

Permitting Municipal Transportation Projects

Maureen Millmann

Wisconsin Department of Natural Resources

Municipal Transportation Policy Coordinator

Bureau of Environmental Analysis & Sustainability

Maureen.millmann@wisconsin.gov





Wisconsin Waters Belong to Everyone!

The Wisconsin Constitution declares that all

navigable waters

***“shall be
common highways
and forever free”***,

and held in trust by
the Department of
Natural Resources.

*(Wisconsin Constitution,
Article IX, Section 1)*



Road / Stream Crossings in Wisconsin



- USH = 1982
- Interstate highway = 817
- State Highway = 5341
- County Roads = 12776
- Town Roads = 41055

Total Road / Stream Crossings in WI = 61971

Learning to navigate the permit process

Public Roads:

WDNR

Transportation

Liaison

Private roads, driveways, trails:

WDNR Water
Management
Specialist

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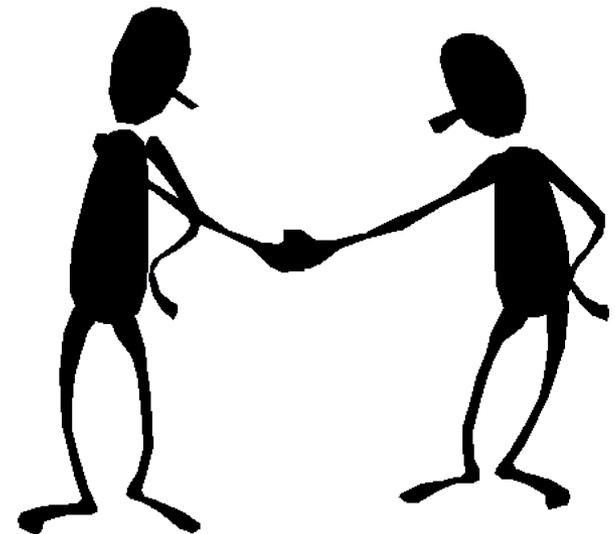


A learning curve

WisDOT – WDNR Coordination

Cooperative Agreement Between WDNR and WisDOT

- **WisDOT contacts WDNR Transportation Liaison** during the scoping of a transportation project.
- **WDNR reviews projects** for impacts to wetlands, waterways, wildlife, NHI hits, protected lands.
- **WDNR is involved throughout the planning and construction of the WisDOT project**



Where to find information on the WDNR web site: dnr.wi.gov - Keyword "Transportation"



Business Licenses & Regulations Recreation Education Contact Join DNR Search or Keywords

Transportation projects

Wisconsin has a comprehensive transportation network that includes roads, highways, airports, railroads and harbors. This system is essential to our economy because it moves workers to jobs, raw materials to factories, finished products to markets and travelers to their destinations. Building and maintaining transportation infrastructure can, however, result in environmental impacts to waterways, wetlands, fisheries, endangered species and other resources.

Contact info Municipal highways Environmental impacts Emergencies Funding

Contact info

Transportation liaisons

The DNR's Bureau of Environmental Analysis and Sustainability (EAS) works cooperatively with the Wisconsin Department of Transportation (WisDOT) and with local highway transportation departments to avoid and minimize environmental concerns with the construction and maintenance of highways, roads, bridges, culverts, airports, railways and harbors. For each county, there is an EAS regional staff person who serves as the [transportation liaison PDF](#) contact.



A local road culvert on a Waupaca

Business sectors & partnerships

Find
a DNR transportation liaison staff by county [PDF].

Read
the DNR-DOT cooperative agreement [PDF].

Related links

- [Transportation sector](#)
- [Wisconsin Department of Transportation \(DOT\) \[exit DNR\]](#)
- [U.S. Army Corps of Engineers \(USCOE\) Regulatory Permits \[exit DNR\]](#)

Contact information

For information about transportation



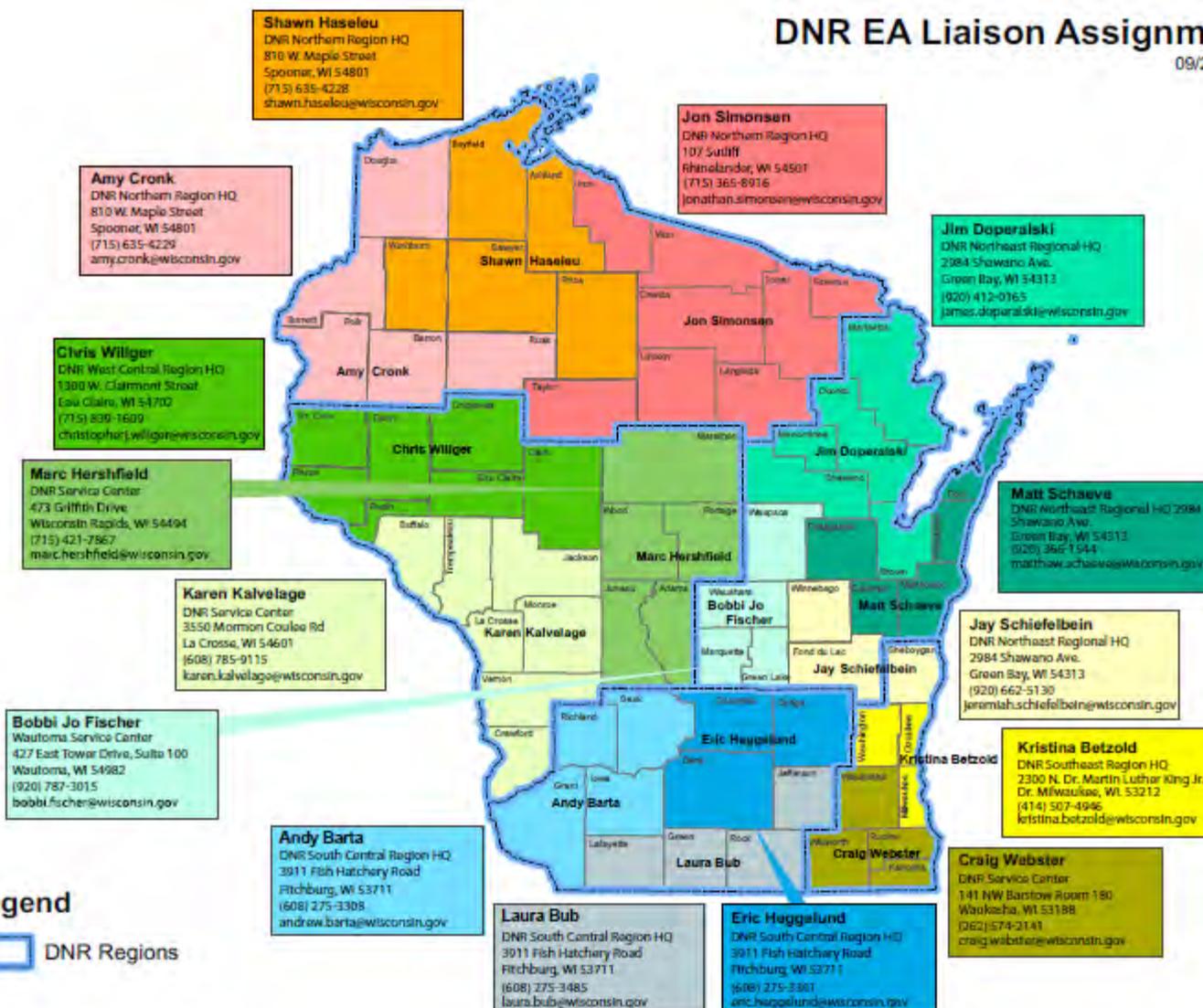
Municipalities should contact WDNR FIRST!

Every county has a Transportation Liaison and contact information can be found on the DNR web page – dnr.wi.gov.



DNR EA Liaison Assignments

09/29/2015



Culvert exemption language from Wisconsin Act 55, signed July 12, 2015

“ The construction or placement and the maintenance of a replacement culvert that is placed in substantially the same location as the culvert being replaced if the replacement culvert is constructed or placed using best management practices to comply with water quality standards under [subchapter II of chapter 281](#) [exit DNR].

Best Management Practices = BMPs

Wisconsin's best management practices for water quality are intended to provide simple and cost-effective methods for protecting water quality in lakes, streams and wetlands **before, during and after** construction activities.

STREAM CULVERTS (NAVIGABLE WATERWAYS)—BEST MANAGEMENT PRACTICES (Sept. 2015)

The following example describes typical best management practices that are needed to protect water quality of culvert replacement projects.



BEFORE Construction: Devise an erosion control plan for the project site. Be sure the plans include stockpile protection. Further, be sure all stockpiles and borrow/waste sites are setback from waterways, wetlands, and flood plains. Begin to install erosion control items before any ground is disturbed. Common methods include: construction site diversion, silt fence, ditch checks, vegetative buffers, inlet protection, sediment traps, and tracking pads.

DURING Construction:



- **Non-erodible cofferdams** up and downstream to isolate the pipe during excavation. Common methods include sand bags wrapped in plastic sheeting, other reinforced plastic sheeting, steel sheeting, and water bladder barrier.
- **Treat water from the culvert trench** to prevent cloudy water from reaching waterways or wetlands. Common methods include temporary settling basin, infiltration basin, filtration bag, sediment tank. Water applied polymer may be needed in conjunction with these methods.
- **Maintain streamflow downstream** to protect aquatic life. Common methods include by-pass pumping, plastic and rock/rock bag lined channel, by-pass culvert, and diverting water to one culvert (at sites with 2 or more culverts only).

AFTER Construction:

Topsoil and seed protected by mulch or erosion mat

Place geotextile fabric then cover with clean sediment free riprap 6" to 24" in diameter as appropriate for the site.



Trenched inlet fence, fiber logs, or other method

At sites with water quality issues (road overtopping, bank erosion, stream bed scour, etc.) installing a large cube that does not constrict the stream channel is an important best management practice for water quality protection and flood resiliency.

BMPs –
Page 1
includes
before,
during
and after
construction

BMPs – Page 2 includes construction timing, fish timing restrictions, wetland protections, erosion control and site maintenance, invasive species control

STREAM CULVERTS (NAVIGABLE WATERWAYS) — BEST MANAGEMENT PRACTICES (Sept. 2015)

Construction Timing: Once waterway work begins (below the ordinary high water mark (OHWM)), all construction activities in those waterways must be continuous to the greatest extent practicable until the work is completed and the site is stabilized. If periods of inactivity are unavoidable, the site must be temporarily stabilized until the work is resumed and completed.

Timing Restrictions: To minimize adverse impacts on fish movement, fish spawning, and egg incubation periods, work below the OHWM may not occur during the following time periods:

- September 15th to May 15th for all trout streams.
- March 1st through June 15th for ALL other waters.

The timing restrictions listed may be waived or modified by the [WDNR Transportation Liaison](#).

Wetlands: Vegetation, material, soil stockpiles, or equipment cannot be stored in wetlands (even on a temporary basis). The project needs to be constructed in a manner that will maintain natural hydrology in the wetland complex.

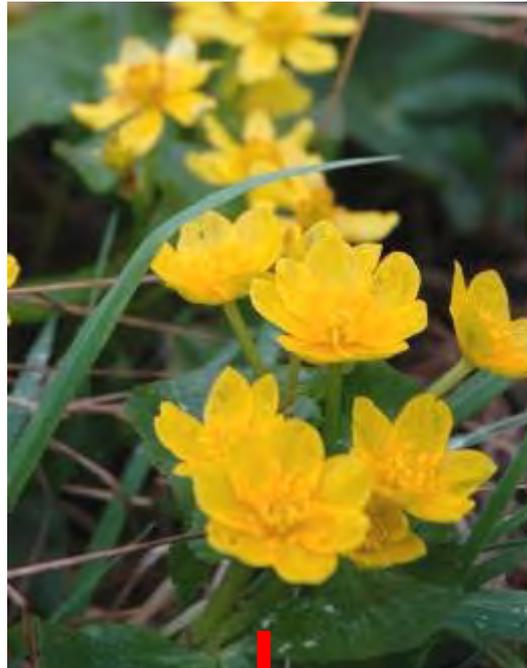
Erosion and Sediment Control Practices: The project site shall implement erosion and sediment control measures that adequately control or prevent erosion, and prevent damage to waterways and wetlands as outlined in [NR 151](#), Wis. Adm. Code. All erosion control measures must meet or exceed the [WDNR Technical Standards](#).

Do I need a permit?

Is it a wetland??



The presence of water at or near the ground surface for a portion of the year.



The presence of plants adapted to living in wet conditions.



The presence of hydric soils, which develop under wet conditions.

WHEN does a municipality need a permit?

If a project impacts wetlands or a waterway, it may need a permit.

Wetland impacts!

If the impacts to wetlands and waterways are less than 10000 square feet, the project may be eligible for a general permit (GP).



WDNR-GP2-2012 applies to wetland and waterway impacts associated with **construction, reconstruction and maintenance** of a highway, bridge, arch or culvert that is part of a ***municipal transportation*** project.

If a permit is needed, the project needs to meet all (29) eligibility standards of WDNR-GP2-2012



[Business](#)[Licenses & Regulations](#)[Recreation](#)[Education](#)[Contact](#)[Join DNR](#)

Permits

Local units of government may need to obtain waterway, wetland and storm water permits for a proposed transportation project. Local transportation officials and their consultants can find permit information and forms below.

Please contact the [transportation liaison \[PDF\]](#) for your county to determine if your project needs a permit.



Municipal Transportation General Wetland & Waterway Permit (GP)

The [WDNR-GP2-2012 General Permit for Municipal Bridges, Arches & Culverts \[PDF\]](#) is a general permit (GP) that is available for a discharge to waters and wetlands of no more than 10,000 square feet that is necessary for the construction, reconstruction or maintenance of a roadway, bridge, arch or culvert that is being carried out under the direction and supervision of a city, village, town or county, under s. 30.123, Wis. Stats.

See [WDNR-GP2-2012 General Permit Application Checklist \[PDF\]](#) for detailed instructions. A complete application for the GP includes information about the applicant, project plans, maps, photos, and an analysis narration that describes what alternatives were considered during the planning process.

All application materials can be sent to the [transportation liaison \[PDF\]](#) for your county.

INFORMATION WORKSHEET for Municipal Transportation Projects (Page 2013)



Contact your DNR Transportation Liaison **BEFORE** filling out this information. For more information and to find your DNR Transportation Liaison, go to <http://dnr.wis.gov> (search keyword "transportation").

Applicant/ Road Owner (Town, Village, City or County):	Road Name:
Municipal Representative's Name:	Stream Name:
Address, City, State, Zip Code:	County:
	Legal Description: _____ 1/4, _____ 1/4, Section _____ Township _____ North, Range _____ East West
Telephone Number:	Project Start Date: _____ Project End Date: _____
E-mail Address:	Project Start and End Location (attach map if necessary):
Contractor / Consultant Contact Information (if available):	

General Project Information (check all that apply)

<input type="checkbox"/> Wetlands present	<input type="checkbox"/> Road reconstruction
<input type="checkbox"/> Streams/ Lakes present	<input type="checkbox"/> Road widening/ fill outside toe of slope
<input type="checkbox"/> Stream culvert(s) replacement	<input type="checkbox"/> New road layout (currently no road present)
<input type="checkbox"/> Bridge replacement	<input type="checkbox"/> Road /hill / curve realignment
<input type="checkbox"/> New culvert or bridge (currently no crossing present)	<input type="checkbox"/> Clearing & Grubbing
<input type="checkbox"/> Riprap placement	<input type="checkbox"/> Storm sewer replacement
<input type="checkbox"/> Road surface / mill & overlay	<input type="checkbox"/> Ditch work

1. Briefly describe the current situation and why corrective actions are needed including any safety concerns.

2. Will wetlands be impacted? If so, provide an estimate of potential wetland fill (square feet).

Information Worksheet

REPLACEMENT OF EXISTING NAVIGABLE STREAM CULVERT— EXEMPTION INFORMATION / RECORDS

This worksheet can be used to request an exemption from DNR permits under chapter 30.123(6)(r)(a) Wis. Stats. DNR staff can often meet onsite to help identify if a culvert may be vulnerable to flood failure, maintenance problems, and/or adversely impacts the stream.

Project Name: _____

	Existing Road	Proposed Road
Culvert size		
Culvert length		
Road top width (surface + shoulders)		
Road shoulder side slopes (i.e. 2:1 or 3:1 slopes)		
Describe changes to culvert elevation or slope.	NA	
Will the road surface elevation over the culverts be raised?	NA	Yes No

Mark the appropriate box below if any of the following problems exist at the current culvert

<input type="checkbox"/>	The culvert is perched above the streambed (i.e. waterfall at the outlet)
<input type="checkbox"/>	There is a scour pool at the outlet
<input type="checkbox"/>	There is water pooling on the upstream side of the road
<input type="checkbox"/>	Water can overtop the road during flood events
<input type="checkbox"/>	The culvert can get blocked with debris or there are beaver problems

Completion of this Information Worksheet will provide the WDNR with information to evaluate the proposed project. The Department will review the project proposal and site specific conditions to determine if the project is exempt from DNR culvert replacement permits. Depending on specific site conditions, your liaison may request further information. It is the applicant's responsibility to obtain all necessary local, state and federal permits and approvals from the appropriate entities prior to construction. By signing below you are acknowledging that you have read this information and understand that further reviews may be needed to proceed with your project. The signer of this document is acknowledging they have the authority to represent the constructing municipality.

Signature & Title _____

Date _____

Just the facts!

Applicant/ Road Owner (Town, Village, City or County):	Road Name:
Municipal Representative's Name:	Stream Name:
Address, City, State, Zip Code:	County:
	Legal Description: _____ 1/4, _____ 1/4, Section _____ Township _____ North, Range _____ East West
Telephone Number:	Project Start Date: Project End Date:
E-mail Address:	Project Start and End Location (attach map if necessary):
Contractor / Consultant Contact Information (if available):	

The Information Worksheet is great for **keeping records** as required in Act 55 and described in

Ch. 30.123(9) — *RECORDS.* A city, village, town, or county that replaces a culvert and that is exempt from the permitting requirements under sub. (6) shall make and retain a record of the replacement of the culvert. The record shall include all of the following information:

30.123(9)(a) **(a)** The date on which the replacement culvert was constructed or placed.

30.123(9)(b) **(b)** The dimensions of the replacement culvert.

30.123(9)(c) **(c)** The location of the replacement culvert.

******Also - In case of emergency!******

The Information Worksheet can be used by the WDNR Transportation Liaison to determine if the project is exempt from permitting, or in place of the WRAPP if permits are needed.

General Project Information (check all that apply)

<input type="checkbox"/>	Wetlands present
<input type="checkbox"/>	Streams/ Lakes present
<input type="checkbox"/>	Stream culvert(s) replacement
<input type="checkbox"/>	Bridge replacement
<input type="checkbox"/>	New culvert or bridge <i>(currently no crossing present)</i>
<input type="checkbox"/>	Riprap placement
<input type="checkbox"/>	Road surface / mill & overlay

<input type="checkbox"/>	Road reconstruction
<input type="checkbox"/>	Road widening/ fill outside toe of slope
<input type="checkbox"/>	New road layout <i>(currently no road present)</i>
<input type="checkbox"/>	Road /hill / curve realignment
<input type="checkbox"/>	Clearing & Grubbing
<input type="checkbox"/>	Storm sewer replacement
<input type="checkbox"/>	Ditch work

1. Briefly describe the current situation and why corrective actions are needed including any safety concerns.

2. Will wetlands be impacted? If so, provide an estimate of potential wetland fill (square feet).

Culvert and road information is included in the Information Worksheet

	Existing Road	Proposed Road
Culvert size		
Culvert length		
Road top width <i>(surface + shoulders)</i>		
Road shoulder side slopes <i>(i.e. 2:1 or 3:1 slopes)</i>		
Describe changes to culvert elevation or slope.	NA	
Will the road surface elevation over the culverts be raised?	NA	Yes No

The Information Worksheet includes data that can be used to determine if the culvert is properly sized and placed at the correct elevation.

Mark the appropriate box below if any of the following problems exist at the current culvert

<input type="checkbox"/>	The culvert is perched above the streambed (<i>i.e. waterfall at the outlet</i>)
<input type="checkbox"/>	There is a scour pool at the outlet
<input type="checkbox"/>	There is water pooling on the upstream side of the road
<input type="checkbox"/>	Water can overtop the road during flood events
<input type="checkbox"/>	The culvert can get blocked with debris or there are beaver problems

Completion of this Information Worksheet will provide the WDNR with information to evaluate the proposed project. The Department will review the project proposal and site specific conditions to determine if the project is exempt from DNR culvert replacement permits. Depending on specific site conditions, your liaison may request further information. It is the applicant's responsibility to obtain all necessary local, state and federal permits and approvals from the appropriate entities prior to construction. By signing below you are acknowledging that you have read this information and understand that further reviews may be needed to proceed with your project. The signer of this document is acknowledging they have the authority to represent the constructing municipality.

Signature & Title _____

Date _____

Who else do you need to be contact before you begin your project?

- ❖ Local / County Shoreland Zoning (Floodplain Zoning)
- ❖ US Army Corps of Engineers
- ❖ WDNR Stormwater permit needed if impacts are greater than one acre





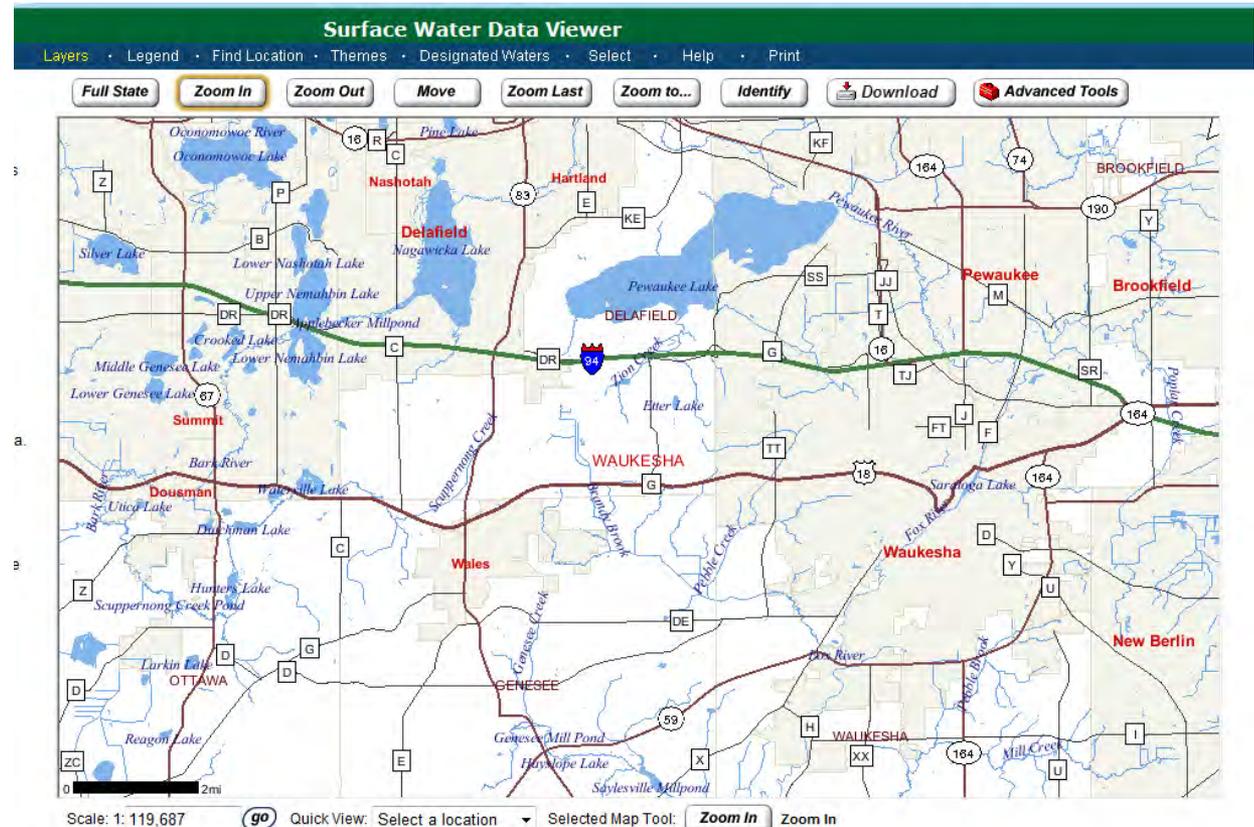
Before Construction

Get to know your project area!

Look at your project area online

<http://dnr.wi.gov/maps>

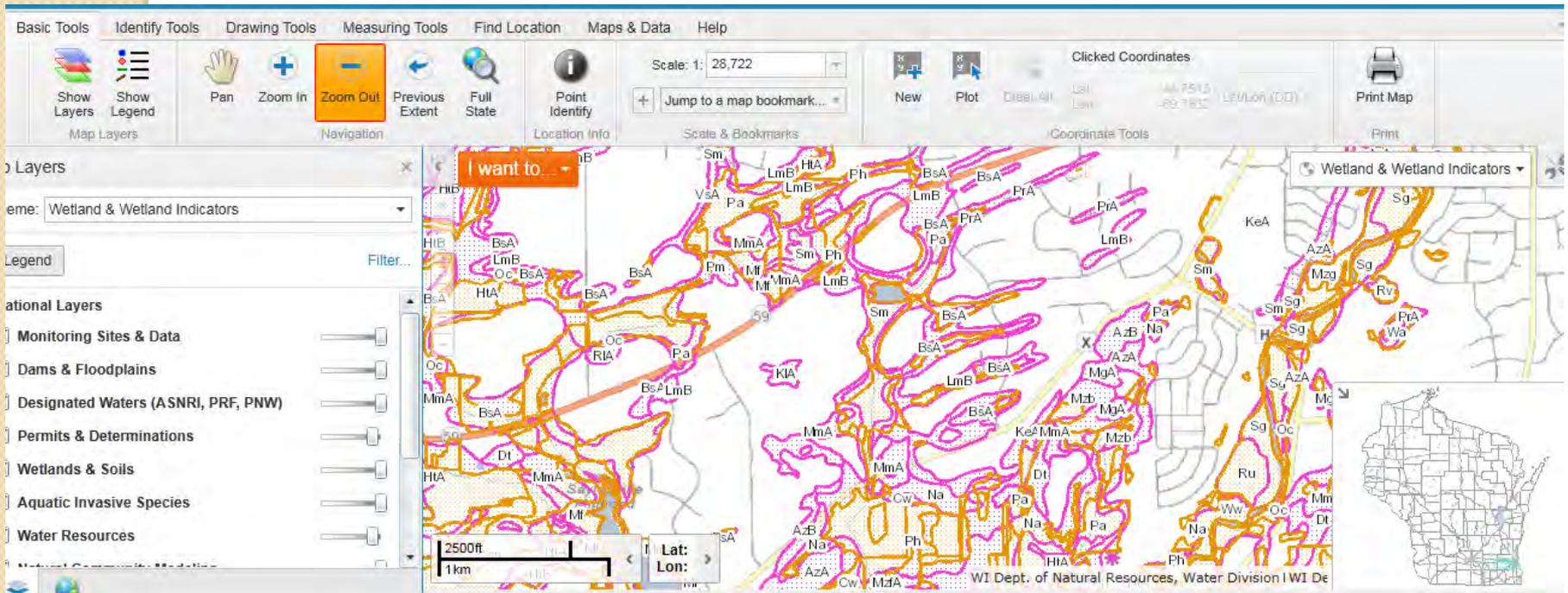
Is there a
waterway?

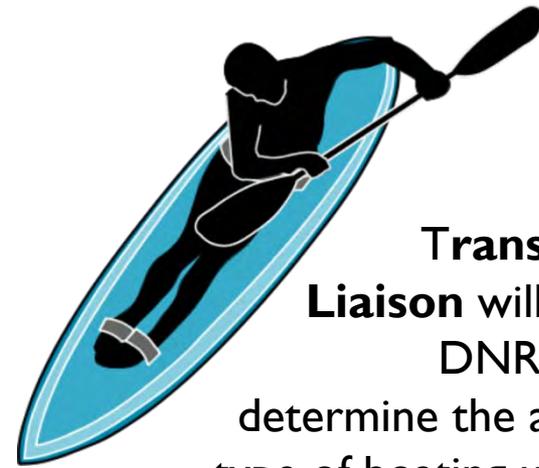


Are there wetlands that might be impacted by the project?



Look at your project area online
<http://dnr.wi.gov/maps>





The
**Transportation
Liaison** will work with
DNR experts to
determine the amount and
type of boating use in at the
project location.

Navigation
requirements
are based on
use of the
waterway.



Projects need to consider wildlife (including Threatened and Endangered Resources) Impacts & Passage



Turtle nesting
along road
shoulder

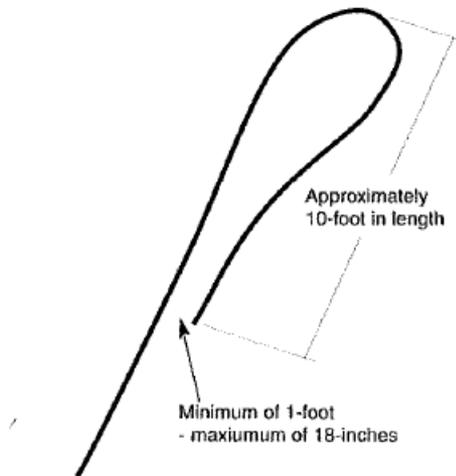


Figure 2. Overhead view of fence turn-around



Sometimes
a ditch...



04/28/2014 11:07

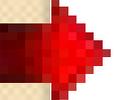
...is not a ditch!
Sometimes
it's a stream!

Ditch Maintenance:

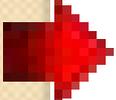
If you are proposing to change the **depth, width,** or **direction of flow** in an existing ditch through a wetland or near a waterway, *please contact the local WDNR Transportation Liaison.*

Ditching in wetland areas....

- Rarely provides the desired drainage
- The outcome could be a **saturated road base**



**More road
maintenance**



More cost

LIFE'S A DITCH.
BRACE
YOURSELF.

In 2010, ditching was completed in a wetland next to a town road to improve drainage.



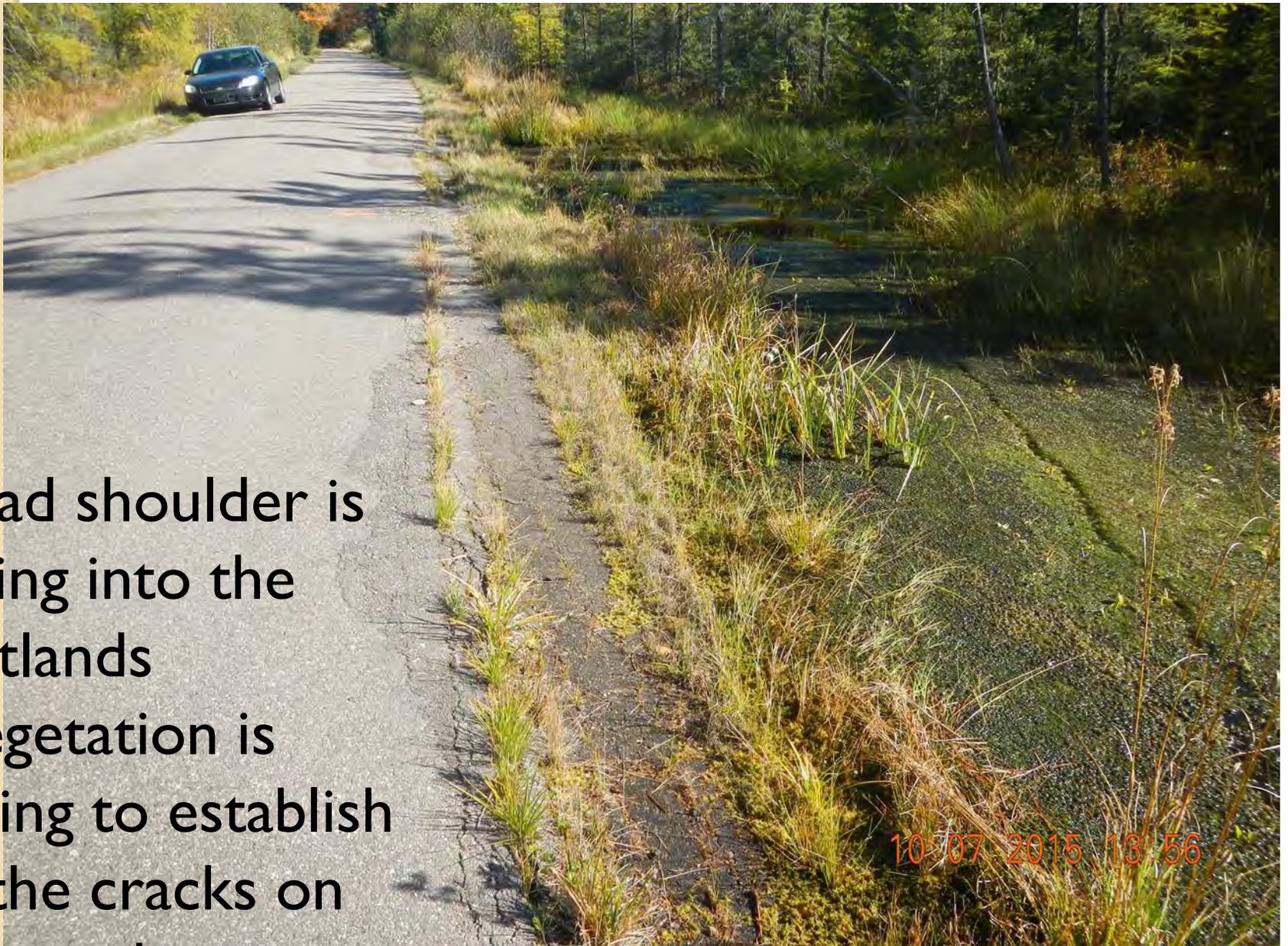
11.16.2010 15:28



2015 - The culvert installed to improve drainage is popping up in the roadway

10.07.2015 13:55

Road shoulder is
falling into the
wetlands
and vegetation is
trying to establish
in the cracks on
the road



Factors that may influence structure options

- **Depth of the road bed**
- **Stream morphology**
- **Width of the road**
- **Stream flows**
- **History at the crossing**



Early Coordination with DNR may include an onsite meeting.



**Something to consider:
Is the stream or road taking a beating?**

04.21.2011 09.12



Is the road over-topping during flood events?



A plunge pool on the downstream end of a culvert may be an indication of a culvert that is not properly sized or placed.



Gravel deposits in floodplain from frequent road failures may indicate that the culvert is not appropriately sized or place under the road



05.04.2011 10:58

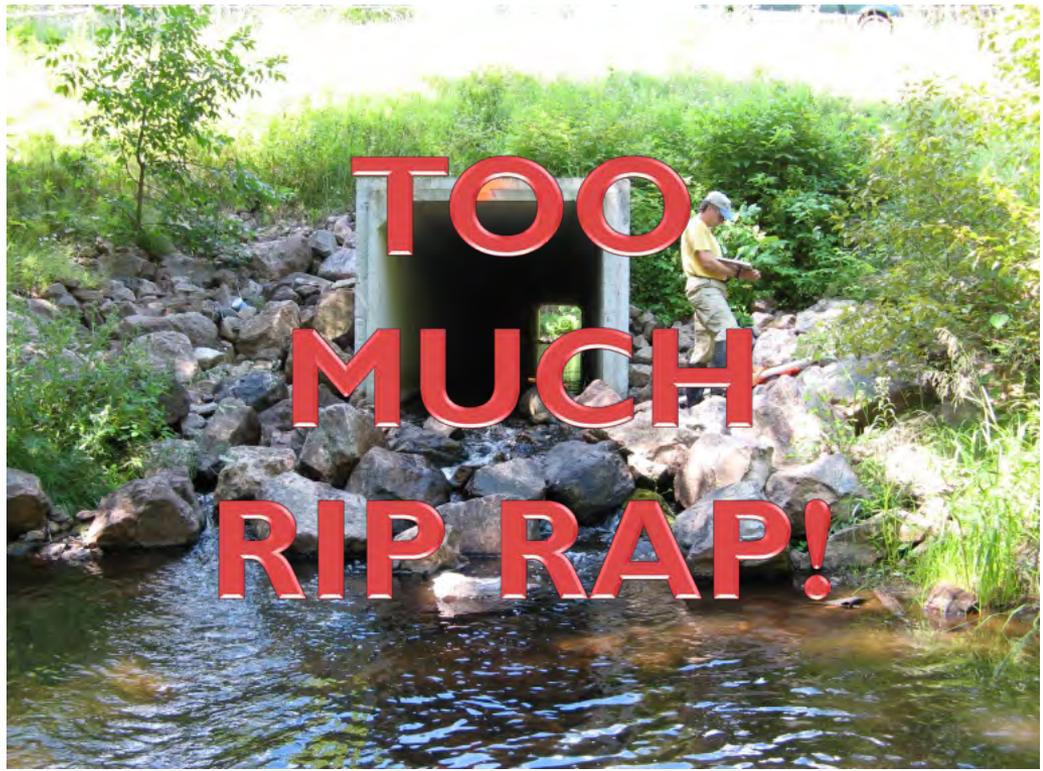
Road-Stream Crossings As Barriers To Fish and Wildlife Movement



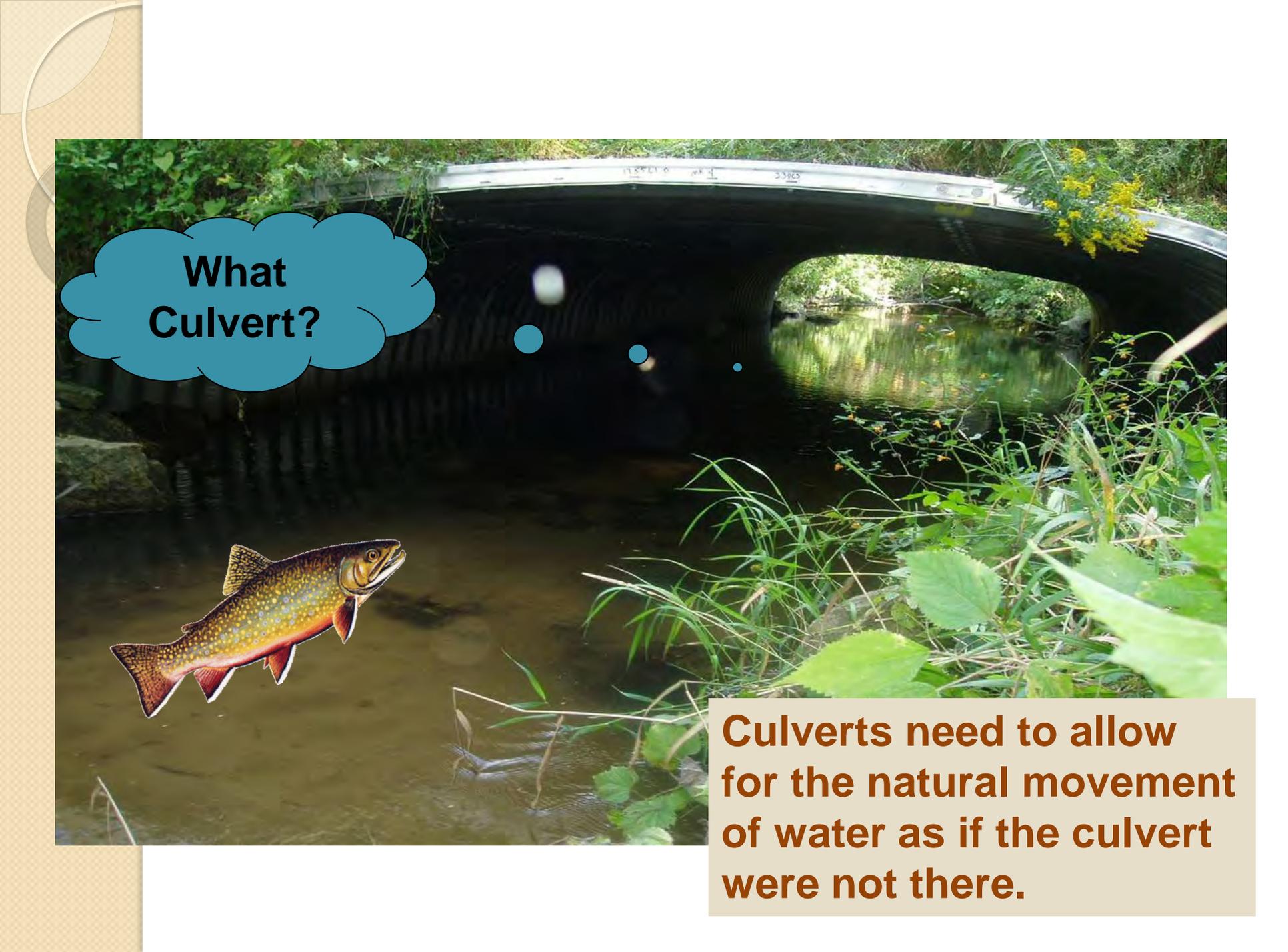
Leap barrier



Velocity barrier



**TOO
MUCH
RIP RAP!**

A photograph of a culvert bridge over a stream. The culvert is a dark, corrugated metal structure with a single large archway. The stream flows through the archway, and the surrounding area is lush with green vegetation. In the foreground, there is a detailed illustration of a rainbow trout, showing its characteristic spots and colors. A blue thought bubble is positioned in the upper left corner of the image, containing the text 'What Culvert?'.

**What
Culvert?**

Culverts need to allow for the natural movement of water as if the culvert were not there.

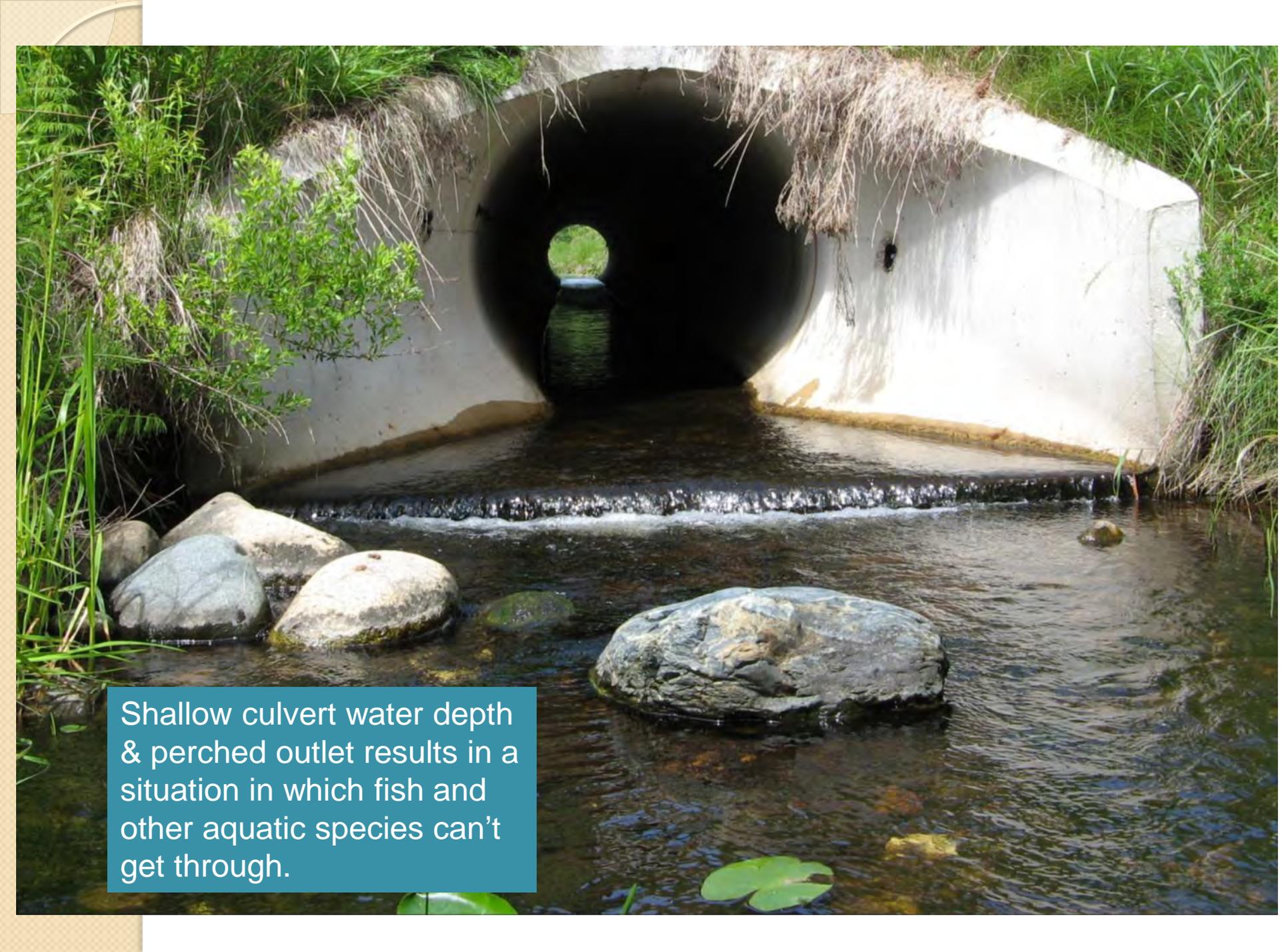
Improperly placed culverts may become perched culverts



Culvert in 1979



Same culvert in 1998



Shallow culvert water depth & perched outlet results in a situation in which fish and other aquatic species can't get through.



Perched culverts lead to failing road shoulders and constant road repairs...and the fish still can't get through!

APR 7 2010

Also from Act 55 – Costs & Culverts

Act 55 created ss. 30.123(6p) related to permit costs if a permit is required under 30.123(6m) for an otherwise exempt activity.

*COSTS. If the department requires a person who replaces a culvert to apply for an individual permit or seek authorization under a general permit under sub. [\(6m\)](#), notwithstanding the exemptions under sub. [\(6\) \(d\)](#), and **if the department includes conditions in the individual permit or under the general permit that are different than the conditions in the permit issued for the culvert being replaced**, the department may not impose a fee for the individual permit or for authorization under the general permit and shall reimburse that person, from the appropriation under s. [20.370 \(8\) \(ma\)](#), for his or her reasonable costs incurred in complying with the different conditions in the permit.*

Benefits of Properly Sized and Placed Culverts

- Structure will be **more resilient** to floods
- **Less debris** getting stuck at the culvert
- **Less** long term maintenance **costs**
- **Improves** stream connectivity
- **Longer** structure **life**

Funding Opportunities



Business

Licenses & Regulations

Recreation

Education

Contact

and maintaining transportation infrastructure can, however, result in environmental impacts to waterways, wetlands, fisheries, endangered species and other resources.

Contact info

Municipal highways

Environmental impacts

Emergencies

Funding

Funding

There are many [opportunities \[PDF\]](#) to secure additional funding for projects that strive to improve stream connectivity. Opportunities include:

- inventories of streams within a watershed,
- replacing barriers on trout streams,
- replacing barriers near lakes,
- projects in flood damaged areas,
- projects in the Great Lakes watershed, and
- replacement of high priority barriers to stream connectivity.

[Learn more about funding opportunities \[PDF\]](#)

Don't forget to check in with.....



- ✓ Local / County Shoreland Zoning (Floodplain Zoning)
- ✓ WDNR Stormwater
- ✓ US Army Corps of Engineers

If total impacts are equal to one acre or more, you will need to contact the local WDNR Stormwater Specialist or apply directly online.



Stormwater permitting

The Wisconsin Pollutant Elimination Discharge System (WPDES) Notice of Intent Permit process is used to regulate all stormwater discharges that result from disturbing one or more acres of land. This permit is needed for both transportation and non-transportation related projects. See [Construction site stormwater permits](#) for more information.

Federal permitting

[United States Army Corps of Engineers wetland permits](#) [exit DNR] are required for discharges to federal wetlands. For public transportation projects, the U.S. Army Corps of Engineers has issued [general permit GP-003-WI](#) [PDF exit DNR]. This federal general permit may be used for activities whose purpose is to construct, expand or improve transportation projects (e.g., roads, highways, railways, airport runways and taxiways) in waters of the United States.



Stormwater permitting

The Wisconsin Pollutant Elimination Discharge System (WPDES) Notice of Intent Permit process is used to regulate all stormwater discharges that result from disturbing one or more acres of land. This permit is needed for both transportation and non-transportation related projects. See [Construction site stormwater permits](#) for more information.

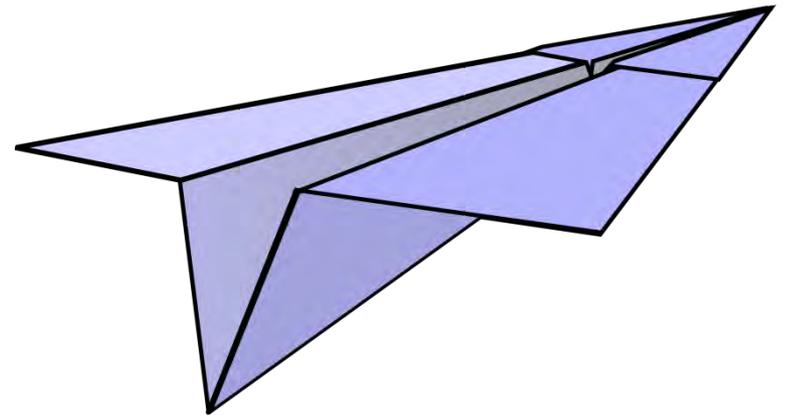
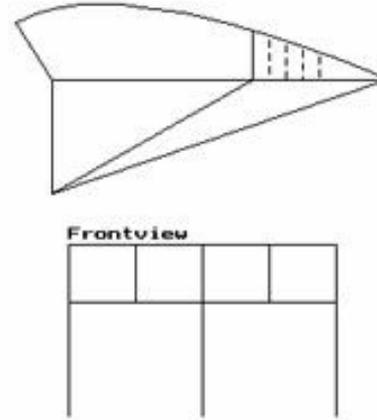
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Applicants need to check with the USACE to see if they need a federal permit.

- Contact WDNR early!
- **A good design leads to a good project**
- Read and understand the BMPs and the conditions of the permit or approval letter, if received
- Contact DNR if there is a discharge



Let's work together!

Check us out at
dnr.wi.gov

Key word
“Transportation”

Contact me –
Maureen.Millmann@wisconsin.gov

