Portland State University

EPP 222 - River Restoration, Part II: Ecological Processes

Course Summary: Successful river restoration projects are planned within a watershed context and incorporate techniques based on the developing theoretical framework for river restoration science. It is no longer enough to be expert in a field of discipline, it is necessary to understand the integral ecological processes and know how to integrate individual expertise with other disciplines.

This required introductory course provides a refresher of basic ecology as it applies to river restoration, starting with an overview of ecological concepts and then focusing on specific species and their life histories to reinforce the complexity and connectedness between river systems, species, ecological relationships, and the landscape. The course brings the pieces together as a whole with a variety of case studies, exercises, and videos. Course will be taught by Shivonne Nesbit and Patrick Edwards, Ph.D.

Duration: 3 days.

Topics:

- Amphibian and Reptile Ecology.
- Aquatic Macroinvertebrate Ecology.
- Case Study – Bull Trout Reintroduction Project.
- Case Study: Site evaluation, design process, permitting, and construction.
- Connectivity: Ecological Role.

- Examples of Connectivity Issues and Implications.
- Instream Structures.
- Invasive Species.
- Landscape Ecology and River Restoration Overview.
- Native Fish Ecology (non-salmonids).
- Overview of Pacific Northwest Salmonids.
- Plant Ecology.
- Riparian and Floodplain Wildlife.
- Rivers in Three Dimensions.
- Role of Beavers in River Restoration.
- Water Quality Concepts.

Fee: All instruction and program facilitation, resource manual, transportation to/from the field (if applicable), morning coffee/tea; a certificate of completion for this offering is provided.

Available Professional Credit: 2.3 CEU, 23 PDH.