

River Restoration: Practices and Concepts

A hands-on workshop on the latest techniques for
stream restoration

June 12 and June 13, 2001

Elgin Community College

Elgin, IL



River Restoration: Practices and Concepts

A hands-on workshop on the latest techniques for stream restoration

June 12 and June 13, 2001
Elgin Community College
Elgin, IL

Proceedings Editors

Leslie Dorworth
Illinois-Indiana Sea Grant College Program
Purdue University Calumet
Hammond, IN 46323-2094

Diane Trgovcich-Zacok
Chicago Wilderness
Purdue University Calumet
Hammond, IN 46323-2094



Produced by the Illinois-Indiana Sea Grant College Program, Phillip E. Pope, Director. Illinois-Indiana Sea Grant College Program is a joint federal and state program of Purdue University, West Lafayette, Indiana, and the University of Illinois at Urbana-Champaign. Funding is provided by the National Sea Grant College Program, National Oceanic and Atmospheric Administration, and the U.S. Department of Commerce. The U.S. Government is authorized to reproduce and distribute reprints for governmental purposes notwithstanding any copyright that may appear issued in furtherance of the Cooperative Extension Service of both Purdue University and the University of Illinois at Urbana-Champaign. Purdue University and the University of Illinois offer equal opportunities in programs and employment.

Publication No. IISG-01-21
For additional copies, contact Illinois-Indiana Sea Grant Communications 217-333-8055

WELCOME

On behalf of the conference sponsors and supporting organizations and committees, welcome to today's River Restoration: Practices and Concepts Workshop. This hands on workshop for the latest techniques for stream restoration was inspired by the surge in restoration projects. It is the goal of the Steering Committee that participants gain an understanding of the many factors that contribute to quality restoration projects.

Due to various historical and ongoing disturbances of stream ecosystems -- including channelization, draining, impoundment, armoring, vegetation removal, and hydrologic alterations -- there is a critical need for sustainable, cost effective techniques for restoration and management. The techniques described at the conference are based on recommendations of the Chicago Wilderness Biodiversity Recovery Plan. These include streambank stabilization, buffer strips/riparian wetland restoration, dam modification/removal, instream habitat restoration, and stream re-meandering. These topics will be covered over the next two days.

The conference is designed to have the practitioner to consider the all of the needs in stream restoration. It is critical that the planner/designer understand the characteristics of stream ecosystems, including basic principles of flow and channel dynamics and aquatic habitat needs. It also is important to understand how the stream, and the particular problem reach, relates to the broader watershed. In particular, quantitative and qualitative watershed assessment strategies are presented as tools for evaluating appropriate locations and designs for restoration. Finally, it is important to understand how to effectively implement restoration activities -- by obtaining local community support, obtaining necessary permits, securing funding, and providing for long-term maintenance and monitoring.

These approaches can be applied in rural or urban areas, on small streams or larger rivers. Ultimately, implementation of appropriate stream restoration techniques will not only improve aquatic habitat, but can also enhance aesthetics, improve water quality, reduce erosion and flooding damages, and lower maintenance costs.

Many people donated their time to make this workshop a success. Special thanks goes to the Steering Committee members listed in these proceedings and to Illinois-Indiana Sea Grant College Program and Chicago Wilderness for their sponsorship.

Please take a moment to fill out the Evaluation Forms for both days of the Conference. The plan is to hold shorter workshops in the future that focus on a single topic of restoration. Your comments will be helpful in selecting future workshops.

Thank you for participating in this workshop. By applying the knowledge gained here today, we can have a positive impact on stream restoration.

Sincerely,
River Restoration Steering Committee

**We would like to thank the following
Steering Committee Members:**

Illinois-Indiana Sea Grant College Program – Leslie Dorworth

Chicago Wilderness – Diane Trgovcich-Zacok

Chicago Botanic Gardens – Stuart Mizuta

Friends of the Chicago River – David Ramsey

Illinois Department of Natural Resources – Robert Rung

Illinois Environmental Protection Agency – Chris Davis

Northeastern Illinois Planning Commission – Dennis Dreher

Openlands Project – Kent Taylor

U.S. Army Corps of Engineers – Jean Sellers

U.S. Fish and Wildlife – Jeff Mengler

River Restoration: Practices and Concepts Agenda and Speaker List

<u>Date and Time</u>	<u>Topic/Session</u>	<u>Speaker and Organizations</u>
Tuesday, June 12		
8:15-9:00 a.m.	Registration and Coffee	
9:00 a.m.	Restoring and Managing Stream Ecosystems: An Overview	Dennis Dreher, Northeastern IL Planning Commission, Chicago
9:30 a.m.	Introduction to Stream Ecology and Dynamics	Kent Taylor, Openlands Project, Chicago
A Qualitative and Quantitative Approach to Watershed Assessment		
10:00 a.m.	Flint Creek Watershed Restoration Projects, A Qualitative Approach in Watershed Assessment	Tom Price, Conservation Design Forum, Inc. Elmhurst, IL
10:30 a.m.	Stream Naturalization in Chicago-area Watersheds: Concepts and Practices from a Quantitative Approach in Watershed Assessment	Bruce Rhoads, University of Illinois, Urbana, IL
11:00 a.m.	Break	
Technical Program on Stream Restoration		
11:15 a.m.	Stream Bank Stabilization using a Vegetative Approach	Mark O'Leary, Applied Ecological Services, Inc.
11:45 a.m.	A Bioengineering Approach to Stream Bank Stabilization	Randy Stowe, BioTechnical Erosion Control Ltd., Harvard, IL
12:15 p.m.	Lunch	
1:15 p.m.	Streamside Wetland Restoration/Buffer Strips	Vince Mosca, Hey & Associates, Chicago, IL
2:00 p.m.	Engineering of Small Dam Removal Project	Robert Linke, Robert H. Anderson & Associates, Inc, St. Charles, IL
2:30 p.m.	Stream Habitat Restoration Using Emergent Plantings	Robert Rung, Illinois Department of Natural Resources, Plano, IL
3:00 p.m.	Break	
3:15 p.m.	Rehabilitation of Channelized Streams by Rock Riffles in Rural and Developing Watersheds	Don Roseboom, Illinois State Water Survey, Peoria, IL
3:45 p.m.	Nippersink Creek Dechannelization Project	Edward Collins, McHenry County Conservation District, Ringwood, IL
3:45 p.m.	Wrap up of the days events and discuss the 13th of June	
4:00 p.m.	Adjourn	

Wednesday, June 13

The buses will leave at 9:00 a.m. from Elgin Community College parking lot. Lunch will be provided at the field site. Come prepared to walk and possibly get wet.

River Restoration: Practices and Concepts

June 12 – 13, 2001 Elgin Community College, Elgin Illinois

Workshop Evaluation Survey Day One

How did you hear about the Workshop?	<input type="checkbox"/> Brochure mailing <input type="checkbox"/> Newsletter <input type="checkbox"/> Internet	<input type="checkbox"/> Word of mouth <input type="checkbox"/> Other: _____		
What type of organization are you affiliated with?	<input type="checkbox"/> Natural Resource Manager <input type="checkbox"/> Consultant <input type="checkbox"/> Park Department	<input type="checkbox"/> City Planner <input type="checkbox"/> Public Works <input type="checkbox"/> Engineer	<input type="checkbox"/> Landscape Architect <input type="checkbox"/> Academia/Student <input type="checkbox"/> Other: _____	
Please rate the conference on the following items:	Overall quality of presentations: Workshop notes and handouts: Audio-visual logistics: Lunches and breaks: Conference location & facilities: Hotel accommodations: Overall conference:	<i>(Please circle one)</i> <i>excellent good adequate poor</i> <i>excellent good adequate poor</i> <i>excellent good adequate poor</i> <i>excellent good adequate poor</i> <i>excellent good adequate poor</i> <i>excellent good adequate poor</i>		
Which presentations did you find most useful and why?				
What two areas would you most like to attend in a half or full day future workshops?	Topic 1: Topic 2:			
Additional comments?				

Please complete this survey and return it to the registration desk before you leave. If you are unable to turn in the survey the day of the conference, please send it to Susan Delatorre, IL-IN Sea Grant Program, Biological Sciences, Purdue University Calumet, Hammond, IN 46322-2094, fax 219-989-2130.

Thank you for taking a few moments to fill out this survey to better serve you at future workshops.

River Restoration: Practices and Concepts

June 12 – 13, 2001 Elgin Community College, Elgin Illinois

Field Trip Evaluation Survey

<p style="text-align: center;">Field Trip attended:</p> <p style="text-align: center;">The field trip reinforced the concepts discussed yesterday:</p> <p style="text-align: center;">Overall quality of field trip:</p> <p style="text-align: center;">Travel times:</p> <p style="text-align: center;">Buses:</p> <p style="text-align: center;">Additional Comments:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Skokie River/Flint Creek <input type="checkbox"/> Nippersink Creek/Tyler Creek <input type="checkbox"/> Waubensee Creek/Batavia Dams/Kishwaukee <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;"><i>excellent</i></td> <td style="width: 25%;"><i>good</i></td> <td style="width: 25%;"><i>adequate</i></td> <td style="width: 25%;"><i>poor</i></td> </tr> <tr> <td><i>excellent</i></td> <td><i>good</i></td> <td><i>adequate</i></td> <td><i>poor</i></td> </tr> <tr> <td><i>excellent</i></td> <td><i>good</i></td> <td><i>adequate</i></td> <td><i>poor</i></td> </tr> <tr> <td><i>excellent</i></td> <td><i>good</i></td> <td><i>adequate</i></td> <td><i>poor</i></td> </tr> </table>	<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>	<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>	<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>	<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>
<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>														
<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>														
<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>														
<i>excellent</i>	<i>good</i>	<i>adequate</i>	<i>poor</i>														

