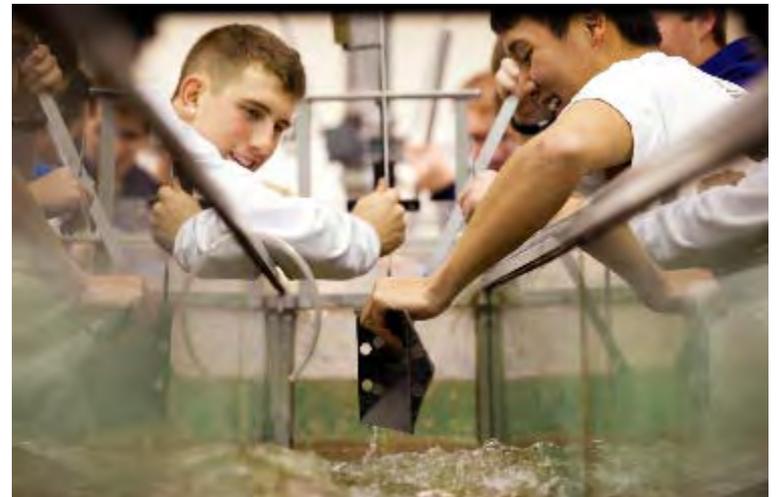


Road/Stream Crossings Workshop Overview October 2-4, 2018



Welcome!

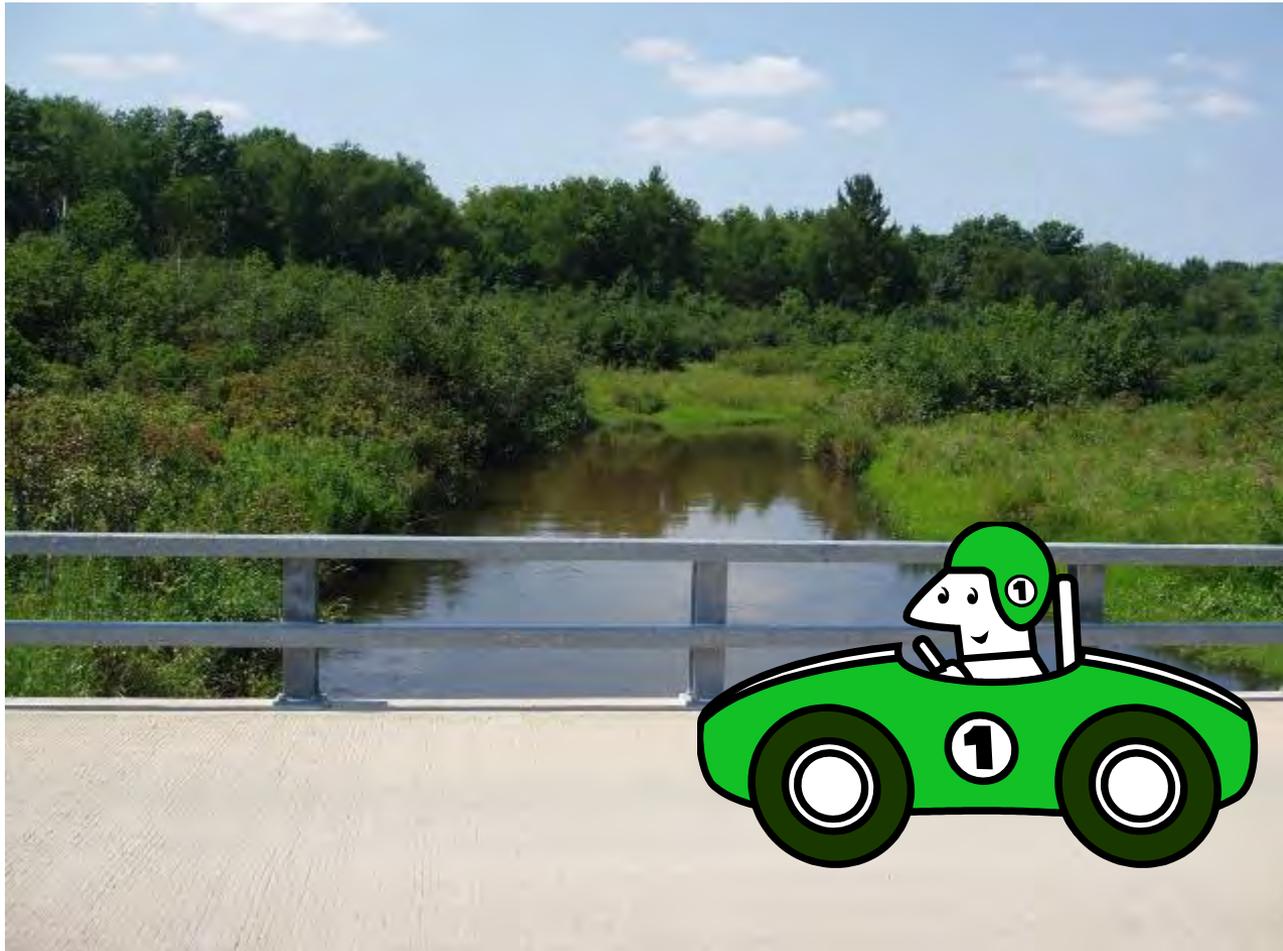
- A little about this place:
 - Founded in 1866, encompasses approximately 821 acres, and undergraduate enrollment of 8000+ students in 41 majors
 - First state teacher preparation institution in Wisconsin – Platteville Normal School
 - The College of Engineering, Mathematics, and Science has about 3000 undergraduates enrolled in seven different engineering disciplines, with Civil and Environmental Engineering having enrollment of around 650 undergraduates



Welcome!



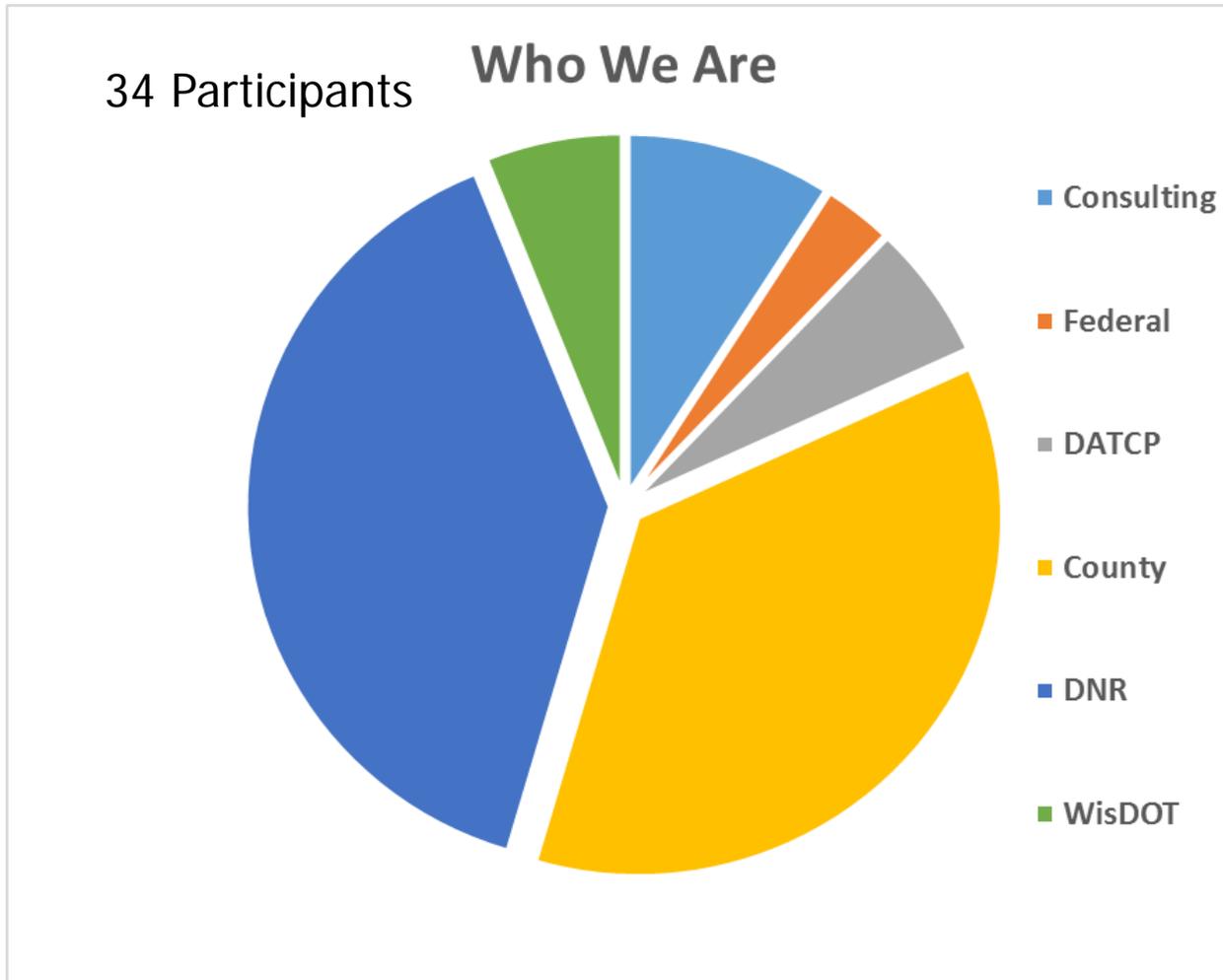
Roadway View of Road-Stream Crossing



Waterway View of Stream Xings



Who Are “We”?



Today

- **Welcome to the Fisheries of the Driftless Region**

(Jeff Hastings - TU)

- **Fisheries of the Driftless Region**

(Bradd Sims – WI DNR)

- **Ecological Impacts of Stream Crossings**

(Mike Miller – WI DNR)

- **How Streams Work**

(Matt Diebel – WI DNR)

- **How Roads Affect Streams**

(Dale Higgins - USFS)

- **Inventory, Assessment and Prioritization**

(Mark Fedora - USFS and Matt Diebel – WI DNR)



Today

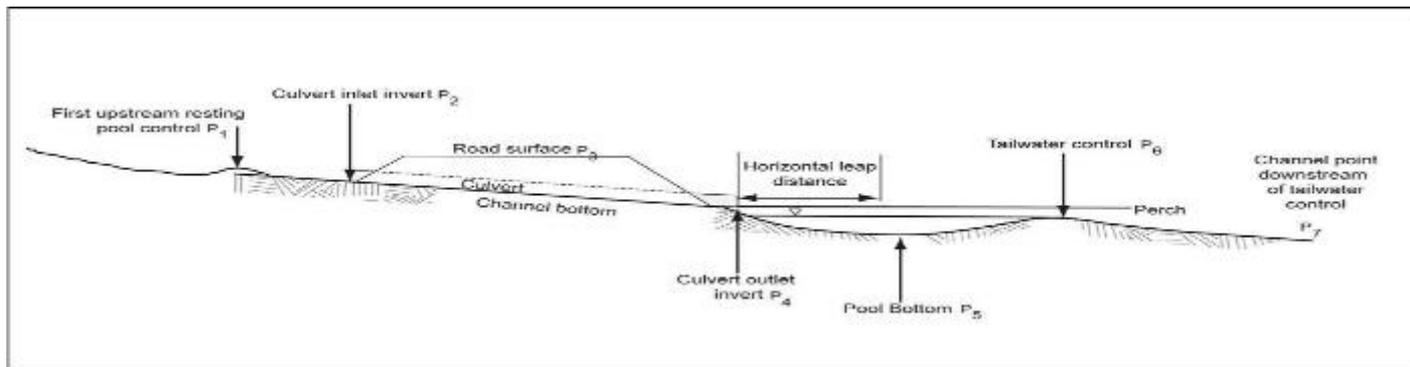
If you have outdoor gear bring it! Waders, safety vests, etc!

- Lunch
- Field trip:
 - CTH O over tributary to the Little Platte River
 - Explore multiple, close, road stream crossings on high gradient stream
 - Rock Road over Snowden Branch
 - Site Assessment, Erosion Control, Reference Reach, and Biological Assessment



Wednesday

- Permitting – Maureen Millmann (WI DNR)
- Designing for Floodplains and Agency Coordination – Jon Simonsen (WI DNR)
- RSXing Construction – Bobbi Jo Fischer (WI DNR)
- Design – Dale Higgins and Mark Fedora (USFS)
 - Culvert Hydraulics and design methods
 - Hydrology, Site Assessment, Stream Alignment and Profile



Wednesday



Road/Stream Site Assessment Checklist

Action	Notes
Stream Characteristics	
Reference reach	
• Cross-sections	
• Bankfull width	
• Substrate	
• Slope/ gradient	

- Main Street over Rountree Tributary
 - Identify reference reach, pebble count, bankfull dimensioning
 - Survey Channel Profile
 - Design Checklist
- Restored Road-Stream Crossings – The ‘Good’ Examples

Thursday

- Stream Crossing Design II - Dale Higgins & Mark Fedora (USFS)
 - Bed and banks
 - Structure type and size
 - Sediment mobility and stability
- Cross Agency and Non-Profits – Bobbi Jo Fischer (WI DNR)
- Cost Savings and Sources of Funding - Jon Simonsen (WI DNR)
- Putting it all Together - Dale Higgins
- Introduction to Computer Aids and Analysis Regarding Aquatic Connectivity
 - Surface Water Data Viewer
 - FishXing modeling
 - HEC-RAS modeling
 - ArcView Watershed Prioritization Toolbox

Key take home points

- Understand why correct structure installation is important from both the road and stream view.
 - Habitat connectivity
 - Road maintenance
- Planning:
 - Culvert assessments
 - Interdisciplinary coordination

Key take home points

- Design
 - Correct size & elevation
 - High gradient streams (>1-2%) need to slow down water velocities.
- Understand construction fundamentals.
 - Safety, survey techniques, compaction
 - Erosion control

Questions?

What did the fish say when it reached the perched culvert???

