

# How Fisheries Biologists Help Manage Forest Land

Jessica Mistak, Supervisor

DNR Fisheries Division

Habitat Management Unit

Lower Michigan Society of American Foresters

October 5, 2017



# Why Do Fisheries Biologists Care About Forestry?

**“The ultimate battle for the health of a stream, especially a trout stream, is won on the land.”**

- DNR Fisheries Division. Riparian Zone Management and Trout Streams: 21<sup>st</sup> Century and Beyond.



# Why Do Fisheries Biologists Care About Forestry?

- Riparian Buffers
  - Sediment Control
  - Shading
  - Wood Recruitment
- BMPs
  - Sediment Control
- Roads
  - Sediment Control
  - Aquatic Organism Passage



















Wood is important for fish habitat in lakes too



# Lakes

24 amphibian species  
25 reptile species  
87 bird species  
19 mammal species  
*Supported by Michigan  
Inland Lakes*

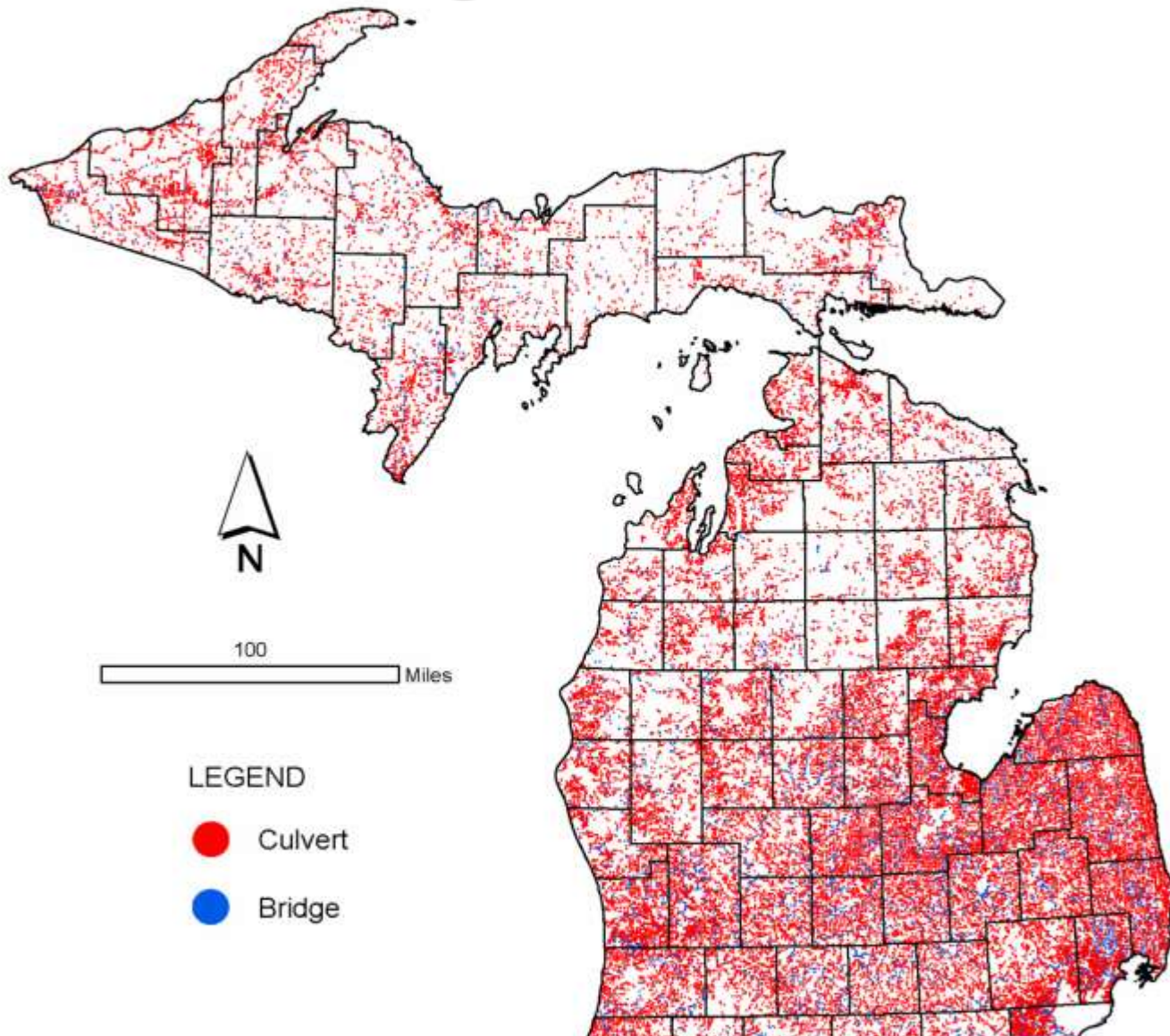
65

MI native  
fish  
species





# How Big of a Deal are Road Stream Crossings?



- Culverts >60,000
- Bridges >7,000
- Dams >2,600













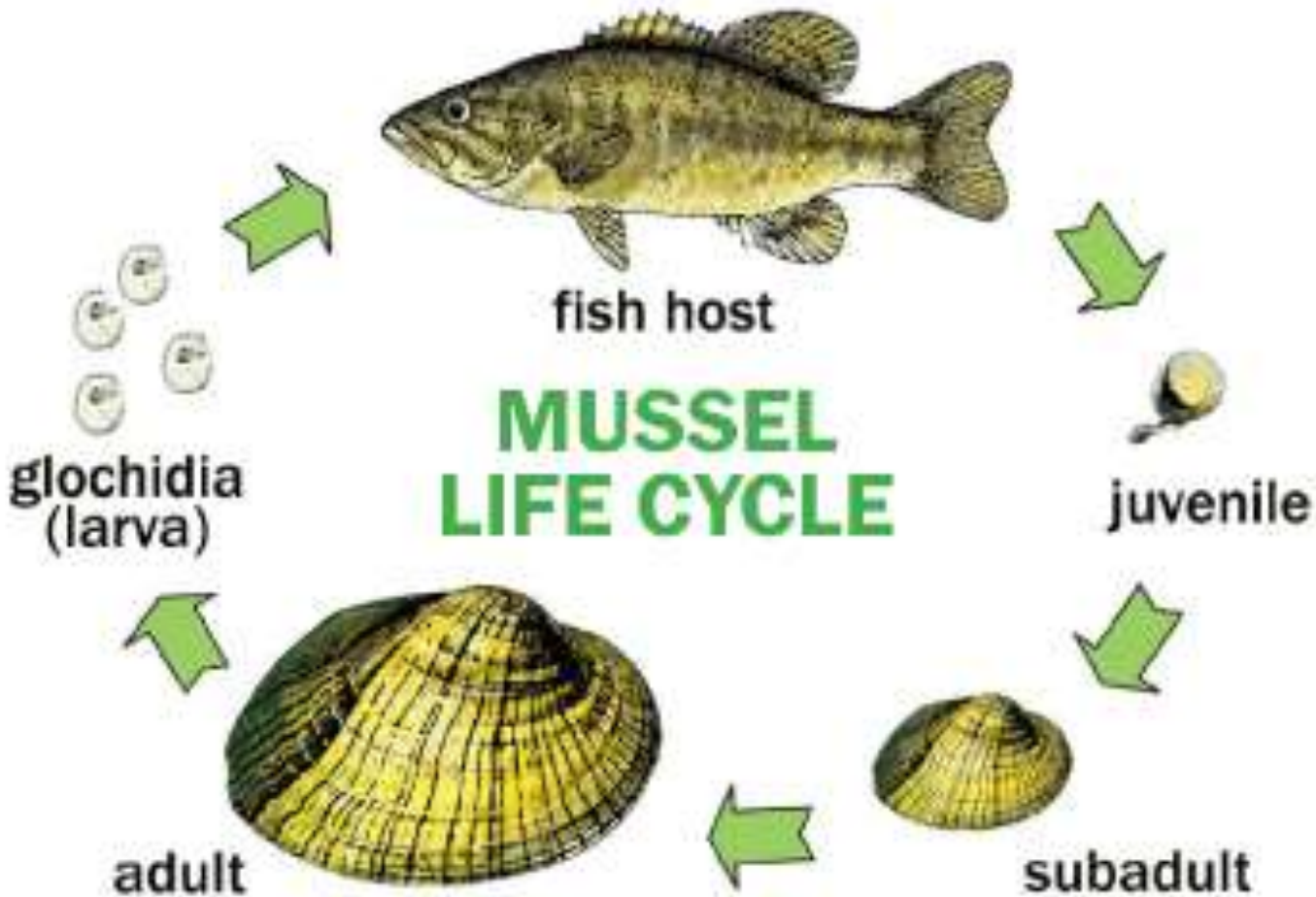


# Does This Culvert Pass Fish?





# Effects of Fragmentation: Mussels



© FMCC



©M. C. Barnhart 2000



©M. C. Barnhart 2000





# Freshwater Mussel Lure Video





# How Do Fisheries Biologists Show They Care?

- Riparian Buffers
  - DNR Compartment Reviews
  - Designated Natural Rivers
- BMPs
  - DEQ Permit Recommendations
- Roads
  - DEQ Permit Recommendations
  - Road-Stream Crossing Inventory and Placement Training
  - DNR Road Inventory





# Recommended Buffer Width Factors





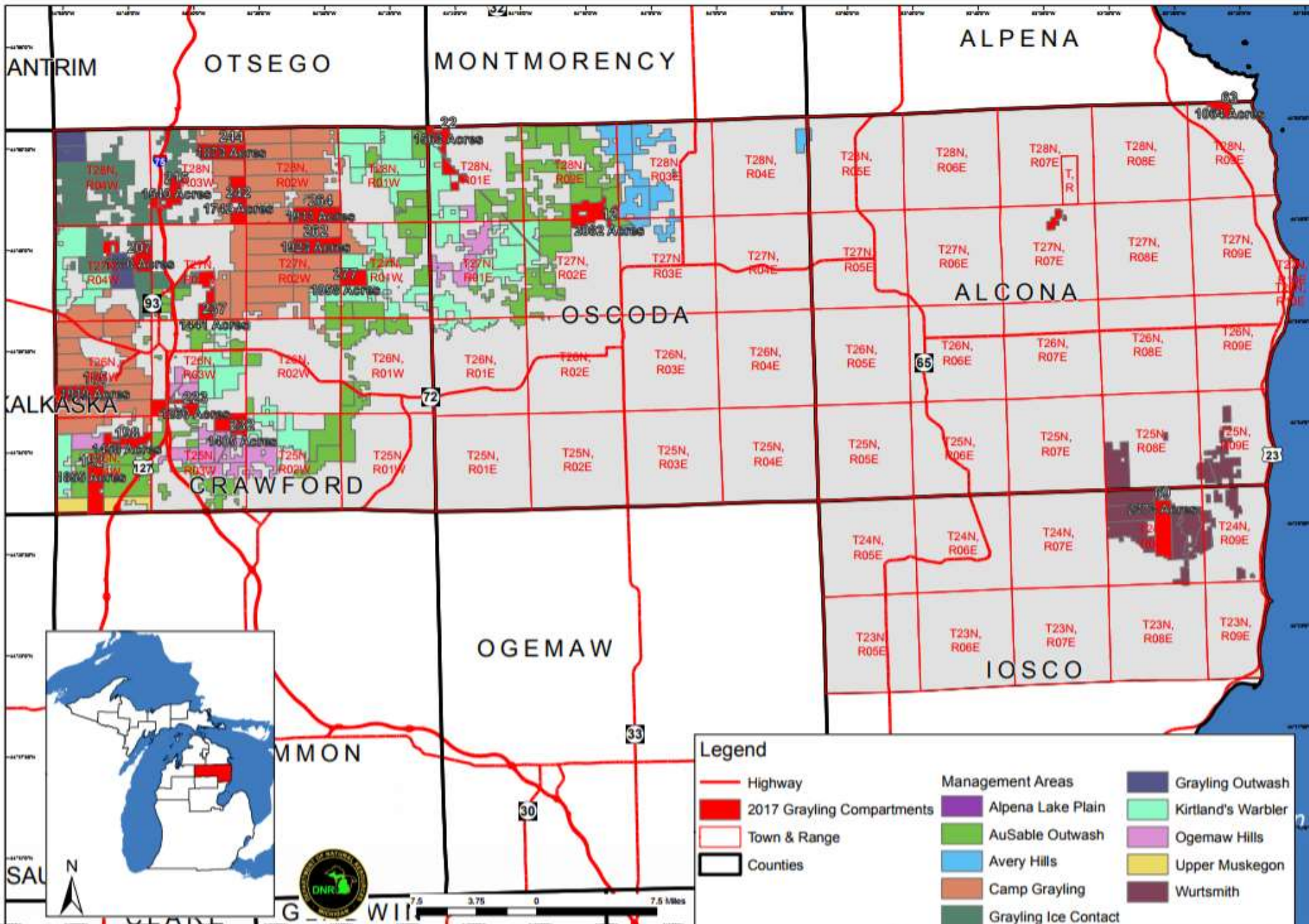
# DNR Compartment Reviews

- DNR Forest Resources Division inventories one-tenth (~400,000 acres) of the state forest each year.
- Each of the 15 Forest Management Units that comprise the state forest system works with Fisheries and Wildlife Biologists – and the public – to solicit comments regarding proposed treatments within each compartment.
- A compartment review follows in which staff weighs input and resource objectives and formally approves treatments.





# Grayling Management Unit 2017 YOE Compartments



Grayling 2017  
Compartment  
Review

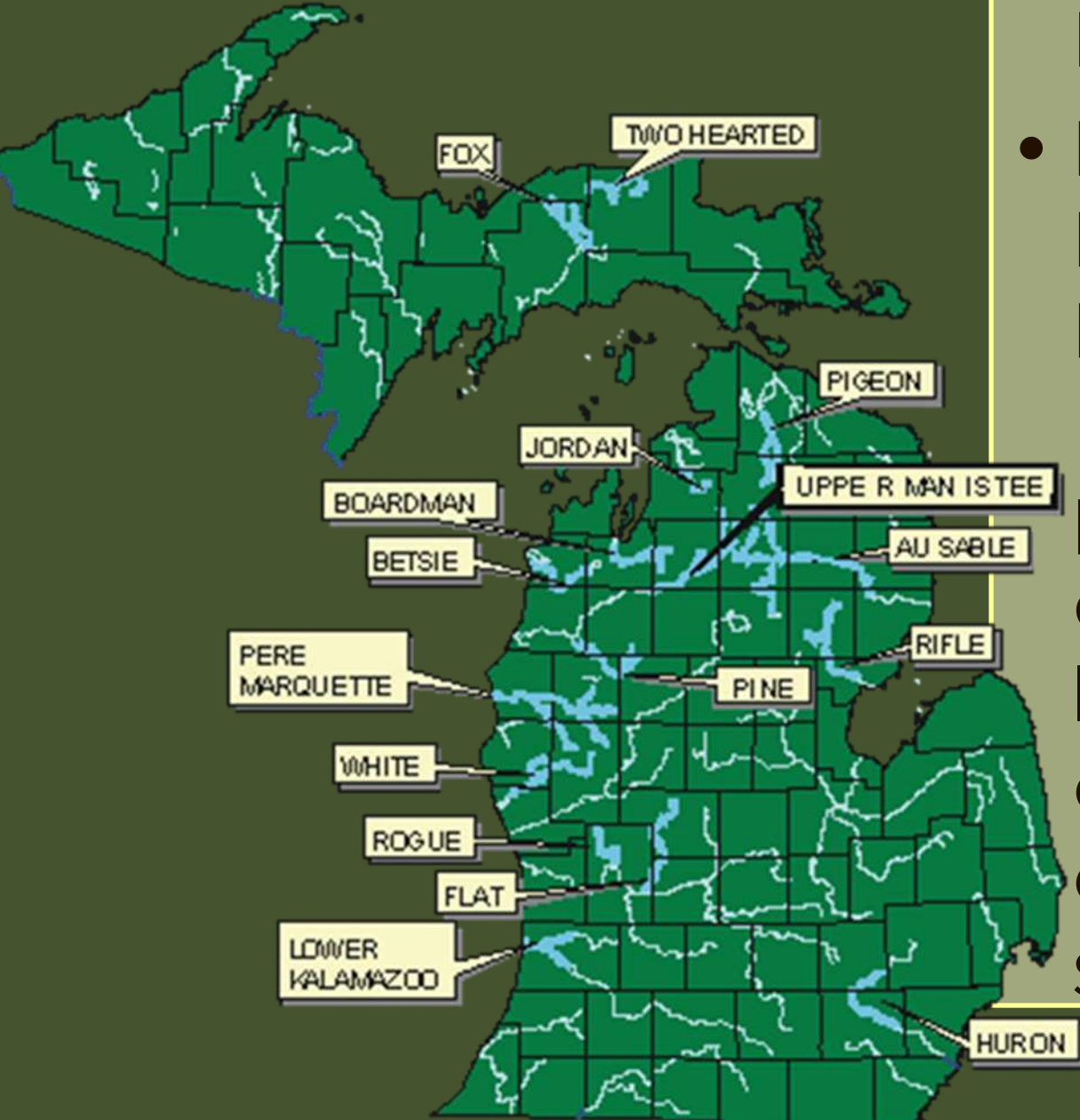
### Legend

- Highway
  - 2017 Grayling Compartments
  - Town & Range
  - Counties
- |                      |                    |
|----------------------|--------------------|
| Alpena Lake Plain    | Kirtland's Warbler |
| AuSable Outwash      | Ogemaw Hills       |
| Avery Hills          | Upper Muskegon     |
| Camp Grayling        | Wurtsmith          |
| Grayling Ice Contact |                    |





# Natural Rivers



- 16 legally designated Natural River Systems.
- Part 305, Natural Rivers, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, provides DNR with legal authority for regulating all land management or construction activities occurring on these river systems.



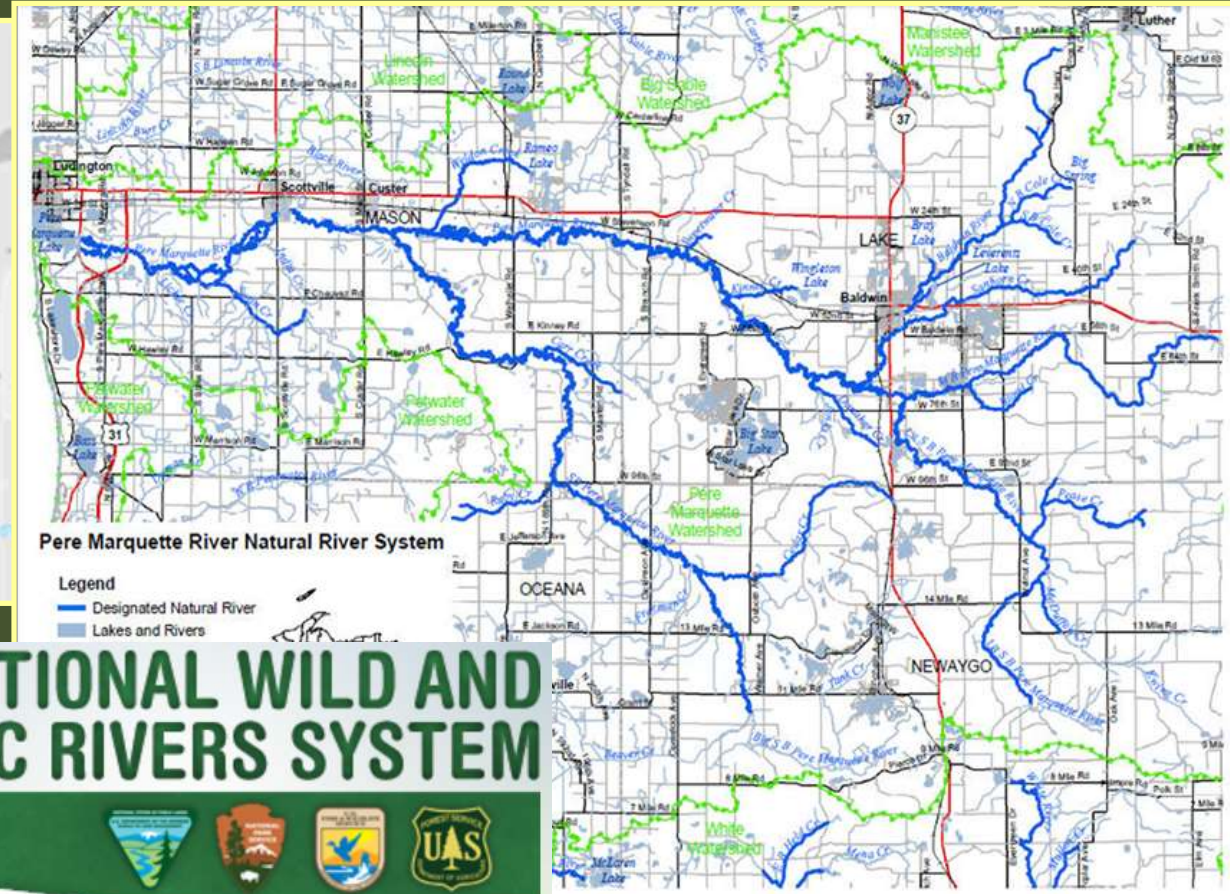
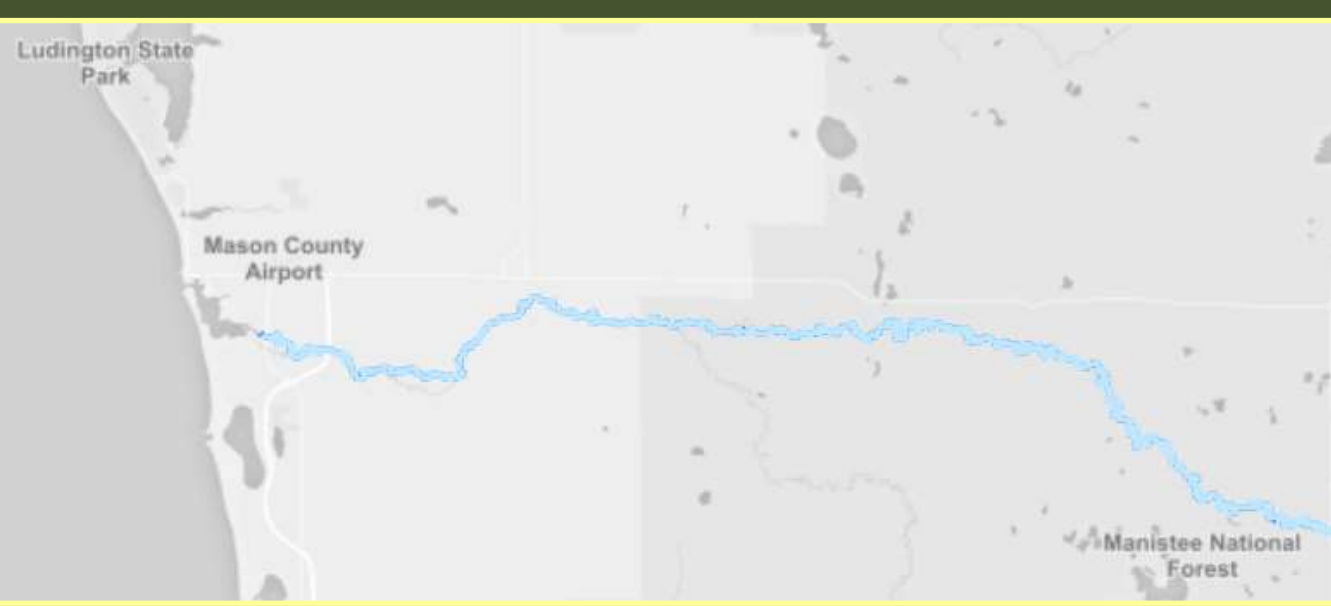


# Natural River Buffers and Fisheries Projects

- All forest management activities within a legally designated Natural River buffer are regulated.
- Each designated Natural River has its own standards regarding buffer widths for both private and public ownerships.
- A permit is required before any activities can take place.



# Wild and Scenic vs. Natural River



## NATIONAL WILD AND SCENIC RIVERS SYSTEM





# DNR Beaver Management Policy

1. Beaver, trout, and the habitats they live in are managed for human needs and wants.
2. The less common natural resource (high quality coldwater streams) must be provided for while still providing opportunities for the more common to exist.





# Negative Effects of Beavers

- Increased water temperatures
- Barriers to fish movement to spawning, nursery, and rearing habitat or thermal refuge
- Increased sedimentation
- Loss of trees
- Increased abundance of non-trout species
- Changes in water chemistry, particularly reduction in dissolved oxygen levels
- Damage by flooding

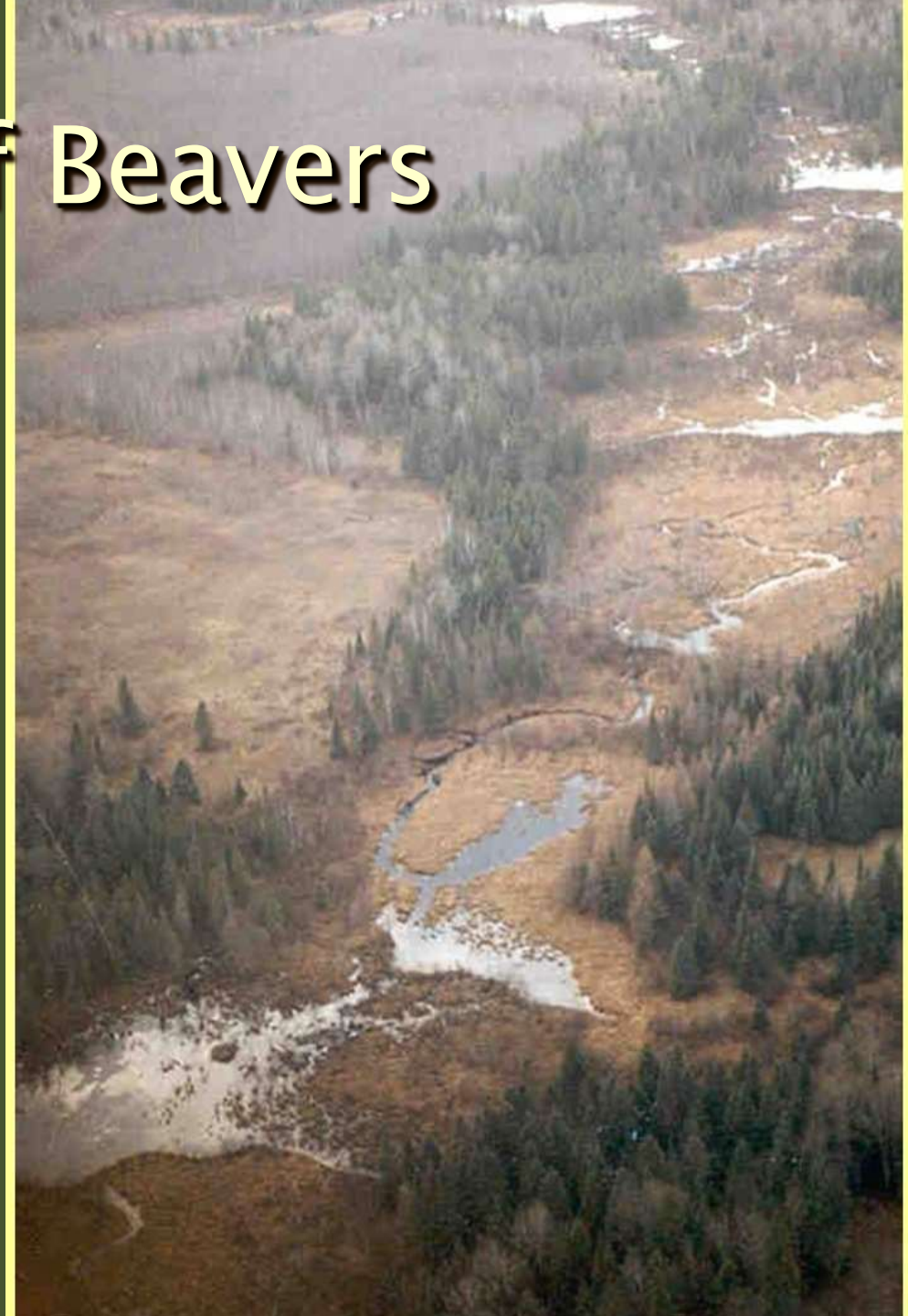




# Negative Effects of Beavers

Cutting practices that promote the growth of aspen adjacent to trout streams enhance habitat suitability for beaver.

Beaver dams, in turn, may have adverse effects on trout habitat quality, particularly when large numbers of dams are built on a coldwater river system.





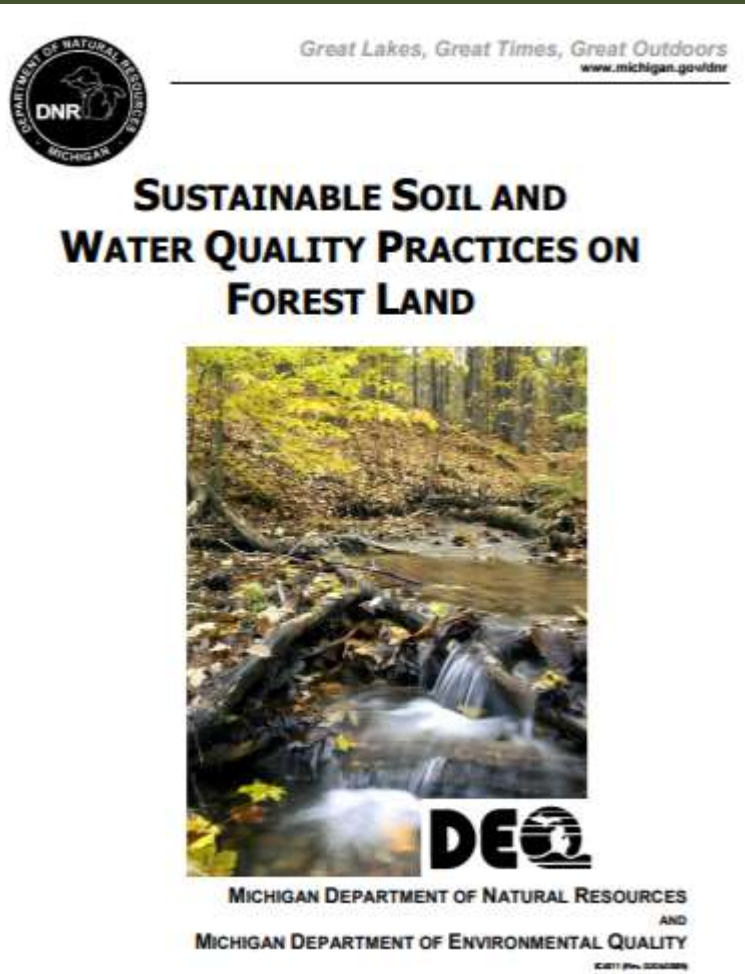
# Solutions to Discourage Beaver

- Coordination to maintain adequate (sometimes 300 foot) buffer along high priority trout streams.
- Manage for long lived conifer species within buffer zone.





# Forestry Best Management Practices

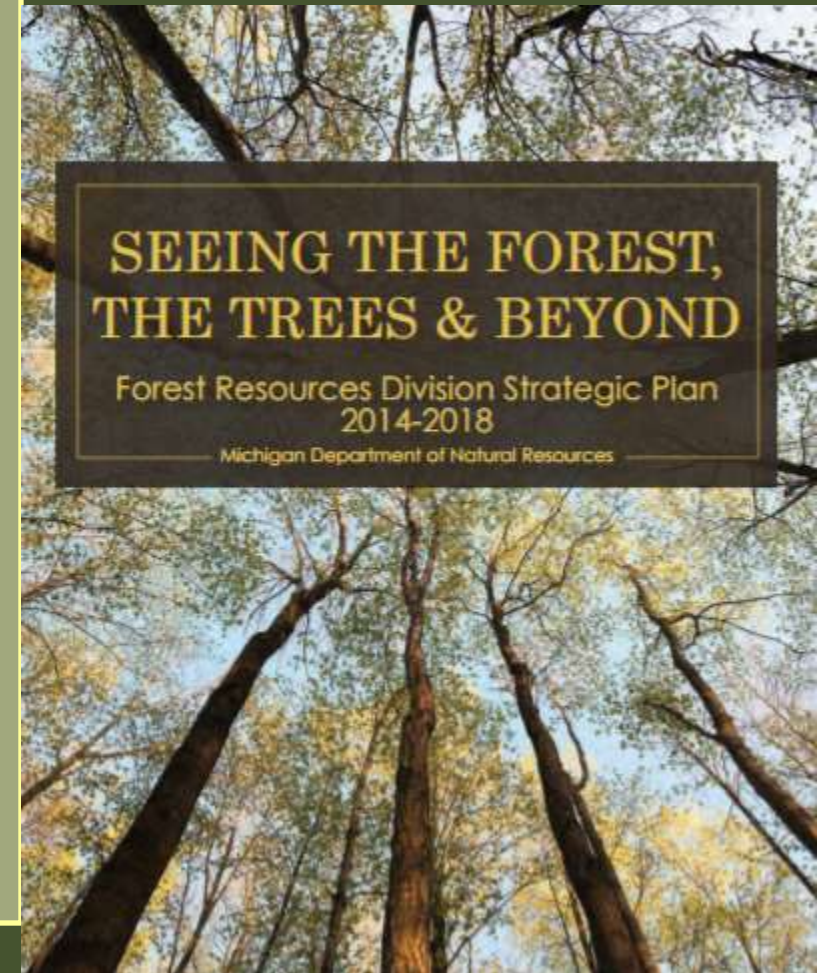


- Water diversion devices on roads (broad base dips, water bars, diversion ditches, etc.)
- Drain surface water into buffer strips or vegetation
- Restrict use of roads during spring breakup
- Close abandoned and low-use roads
- Eliminate water crossings (fords) for skid trails



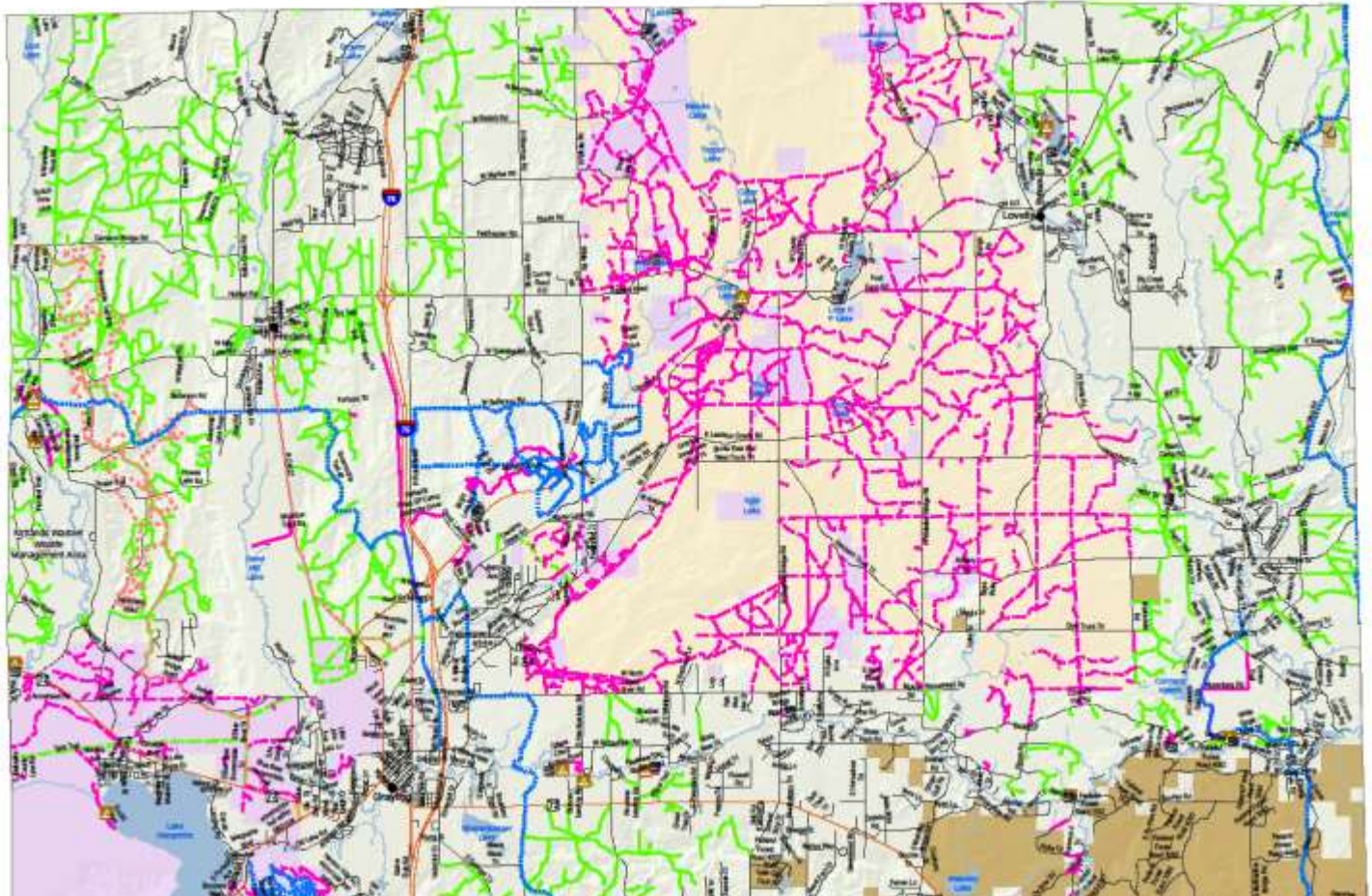
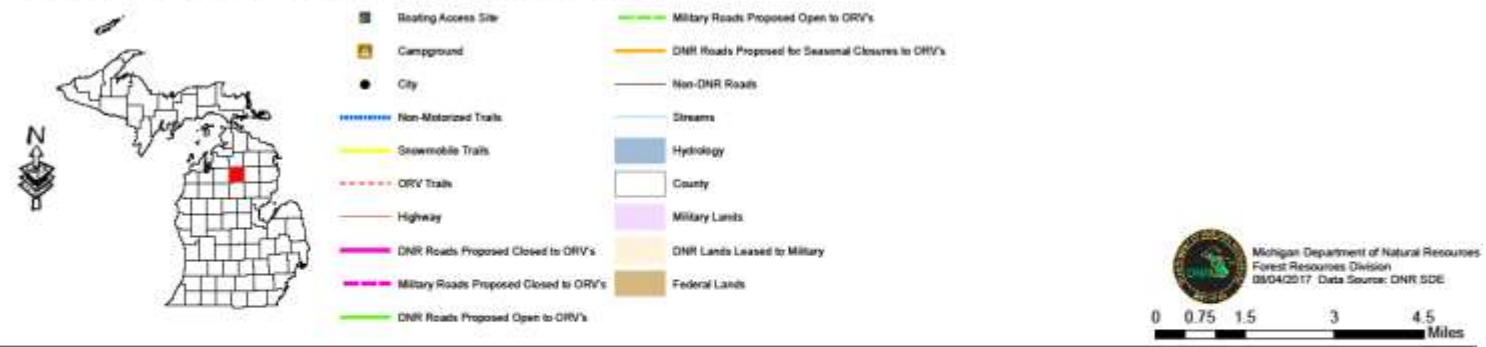
# Roads: DNR Forest Resources Division Strategic Plan – Goal One, Objective 4

- Over 1,800 miles of improved department roads, 6,000 miles of unimproved roads, 100s of bridges, and 1,000s of culverts.
- A comprehensive plan will be developed to identify department-managed roads and infrastructure and formulate a strategy for continued sustainable management.





Crawford County DNR Roads Web Map



# Why are Fisheries Biologists concerned with roads?

- Buffers
  - Natural Rivers
- Sediment
- Aquatic Organism Passage

## PA 288

- Inventory State Forest Roads
- ORV Rules





# Ever Fish in a Corn Field?



ForestsForFish.org



[ricarpfishing.blogspot.com](http://ricarpfishing.blogspot.com)



[captaingingo.com](http://captaingingo.com)



# Think About the Watershed



- The headwaters (including springs, seeps, and wetlands) are the lifeblood of many streams
- “Stuff” rolls downhill- Anything you do upstream affects all areas downstream





**Jessica Mistak 906-789-8212**  
**[mistakj@michigan.gov](mailto:mistakj@michigan.gov)**

