ROAD/STREAM CROSSINGS WORKSHOP

You’ll never look at a culvert the same way again!

2009 - October 6-8 and 20-22
McGuires Resort, Cadillac, MI

Learn practical techniques • Gain “hands on” knowledge
Learn Practical Techniques
Culverts at road/stream crossings have had negative effects on local stream ecology and hydraulics and often fail due to design and installation problems.

You will learn to improve your ability to assess, design and install culverts at road/stream crossings. We will provide useful information, step-by-step guidelines and proven techniques to help you solve your road/stream crossing problems.

Gain “Hands-On” Knowledge
This is a “hands-on” workshop that involves field activities and case studies illustrating both problems and solutions. We recommend comfortable, weather-protective clothing, and rubber boots or waders for the field sessions.

On Thursday morning, we have set aside time to work with you. Bring photos, survey data, maps and other information and ask us questions. Try out some modeling programs to see how they work.

WORKSHOP AGENDA

Tuesday, October 6 or 20

7:45     Registration

8:00     Welcome and introductions
          Matt Herbert

8:15     Workshop overview
          • Objectives • Expectations and outline
          • Evaluation forms and follow-up survey
          Kim Balke

8:30     How streams work
          • A brief introduction to stream morphology
          Dale Higgins

9:00     Why we’re here – biological considerations
          • The effects of habitat fragmentation
          Chris Freiburger

9:45     Break

10:00    How roads and crossings affect streams
          • Examples of a variety of road/stream crossing and road maintenance problems
          Dale Higgins

10:45    Why we’re here – legal considerations
          • Michigan laws and policy related to road/stream crossings
          Jerry Fulcher
          Jeff Silagy

ENROLL EARLY!
Space is limited to 40 per session
11:30 **Inventory, assessment and prioritization**
- Techniques and tools to estimate the magnitude of the problem
- How to quickly gather data at a site to identify problems and prioritize projects
  
  *Mark Fedora*

12:00 **Lunch (served on site)**

12:45 **Culvert design – no slope tail-water control**
- How to design a culvert in low gradient streams
  
  *Dale Higgins*

1:45 **Culvert design – stream simulation**
- How to simulate a stream through a crossing in higher gradient systems
  
  *Mark Fedora*

2:30 **Break**

2:45 **Erosion control**
- Proper installation and maintenance of silt fences
- Diverting flow around your site
- Dewatering the work area
- Settling basin sizing
- Construction and maintenance
- Temporary stockpiles
- Location, erosion control, and disposal
- Restoring the channel
- Seeding, matting, mulching, installing and maintaining turbidity barrier or coffer dam
  
  *Matt Johnstone*

3:15 **Bottomless Arch Culverts**
- Permitting considerations
- Project scoping with multiple partners
- Proper elevations: culvert elevation, slope road surface elevation, drainage and low point
  
  *Nancy Roseman*

3:45 **Case studies**
- Effects of replaced culverts on sediment, macroinvertebrates, and fish in Sickle Creek
  
  *Stephanie Ogren*
- Project considerations with perched culverts – Silver Creek and State Road in Lake County
  
  *Brian Sousa and Chris Pierce*

4:30 **Wrap-up**

  *Matt Herbert*

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**Wednesday, October 7 or 21**

8:00 **Depart for first stop**

8:30 **Arrive at Spaulding Creek**
- Discuss fish passage and channel morphology problems
  
  *Dale Higgins, Mark Fedora, Jerry Fulcher*

9:00 **Depart for Inventory/Assessment sites**
- Group exercise collecting data at various sites: Spaulding Creek, Upper Spaulding Creek and Negro Creek

10:15 **Arrive at Yates Creek**
- Discuss possible solutions at site
  
  *Dale Higgins and Chris Freiburger*

10:50 **Arrive at Pine Lake Outlet**
- Introduction
- Break into 3 groups, rotate every 15 min.
- Site design checklist
- Survey techniques
- Reference reach, bankfull identification
  
  *Bob Stuber, Chris Freiburger, Dale Higgins and Mark Fedora*

12:00 **Lunch**

12:45 **Depart for Pine Creek at Pine Lake Road**
- See a recently installed culvert
  
  *Stephanie Ogren*

1:30 **Arrive at Pine Creek at Steinberg Road**
- See a recently installed box culvert
  
  *Stephanie Ogren*

2:10 **Arrive at Peterson Creek**
- Break into 3 groups, rotate every 30 min.
- Design checklist
  
  *Chris Freiburger and Jerry Fulcher*
- Identify reference reach, conduct pebble count, measure bankfull dimensions
  
  *Mark Fedora*
- Survey channel profile, cross-sections, and culvert and road elevations
  
  *Dale Higgins*

4:00 **Adjourn**
Thursday, October 8 or 22

8:00  Sources of funding  
   • Federal, State and private sources  
     *Mark Fedora, Rick Westerhof, Kim Balke*

8:30  In-depth analysis of Pine Lake Outlet and Peterson Creek  
   • Site design exercises  
     *All Instructors*

10:45 Wrap-up & Course Evaluations  
    *Matt Herbert*

11:00 Informal question/answer session (optional)  
   • Fishing modeling, live demo  
     *Mark Fedora*
   • HEC-RAS modeling  
     *Dale Higgins*
   • Bring your problem culvert/stream project(s) and questions--get help from the experts  
     *All Instructors*

12:00 Adjourn

Meet Your Instructors

*Matt Herbert*, Aquatic Ecologist, The Nature Conservancy, Lansing, MI

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

*Mark Fedora*, Hydrologist, USDA Forest Service, Ironwood, MI

*Jerry Fulcher*, P.E., Chief Transportation & Flood Hazard Unit, MI Dept. of Environmental Quality, Lansing, MI

*Jeff Silagy*, Transportation Permit Specialist, Michigan Department of Environmental Quality, Gaylord, MI

*Chris Freiburger*, Fisheries Biologist, Michigan DNR, Lansing, MI

*Kim Balke*, Project Manager and Biologist, Conservation Resource Alliance, Traverse City, MI

*Stephanie Ogren*, Aquatic Biologist, Little River Band of Ottawa Indians, Manistee, MI

*Rick Westerhof*, Fish Biologist, US Fish and Wildlife Service, Elmira, MI

*Brian Sousa*, P.E., Vice President, Wade Trim, Traverse City, MI

*Chris Pierce*, Project Manager and Biologist, Conservation Resource Alliance, Traverse City, MI

*Nancy Roseman*, Civil Engineer, Benzie County Road Commission, Honor, MI

*Matt Johnstone*, Environmental Quality Analyst, MDEQ Water Bureau, Cadillac, MI

*Bob Stuber*, Fisheries Biologist, Huron-Manistee National Forest, Cadillac, MI
Limited Enrollment - Class size is limited to 40 participants. Please enroll by Friday, September 25th for either session.

Fees - The workshop fee is $100 per person and includes, a light breakfast, lunch and breaks on Tuesday and Wednesday, a workshop binder with handouts, and a CD.

Cancellation - If you cannot attend, please notify us by September 30 & October 14 and we will refund your fee. After, there will not be any refunds given. You may enroll a substitute at any time before the workshop starts. Refunds will not be given to no shows.

Workshop Location - The workshop is being held at McGuires Resort, 7880 Mackinaw Trail, Cadillac, Michigan 49601.

Accommodations - We have reserved a block of rooms at the McGuires Resort. The block room rate is $69 for a single/double occupancy and will be honored through September 20th. Please make your reservations by calling 231-775-9947, and tell the reservation clerk that you will be in the Road/Stream Crossings Workshop.

Continuing Education Credit - This program has been reviewed and is approved for professional continuing forestry education credits by the Society of American Foresters. The program meets the SAF’s Continuing Forestry Education standards category 1: 17.5 credits.

To Enroll simply fill out the registration form below and mail in, or contact:
Jill Rowley or Kimberly Balke at The Conservation Resource Alliance
231-946-6817 or info@rivercare.org
Address: 10850 Traverse Highway, Suite 1111, Traverse City, MI 49684

Registration
Please enroll me in the 2009 Road/Stream Crossings Workshop
☑ October 6th, 7th and 8th ☐ October 20th, 21st and 22nd FEE: $100

Name ________________________________
Title _________________________________
Organization __________________________
Address ______________________________
City/State/Zip __________________________
Phone /Fax ____________________________
Email ________________________________

My role in road/stream crossing work is:
☐ Design  ☐ Construction/Maintenance
☐ Regulation  ☐ Resource Evaluation

Amount enclosed ______________________
☐ Purchase Order or Check enclosed
(Checks payable to Conservation Resource Alliance)

Please charge my Credit Card:
☐ MasterCard  ☐ Visa

Name on card __________________________
Card No. ______________________________
Expires __________ 3-digit security code ______

☐ Please check this box if you are a person with a disability and desire special accommodations. We will contact you. Requests will be kept confidential.