



STREAM REHABILITATION TRAINING

Workshop Series: From Form to Function

The Concept:

This six-workshop series is designed to provide up-to-date information on the sciences and best practices of rehabilitating stream ecosystems and their associated watersheds. This series of workshops will guide students through an understanding of watershed and stream ecosystem processes, monitoring and assessment, rehabilitation techniques, and project implementation.

Why Stream Rehabilitation:

Healthy watersheds, clean water and healthy communities are critical systems that we should be concerned with. Stream corridors can be considered part of the natural infrastructure of a watershed. This natural infrastructure provides important ecological goods and services including clean water, productive rivers and streams, and healthy plant and animal communities. All of these services ultimately translate into increased biodiversity, high water quality and decreased flooding and erosion risks. However, many of our streams have become degraded over time due to current and historic land uses. As a result, the natural processes that make these systems resilient and functional, are impaired. Learning the principles and best practices on how to properly identify issues, then plan and execute stream rehabilitation will help to restore form and function processes at degraded streams.

Learning Objectives:

This program will provide participants with a strong foundation in the principles and application of watershed and river rehabilitation approaches. The training objectives include:

- Provide a basic understanding of watershed and river systems;
- Provide an introduction to monitoring and assessment approaches;
- Provide an understanding of how to determine key issues and how to address them;
- Provide an understanding of what community groups can reasonably achieve;
- Demonstrate how to develop and implement strategic plans;
- Demonstrate how to decide and implement appropriate actions;
- Demonstrate how to evaluate success; and
- Demonstrate how to promote and improve their programs.

Expectations:

This program will create a community of practice that supports its members and advances the application of science-based watershed and stream rehabilitation.

Workshop Structure:



The Stream Rehabilitation Training Program is comprised of six sequential workshops and must be taken in order as each workshop is a prerequisite for the workshop that follows. The workshops are typically organized in sets of three (Workshops 1-3 followed by Workshops 4-6). It is encouraged that students complete all six workshops to gain the maximum benefit from this training series. Upon conclusion of all six workshops, students will receive a certificate of completion from Trout Unlimited Canada.

Workshop #1 – Creating the Context: Watershed & Stream Systems

- History of stream rehabilitation in Ontario.
- Basic understanding of the structure of watershed and river systems.
- Watersheds as one type of ecosystem.
- The role of groundwater and riparian systems.
- Streams and their corridors and stream classification.
- Impacts of land uses on watersheds and streams.

Workshop #2 – Understanding and Assessing the System (2 Days)

- Dynamics of watersheds and streams in relation to geology, climate and water regimes.
- Understanding linkages between watershed geology and stream form on habitat in streams.
- Determining how to diagnose the issues to develop an assessment program.
- Develop an assessment plan appropriate to the issues and your capabilities.
- Importance of communicating to landowners, agencies and the public.
- Introduction to various assessment methods and approaches.

Workshop #3 – Diagnosing the Problem and Developing a Plan

- Examples from successful rehabilitation projects/programs.
- Rehabilitation vs restoration and disciplines involved.
- Rehabilitation planning process - how to determine key issues and how to address them.
- What community groups can reasonably achieve, to manage their expectations.
- Approach and steps to developing strategic rehabilitation plans and how to implement them.
- Identifying and diagnosing the key issues and problems.
- Sorting out small scale vs larger scale problems and potential solutions.
- Demonstrate how to determine appropriate actions and how to implement them.

Workshop #4 – Linking Solutions to the Problems (2 Days)

- Framework for problem-solving.
- Typical problems in a stream.
- Identifying problems and their causes.
- Observed effects of various problems affecting streams.
- Developing appropriate solutions to typical problems.
- Discussion of various solutions and techniques to treat the cause and effects of problems.
- Summary of Workshop 4 and introduction to the field project.
- Field project and group work.

Workshop #5 – Project Planning, Development and Managing the Cookbook

- Introduction and recap of Workshop 4.
- Group presentations on field projects.
- Group discussions on field projects.
- Instructors critique of the field projects and group discussion on approaches.
- Discussion on project design, budgeting and project management.
- Linking the right techniques and approach to the right problem.



- Summary of key points presented in Workshop 5.

Workshop #6 – Applying a Strategic Approach and Introduction to Large-scale Rehabilitation

- Introduction and recap of key points from Workshop 5.
- From strategic project to linking back to a strategic program.
- Annual work planning and project management, working with people.
- Introduction to large-scale issues and problems.
- Summary of the workshop series and learning objectives.
- Tools for continuing education and mentorship towards accreditation.

Primary instructors for this program are, Jack Imhof, Director of Conservation Ecology at Trout Unlimited Canada and **Silvia D’Amelio**, CEO of Trout Unlimited Canada. Where and when possible, occasional guest rehabilitation experts will also participate.