape connections important? (select all that apply)
- A. Provide pathways for surface and subsurface water flows which are important for wetland type and function
  - B. Promote materials processing functions for soils structure and associated microbial communities
  - C. Ensures easy access for practitioners and construction equipment
  - D. Provide critical refugia, migration corridors and connectivity to adjacent uplands

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

5. Which of the following describe information that should be part of a compensatory mitigation plan and/or available on request? (select all that apply)
- A. Current and historical information for the site (e.g., aerial photos, maps, etc.)
  - B. Information including diagrams and data representing key hydrological processes
  - C. Current (and historic if possible) soil conditions
  - D. Adjacent land uses and location of nearby wetlands
  - E. Narrative description or summary data plots of anticipated future site conditions related to precipitation and air temperature
  - F. Potential sources of invasive species—both plants and animals

**Answer:** *All of the above (A, B, C, D, E and F)*