Bone Lake Carp Barrier

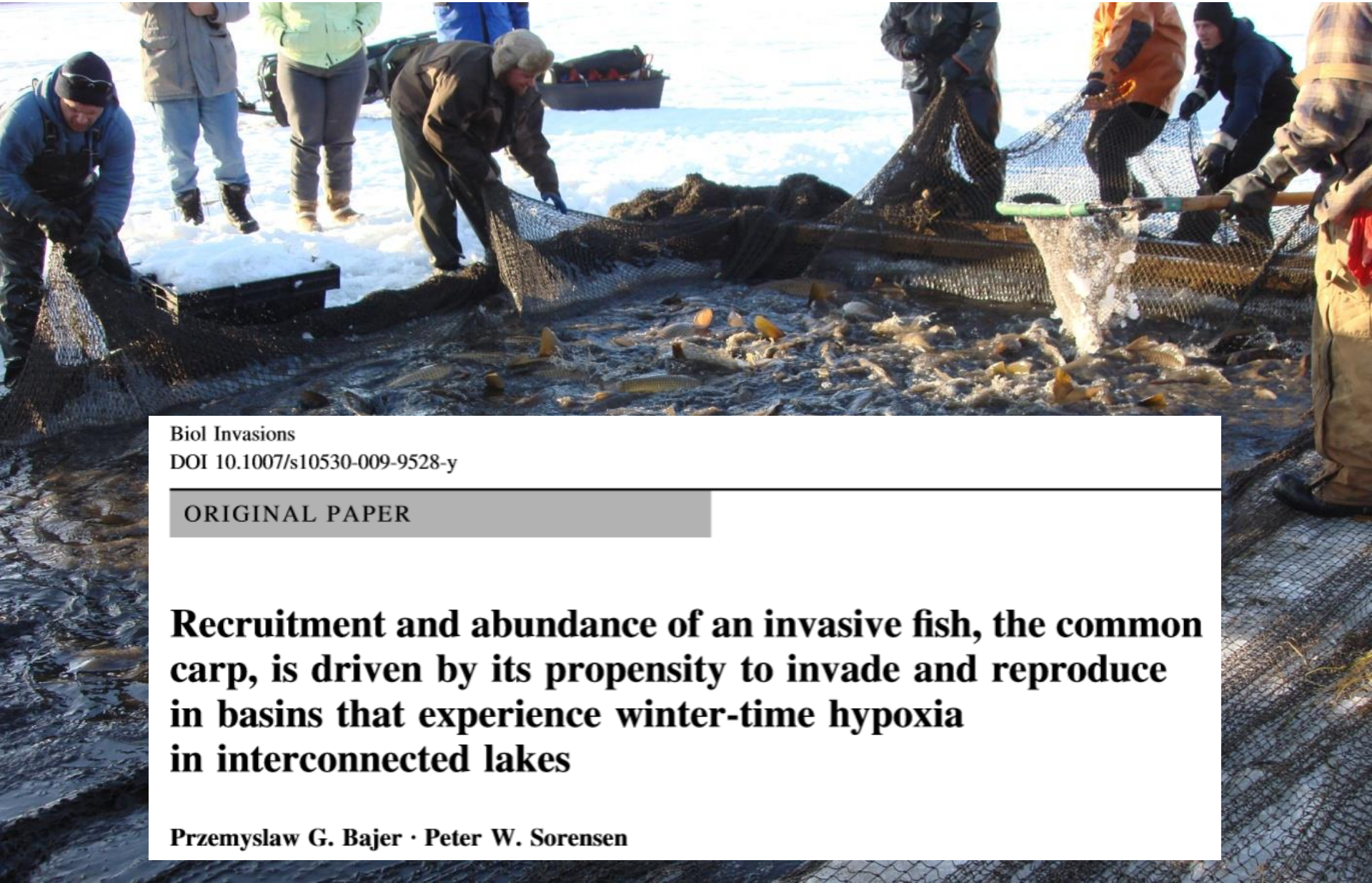
Carp degrade lake water quality

Feeding resuspends sediment

More phosphorus = more algae = murky water

Lake Wingra, WI (Univ. of Wisconsin)

Life history as a management tool…



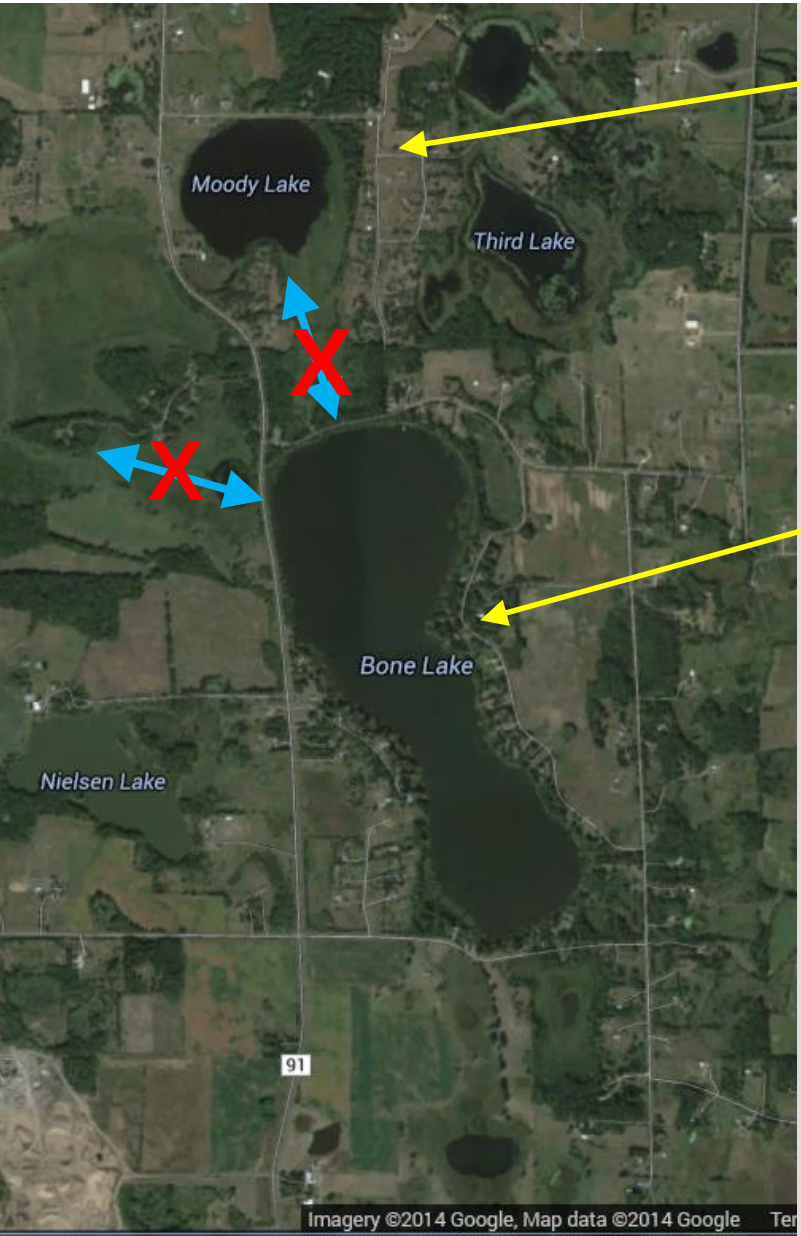
Biol Invasions
DOI 10.1007/s10530-009-9528-y

ORIGINAL PAPER

Recruitment and abundance of an invasive fish, the common carp, is driven by its propensity to invade and reproduce in basins that experience winter-time hypoxia in interconnected lakes

Przemyslaw G. Bajer · Peter W. Sorensen

An interconnected lake system



Moody Lake

- Experiences winterkill
- Potential spawning place for carp
- Water Quality Grade: D+

Bone Lake

- Carp are degrading water quality
- Outlets to Sunrise River (w/ carp)
- Water Quality Grade: C

COMFORT LAKE
~ WATERSHED DISTRICT ~
FOREST LAKE
Protecting Your Water Resources

Grate fish barrier

Pros:

- Simple
- Minimal construction
- Cost effective

Cons:

- Requires frequent maintenance
- Collects aquatic plants and other debris
- Allows passage of small fish

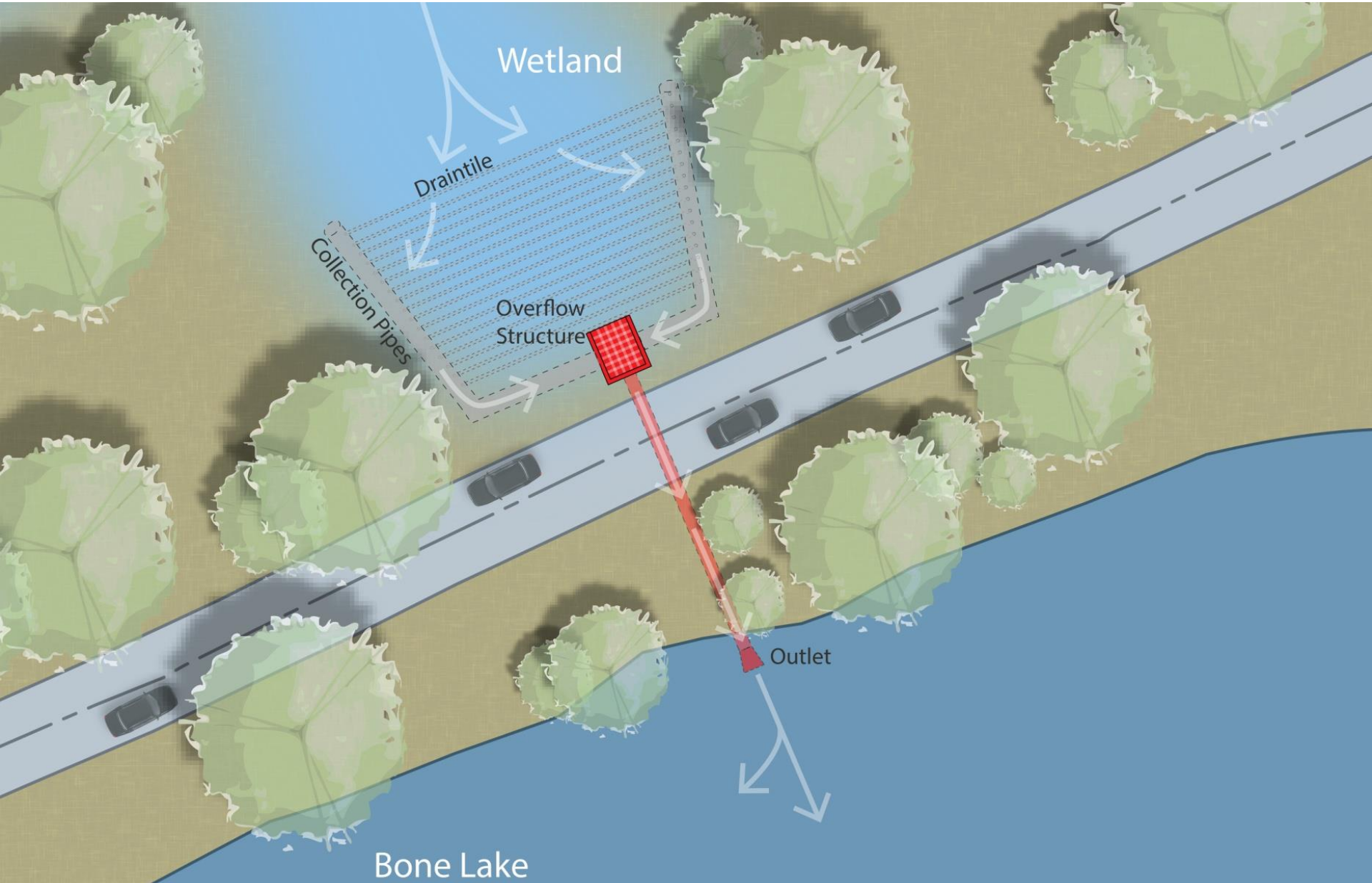
Hybrid fish barrier: Draintile + grate

DNR carp barrier goals:

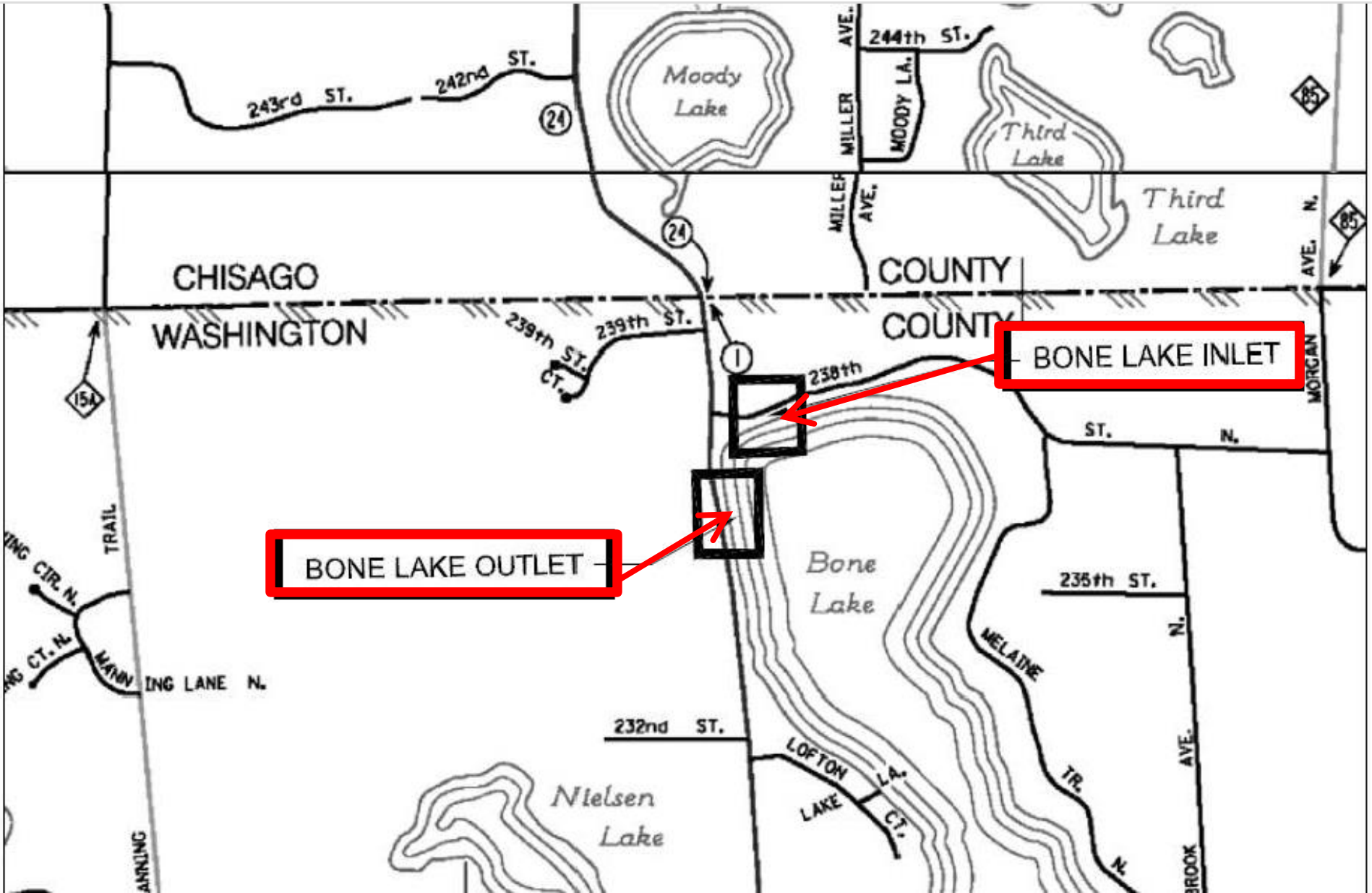
- Maintain lake levels and flows
- Limit movement of all fish sizes
- Flexible operation
- Minimal maintenance
- Fail safe

East Metro Fisheries Office

Hybrid fish barrier design

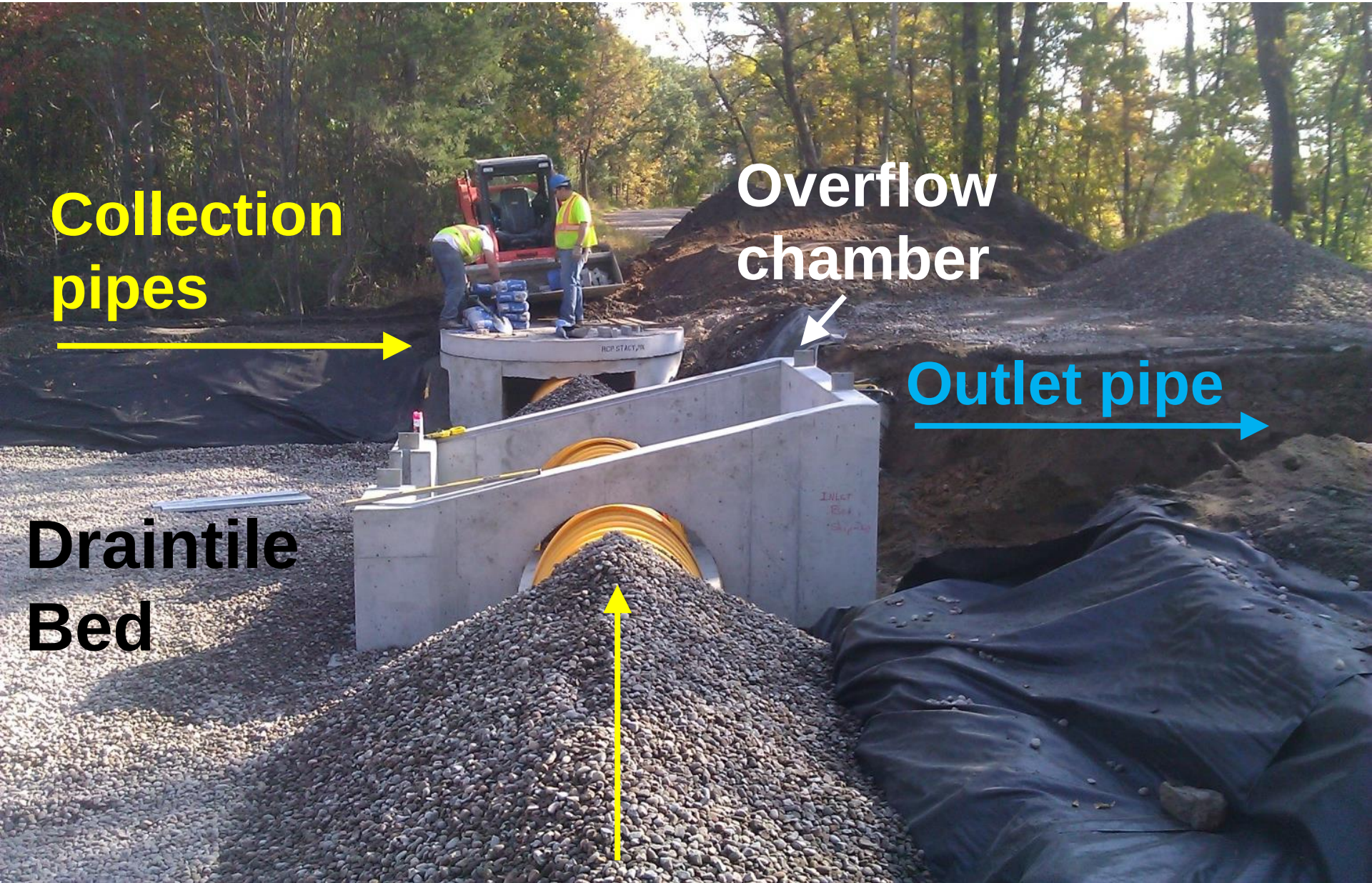


Fish barrier sites



Construction of draintile bed

Construction of overflow chamber



Overflow chamber

Final construction

Post construction

Fall 2012


CLEAN
WATER
LAND &
LEGACY
AMENDMENT
WATER QUALITY
IMPROVEMENT PROJECT

Snowmelt 2013

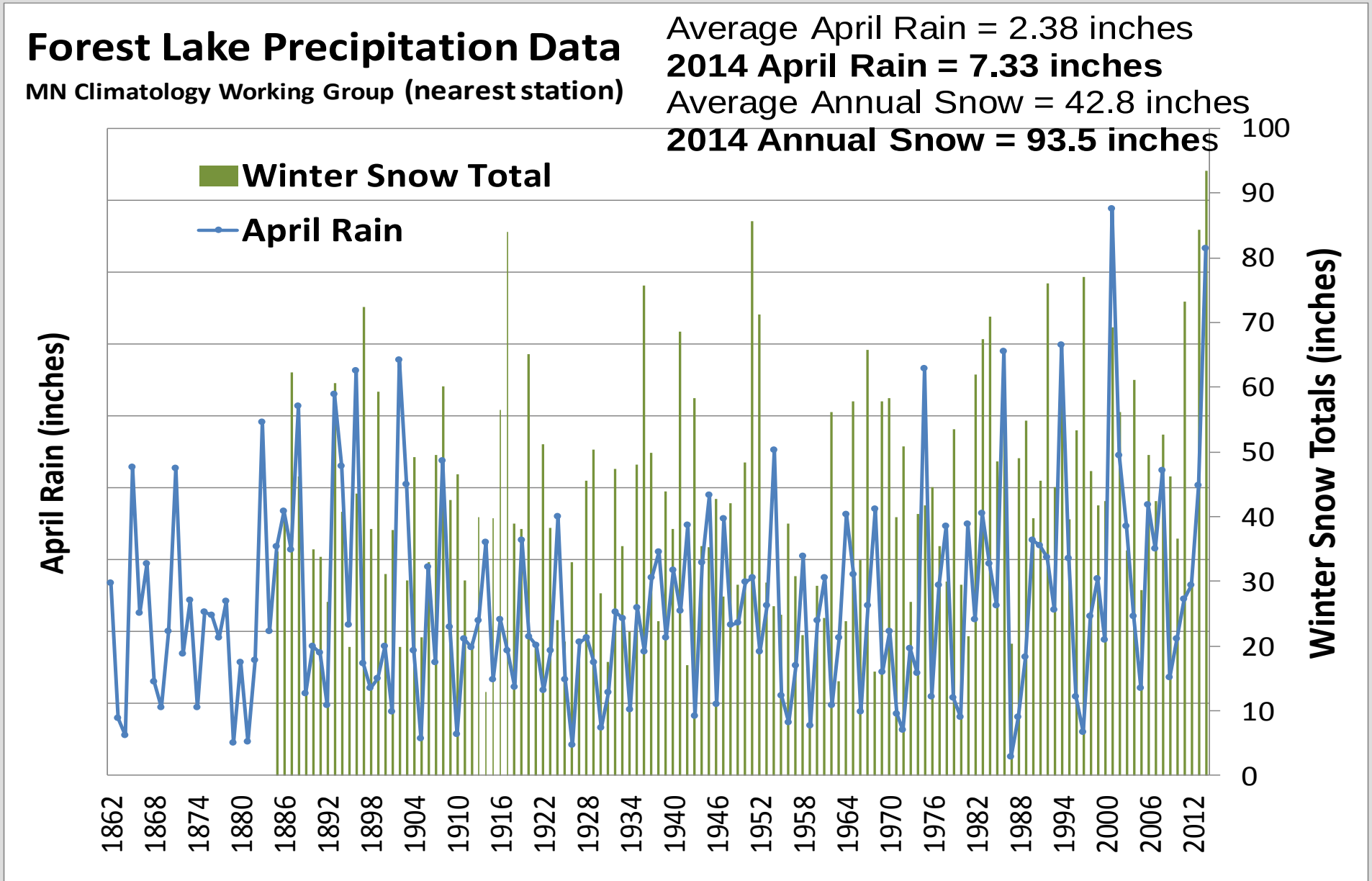
Snowmelt 2013

Snowmelt 2013

April 2013

April 2013

Winter 2013/2014!!



Levels exceed overflow in May 2014

Grates clogged with aquatic plants

High flow trapped turtles against grate

Acknowledgments