

Road / Stream Crossings Workshop— Inventory, Assessment, Design and Construction

April 12 – 14, 2016

Markee Pioneer Student Center - University Room
University of Wisconsin-Platteville



You'll never look at a culvert the same way again.

Agenda

Road/Stream Crossings Workshop—Inventory, Assessment and Design and Construction

Tab#

Tuesday, April 12

- 7:45 Registration**
- 1 8:00 Welcome and Workshop Overview**
Welcome to UW-Platteville, workshop objectives, expectations and outline

Dr. Molly Gribb, Dean of the College of Engineering, Mathematics and Science, UW-Platteville
Austin Polebitski, Environmental Engineer/Water Resources Professor, UW-Platteville
- 2 8:15 Welcome to the Driftless Region**
Mysteries of the Driftless Documentary and Driftless Area Restoration Effort (DARE) overview

Jeff Hastings, Project Manager of the Driftless Area Restoration Effort Trout Unlimited, Westby, WI
- 3 9:00 How Streams Work**
A brief introduction to stream morphology

Matt Diebel, Water Quality Modeler, WI DNR, Madison, WI
- 4 9:25 Biological Consequences of Habitat Fragmentation**
Importance of stream continuity to aquatic life and assessment of road-stream crossings in the driftless region

Mike Miller, Stream Ecologist, WI DNR, Madison, WI
- 10:00 Break**
- 5 10:15 Fisheries of the Driftless Region**
The biology and life cycles of common fish in the driftless region

Bradd Sims, Fisheries Biologist, WI DNR, Dodgeville, WI
- 6 10:45 How Roads and Crossings Affect Streams**
Examples of a variety of road/stream crossing and road maintenance problems

Dale Higgins, Forest Hydrologist Chequamegon-Nicolet National Forest, Park Falls, WI

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- 7 11:10 Long Term Cost Benefits of Stream Friendly Road Crossings**
Summary of Cost-Benefit Analysis of Stream Simulation Design at Road Stream Crossing

Jon Simonsen, WI DNR Environmental Analysis & Review Specialist, Rhinelander, WI
- 11:30 Lunch , Markee Pioneer Student Center**
- 8 12:30 Inventory, Assessment and Prioritization**
Techniques and tools to estimate passability, identify problems and prioritize projects

Mark Fedora, Supervisory Hydrologist, Ottawa National Forest, Ironwood, MI
Matt Diebel, Water Quality Modeler, WI DNR, Madison, WI
- 9 1:30 Depart for Field**
- 2:00-**
2:30 CTH O over Tributary to Little Platte River
We will explore the effects multiple, relatively close, road-stream crossings have on this high gradient tributary, Little Platte, and watershed.
- 3:00-**
4:45 Arrive at Rock Road over Snowden Branch
Introduction to the site (Bradd Sims)

Break into 4 groups, rotate every 15 min.
Site assessment—*Matt Diebel & Jon Simonsen*
Erosion control—*Bobbi Jo Fisher & Maureen Millmann & Ryan Arnold*
Reference reach, bankfull identification—*Mark Fedora & Dale Higgins*
Biological assessment—*Mike Miller*

Site Wrap-Up—*all instructors*
- 4:45 Depart for Markee Pioneer Student Center**

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Wednesday, April 13

- 10 8:00 Municipal Roadway Projects—Permits and Exemptions**
Wisconsin laws and policy related to road/stream crossings
Maureen Millmann, WI DNR Local Roads Policy Coordinator
- 11 8:30 Municipal Roadway Projects—Best Management Practices**
Proper installation and maintenance of erosion control measures
Bobbi Jo Fischer, Environmental Analysis & Review Specialist, WI DNR, Wautoma, WI
- 12 9:00 Stream Crossing Design & Exercises: Part 1**
Overview of culvert hydraulics and design methods, hydrology, site assessment, alignment and profile
Dale Higgins & Mark Fedora
- 10:00 Break**
- 10:15 Stream Crossing Design & Exercises: Part 1 (continued)**
Dale Higgins & Mark Fedora
- 11:45 Lunch, Pioneer Student Center**
- 13 1:00 Depart for Field**
- 1:15-3:45 Arrive at Main Street over Rountree Tributary**
Introduction to Site (*Bradd Sims & Mike Miller*)
- Break into 3 groups (groups will rotate every ½ hour)**
Identify reference reach, conduct pebble count, measure bankfull dimensions—*Mark Fedora and Matt Diebel*
Survey channel profile, cross-sections, and culvert and road elevations—*Dale Higgins & Ryan Arnold*
Design checklist—*Simonsen & Fischer*
- Site Wrap-Up—*all instructors*
- 4:00-4:45 Restored Road-Stream Crossing**
We will explore a road-stream crossing that provides aquatic connectivity.
All instructors
- 4:45 Depart for Markee Pioneer Student Center**

Tab#

Thursday, April 14

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- 14 8:00 Road-Stream Crossing Construction**
Constructing road-stream crossings that provide aquatic connectivity

*John Voorhees, AECOM Senior Water Resources Engineer
Ryan Arnold, WisDOT Storm Water and Erosion Control Engineer*
- 15 8:30 Stream Crossing Design and Exercises: Part 2**
Bed and banks, structure type and size, sediment mobility and stability

Dale Higgins & Mark Fedora
- 10:00 Break**
- 16 10:15 Sources of Funding**
Grant application strategies

Jon Simonsen
- 17 10:25 Putting it all Together**
Low Gradient and High Gradient Case Studies and Rules of the Road

Jon Simonsen
- 11:30 Lunch, Pioneer Student Center**
- 18 12:30 Introduction to Computer Aids and Analysis regarding Aquatic Connectivity**
Surface Water Data Viewer, FishXing modeling, HEC-RAS modeling, ArcView Watershed Prioritization Toolbox

Austin Polebitski, Dale Higgins, Mark Fedora, Matt Diebel, Jon Simonsen
- 19 2:00 Wrap-up, course evaluations**

Bobbi Jo Fischer

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