Restoration of Degraded Fish and Wildlife Habitat and Populations in the Milwaukee Estuary AOC

2014 Upper Midwest Stream Restoration Symposium

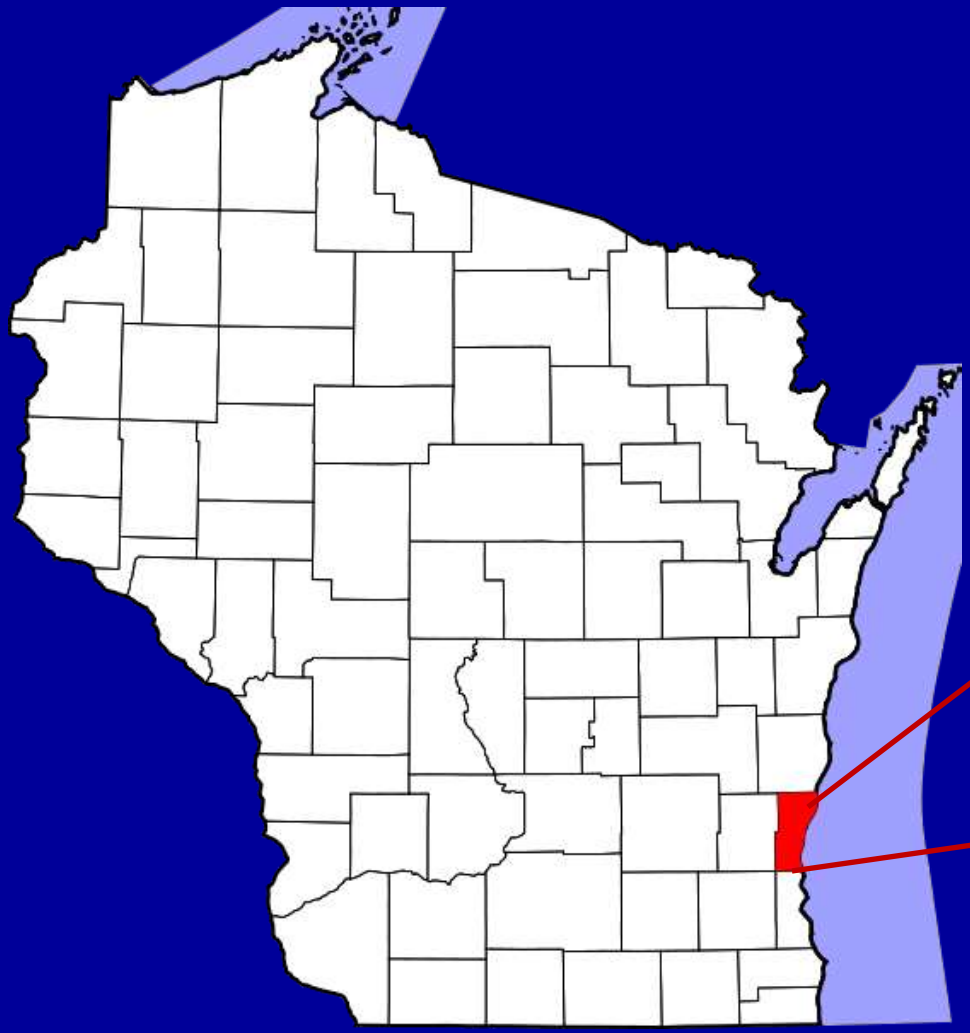
Andrew T. Struck, Director - Ozaukee County Planning and Parks Department

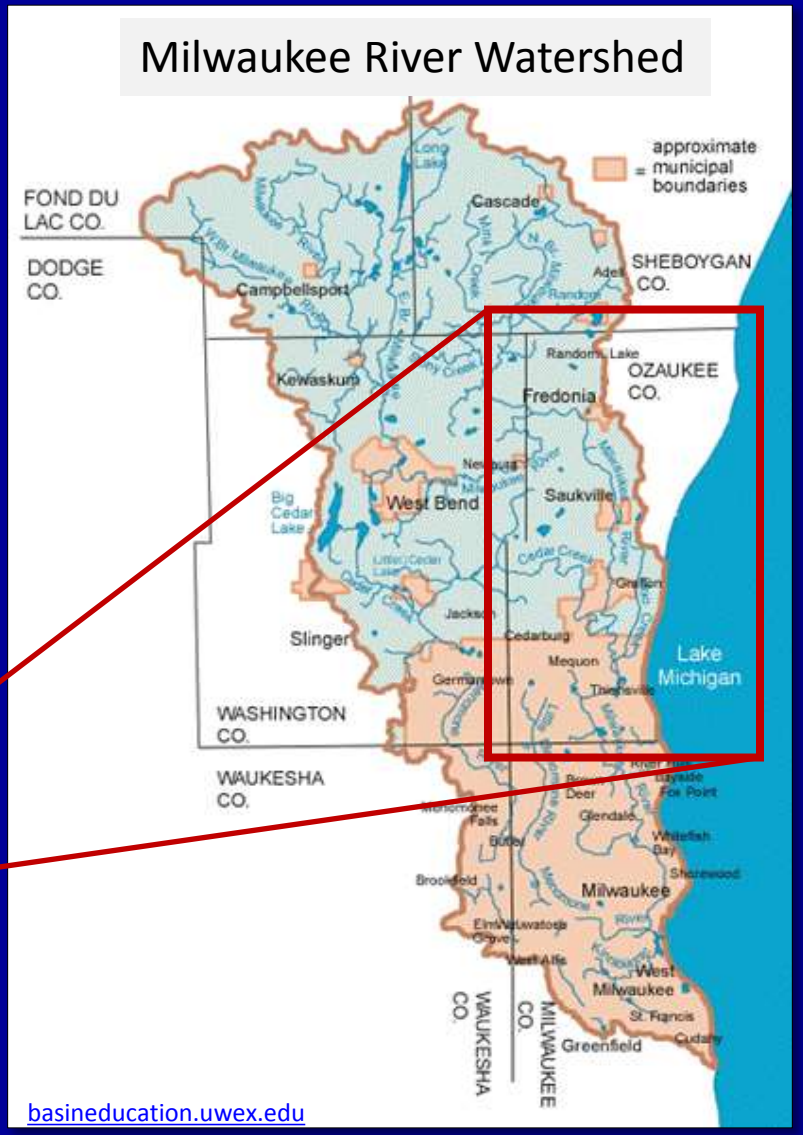
PRRSUM

PARTNERSHIP FOR RIVER RESTORATION AND SCIENCE IN THE UPPER MIDWEST

OZAUKEE FISH PASSAGE PROGRAM

Program Location – Ozaukee County, WI

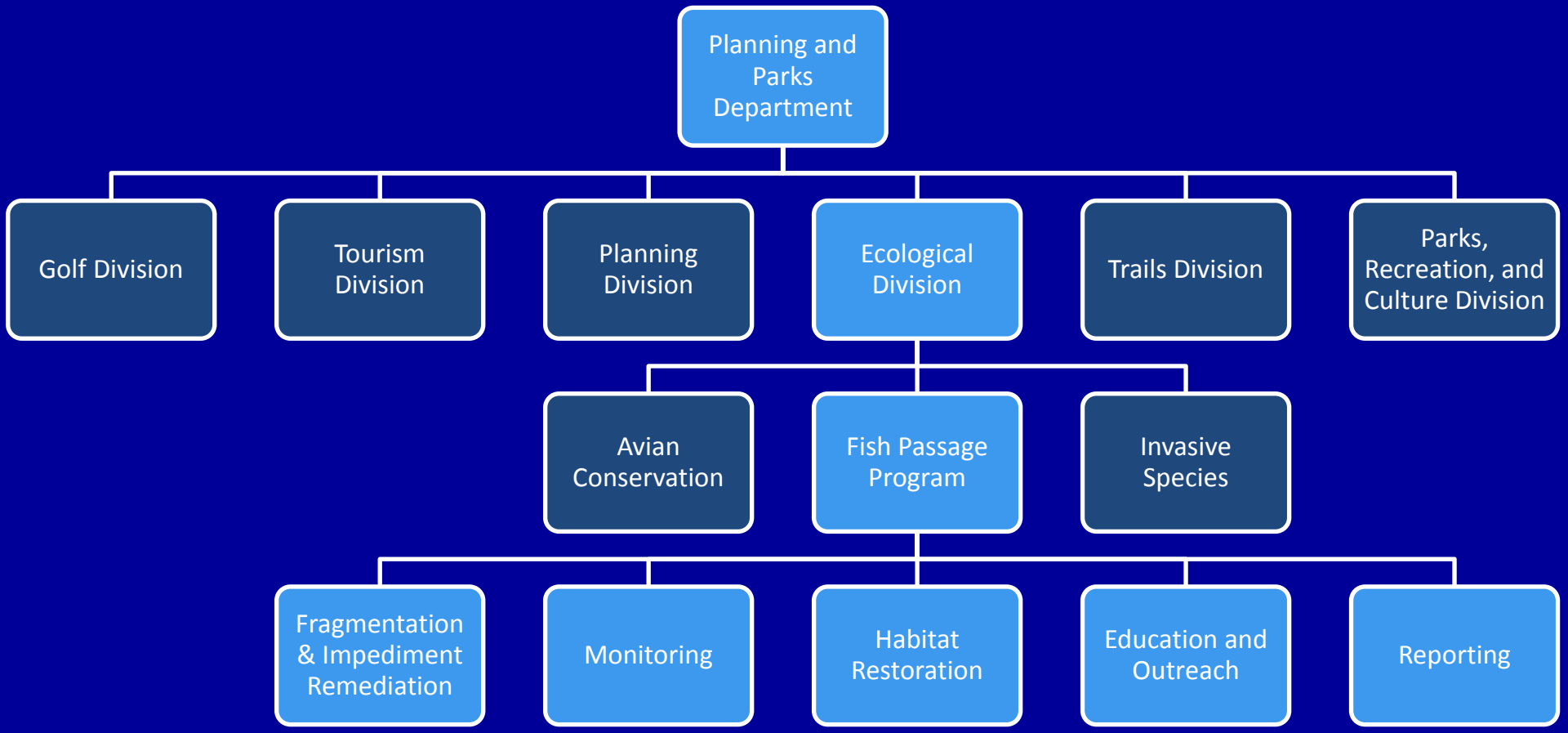




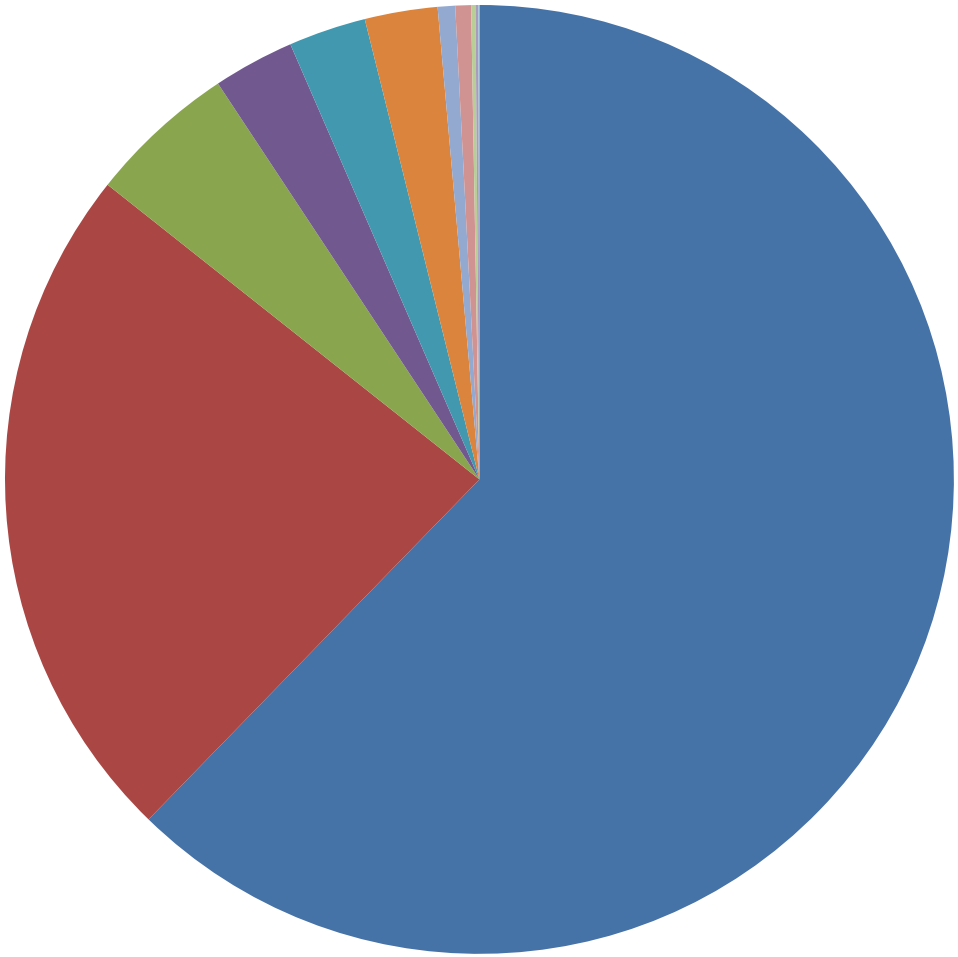
Ozaukee Fish Passage Program Summary

- $5.24 Million NOAA/ARRA Grant Awarded (2009 & 2010): Restore Fish Passage in the Milwaukee River Watershed
- $1.48 Million USEPA GLRI Grant Awarded (2010): Enhancing Ecological Productivity
- $491,000 USEPA GLRI Grant Awarded (2010): Monitoring to Address 7 of 11 BUIs
- Several federal, state, and private grants ($1.03 million)
- Program Scope
  - 30 tributaries
  - Four mainstem dams
  - Develop GIS Model for Prioritizing Habitat and Restoration Activities
  - Water Quality Monitoring
  - Sediment Sampling
  - Fisheries Monitoring

Ecological Division – Fish Passage & Habitat Program



Ozaukee Fish Passage Program
Grant Funding Received



- National Oceanic Atmospheric Administration
  $5,246,850 - 62.15%
- US Environmental Protection Agency
  $1,989.640 - 23.33%
- Fund For Lake Michigan
  $424,956 - 5.03%
- US Fish and Wildlife Service
  $233,000 - 2.76%
- Wisconsin Department of Natural Resources
  $222,186.57 - 2.63%
- National Fish and Wildlife Foundation
  $208,874 - 2.47%
- Great Lakes Fishery Trust
  $49,987 - 0.59%
- Wisconsin Coastal Management Program
  $44,983 - 0.53%
- Ozaukee County Land and Water Management
  $12,250 - 0.15%
- Milwaukee Audubon Society
  $8,299 - 0.10%
- Wisconsin Energy Foundation
  $3,000 - 0.04%

Theme – “Making Connections”

Renewing “Old” Connections

- Lake Michigan
- Milwaukee River
- Milwaukee Estuary AOC
- Tributary Streams
- Spawning and Rearing Habitat

Ozaukee County
Elected Officials
Municipalities
Businesses
Schools
NGOs
Citizens/Landowners
Volunteers

Forming “New” Connections With Non-Traditional Stakeholders Through Collaborative Partnerships

Watershed-Wide Conservation Approach

ADAPTIVE MANAGEMENT	PROJECT	Example	PROGRAM	Example
Planning	Opportunity	Landowner / Impediment	Measurable Outcomes	Metrics - Socioeconomic / Biological
Research / Design	Immediate Needs	Permitting / Design & Engineering Criteria	Long term / Watershed Scale	Level of Effort / Priority – Inventories / GIS modeling
Implementation / Program Delivery	Objectives	Construct Fish Passage / Remove Impediment	Multiple Objectives to Achieve Goal	Dams and Other Barriers (Public Works / Cons. Corps)
Monitoring / Evaluation	Demonstrate Success	Target Species	Identify Next Steps	Beneficial Use Impairments

Northern Pike Life Cycle & Habitat Fragmentation

Eggs

Develop in wetlands and streams

Larvae

Drift downstream to Lake Michigan

Critical passage barrier

Fry

Juveniles

Critical passage barrier

Adults

Migrate up from Lake Michigan

Spawning

Aquatic Connectivity – Linear and Lateral

- Much of SE Wisconsin's desirable aquatic habitat has been lost or significantly altered
- Quality natural aquatic habitat remain and are protected, but are ecologically isolated
- Creating aquatic habitat is expensive and typically inferior
- ***Linear*** Impediments and Connectivity
  - Passability within rivers and streams
- ***Lateral*** Impediments and Connectivity
  - Connections from rivers and streams to adjacent wetlands, floodplains, and associated habitat

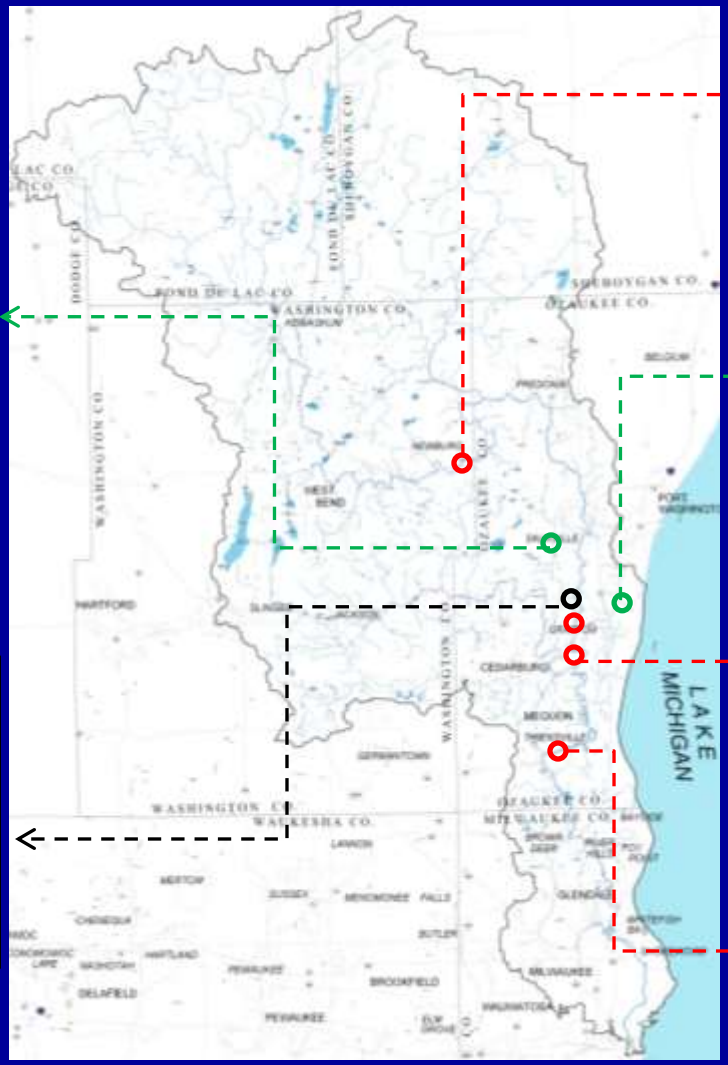
Linear Connectivity Impediments

- Poorly designed/ installed culverts
- Large and Low-Head Dams
- Excessive water velocities
- Pervious fill deposits
- Channel-constricting bridge abutments
- Debris jams and channel aggradation
- Certain log jams
- Sediment deposits
- Invasive vegetation

Ozaukee County Fish Passage Case Studies

Mole Creek Habitat Enhancement (2014)

Mole Creek/CTH O Culvert Replacement (2012)



Newburg Dam Removal (2012)

Ulao Creek Habitat Enhancement (2013-2014)

Lime Kiln Dam Removal (2010)

Mequon-Thiensville Dam Passive "Nature-Like" Fishway (2010)

Mequon-Thiensville Dam – Village of Thiensville

Mequon-Thiensville Dam – Village of Thiensville

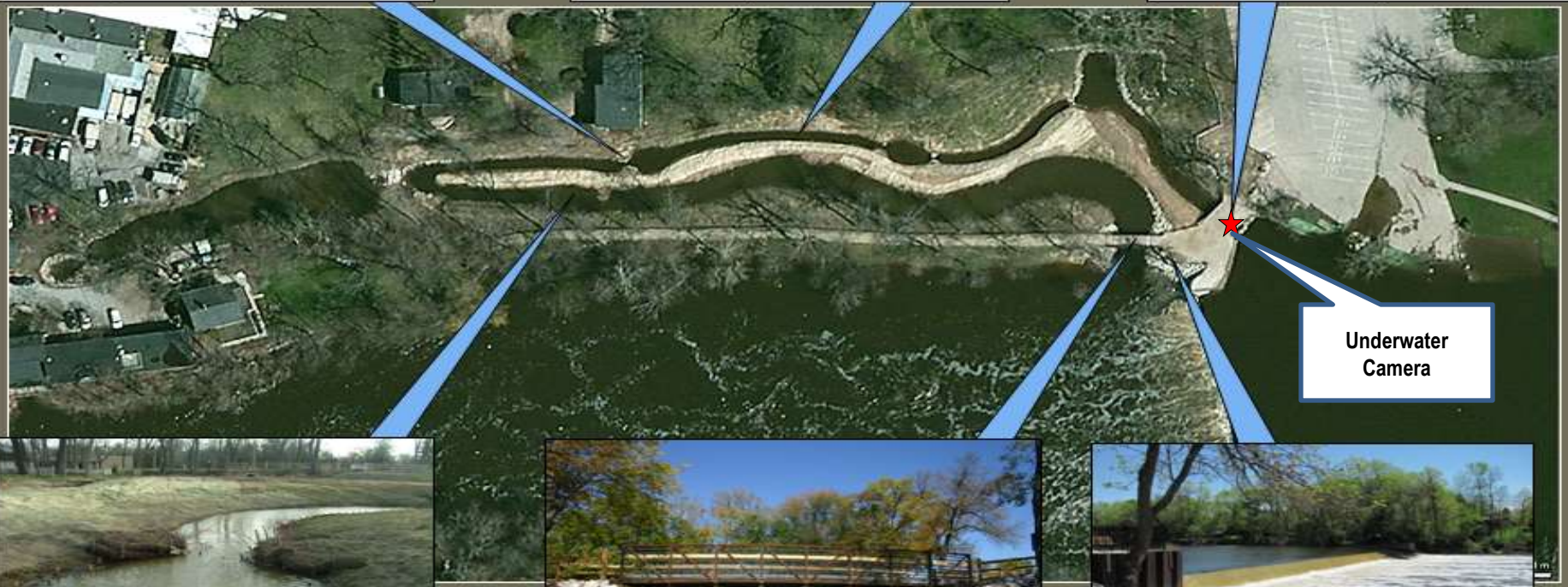
- Hydraulic height: 6 feet
- Impoundment: 700 acres
- Not a complete barrier to all fish in all conditions
- Miles isolated: 10 mainstem miles
- Dam repair or removal order
- North (L) bank: Abandoned raceway and Village of Thiensville Park/boat launch
- South (R) bank: Private homes
- Impoundment: Very popular for recreation
- Sediment: Documented PCB contamination

Mequon-Thiensville Dam – Fishway Construction

One of eight rock weirs that allow fish to move through the fishway elevation change

Submerged logs, placed during construction to provide overhead cover

The fishway exit, providing fish access to the Milwaukee River upstream of the dam



Pools above each rock weir, allowing fish to rest and continue swimming upstream

The fishway entrance and first rock weir, located beneath the pedestrian bridge

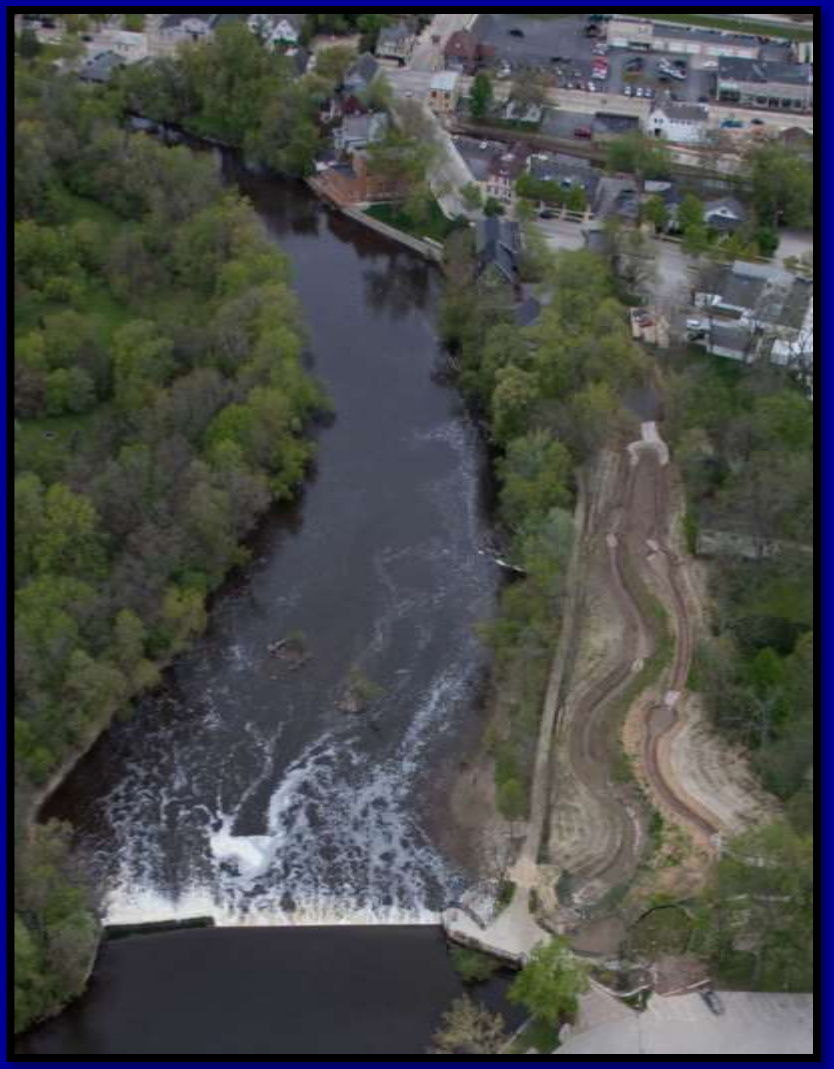
The Mequon-Thiensville Dam, no longer an impediment to native fish passage

Mequon-Thiensville Fishway Camera

- Underwater camera and PIT tag readers
- Since June of 2011:
  - Thousands of fish
  - 36 species
  - 35 PIT-tagged fish
  - Other wildlife (e.g. beaver, otter, etc.)
- Streaming live at www.ozaukeefishway.org

Mequon-Thiensville Dam & Fishway Summary

- Water Quality:
  - Low DO, High Nutrients, High Temps
- Sediment Transport
  - Limited transport, contaminants found in impoundment
- Aquatic Connectivity/Habitat
  - Improved passage for most species, impoundment habitat degraded
- Aquatic Invasives
  - Dam not full impediment, can monitor & close fishway if necessary
- Infrastructure/Cost
  - Total approximate costs: $1,047,566
  - Ongoing fishway and dam maintenance, liability
- Recreation
  - Some boating, portage & safety issues, some fishing in impoundment



Newburg Dam – Village of Newburg

Newburg Dam – Village of Newburg

- Hydraulic height: 5 feet
- Impoundment: 7 acres
- Not a complete barrier to all fish in all conditions
- Miles isolated: 13 mainstem miles
- Dam repair or removal order

- South (L) bank: Village park
- North (R) bank: Residential development

- Impoundment: Minimal recreation and fishing
- Sediment: Low-level cadmium contamination

Newburg Dam Removal and Restoration

Newburg Dam Removal and Restoration

Newburg Dam Removal

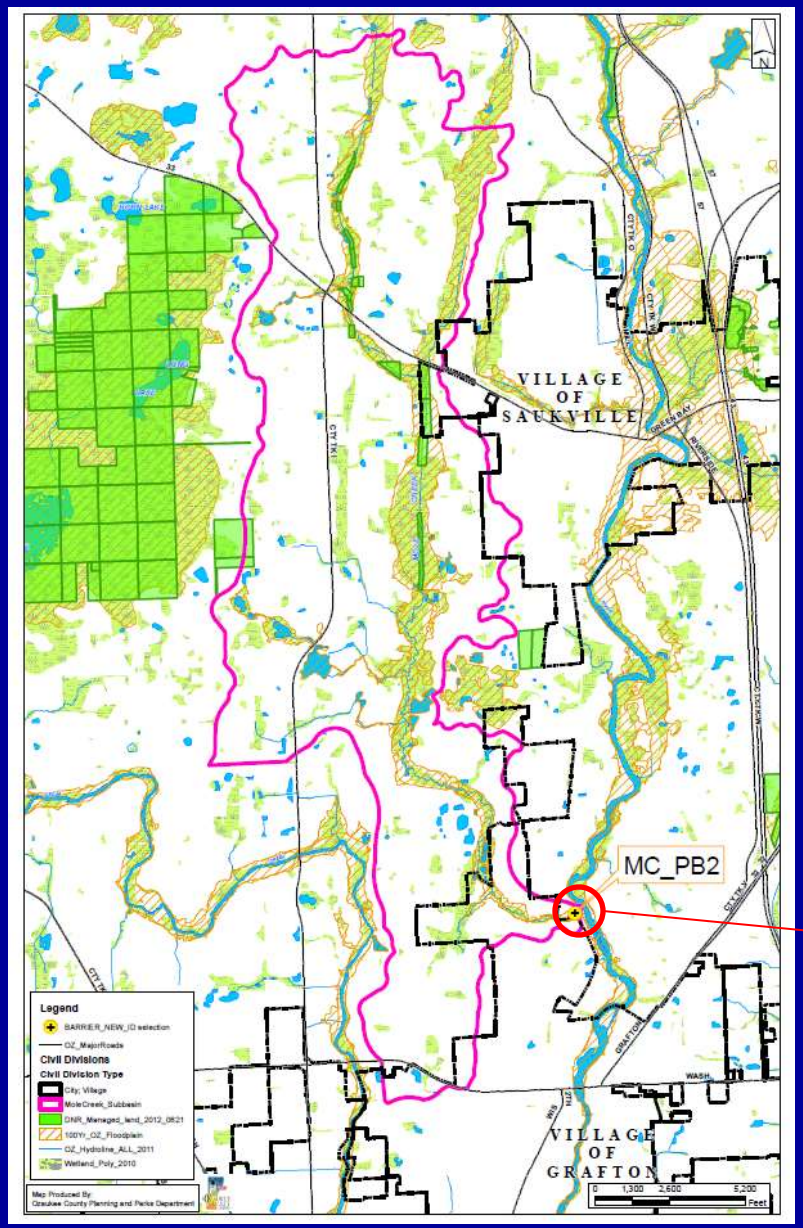
- Water Quality:
  - Improved DO, Low Nutrients, Low Temps
- Sediment Transport
  - Improved, contaminants found & removed from impoundment
- Aquatic Connectivity/Habitat
  - Improved passage & habitat for most species
- Aquatic Invasives
  - Dam was not a full impediment
- Infrastructure/Cost
  - Total approximate costs: $714,489
  - No ongoing liability or maintenance costs
- Recreation
  - Canoeing/Kayaking, improved fishing for all species

Milwaukee River Mainstem Miles Reconnected

Lake Michigan to Mequon-Thiensville Fishway	20 miles
Mequon-Thiensville Fishway to Lime Kiln Dam	10 miles
Lime Kiln Dam to Bridge Street Dam	2 miles
	32 miles

Bridge Street Dam to Newburg Dam	24.5 miles
Newburg Dam to Barton Dam (West Bend)	13 miles
	37.5 miles

Mole Creek Watershed



- Ozaukee County's Only Cool/Cold Water Stream
- 5,682 Acres (8.9 sq miles)
- 16.1 Main Stem and Tributary Miles
- 771 Acres of 100-yr Floodplain
- 810 Acres of Connected Wetlands

Most downstream impediment

Mole Creek – County Highway O

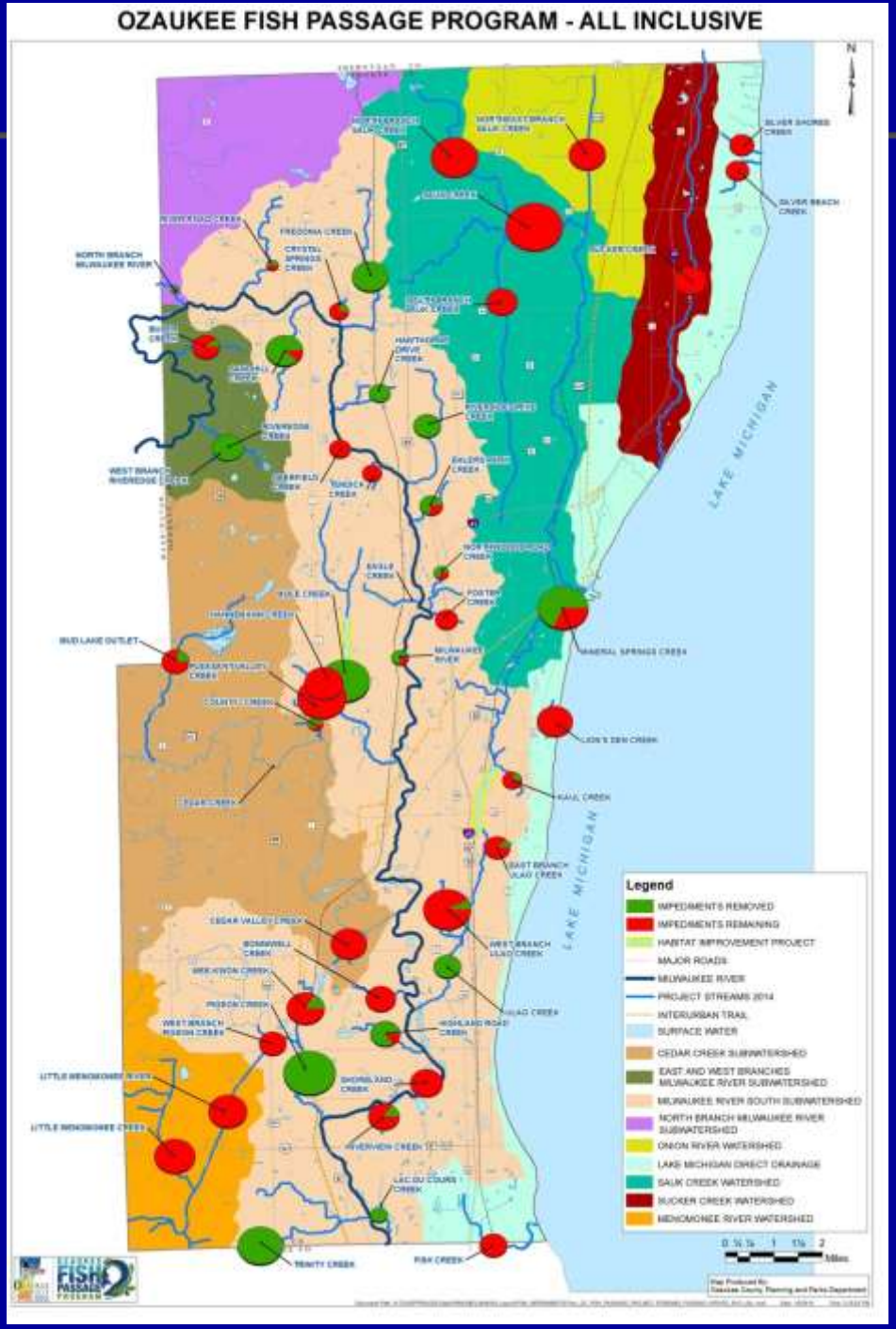
- Single 10’ x 98’ aluminum CMP
  - Constriction – velocity barrier
  - Settled and damaged – raised inlet/upstream pond
- Outlet perched above streambed – barrier for most fish in most conditions
- Isolates nearly all of the Mole Creek Watershed
  - Only documented cold/coolwater stream in County
- County Highway – High traffic volume
- Bottomless 24’ aluminum arch
- Extensive utility conflicts/coordination
- Cross-vane and rock bands

OZAUKEE FISH PASSAGE PROGRAM - ALL INCLUSIVE

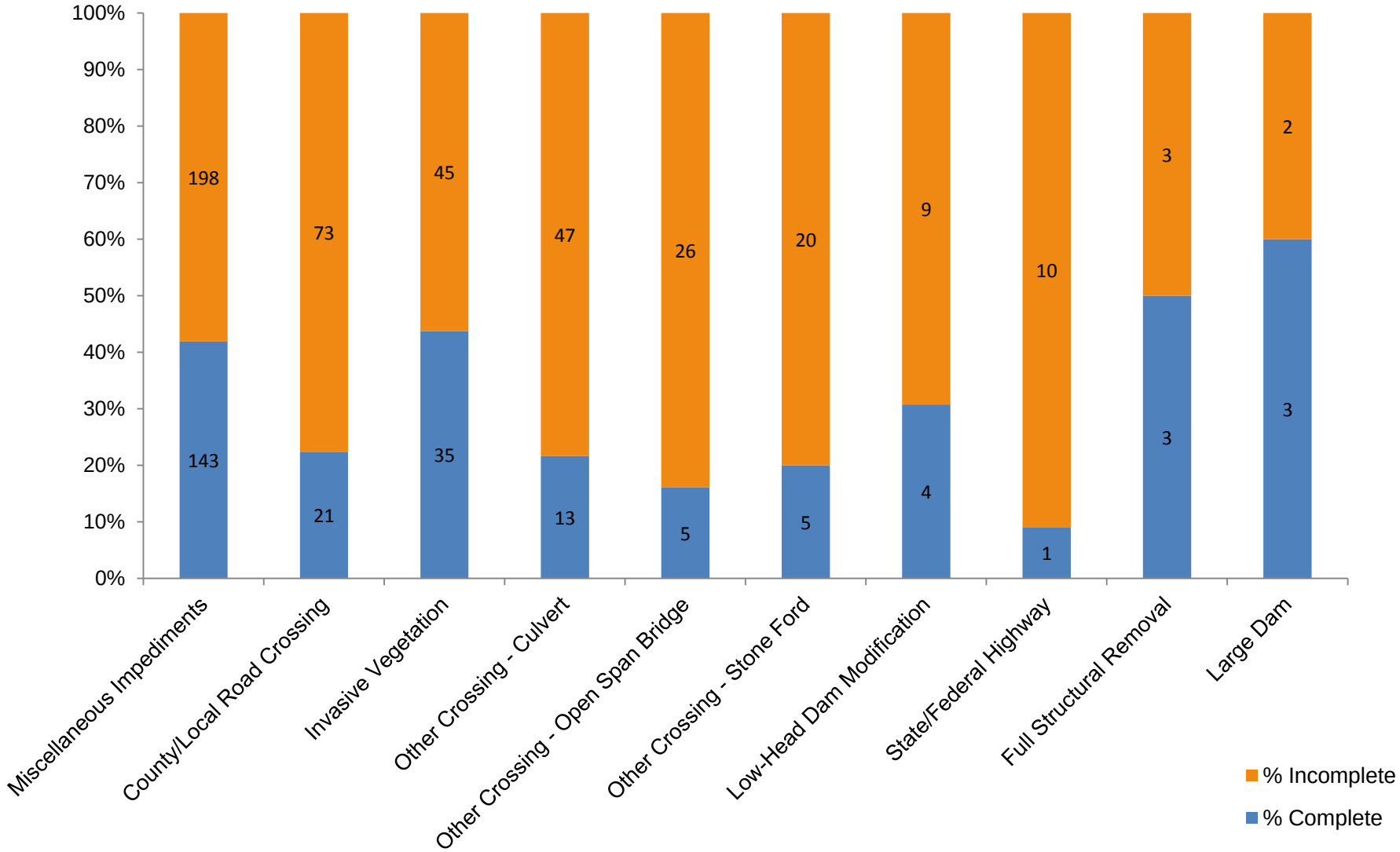
IMPEDIMENT TOTALS - 1/2014

INVENTORIED = 666
REMOVED = 233
REMAINING = 433

35% COMPLETED

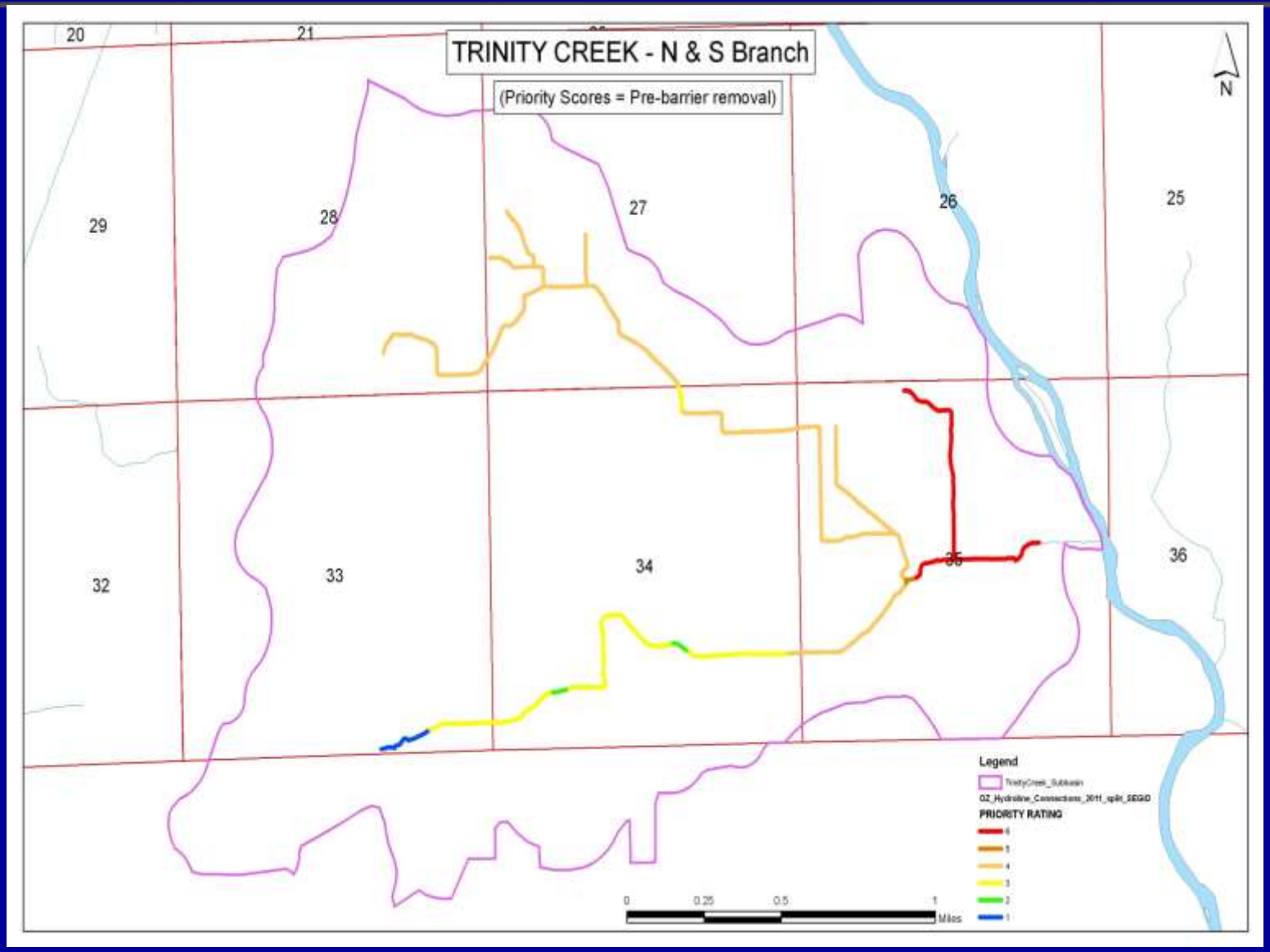


All Inclusive Streams
Identified Impediments

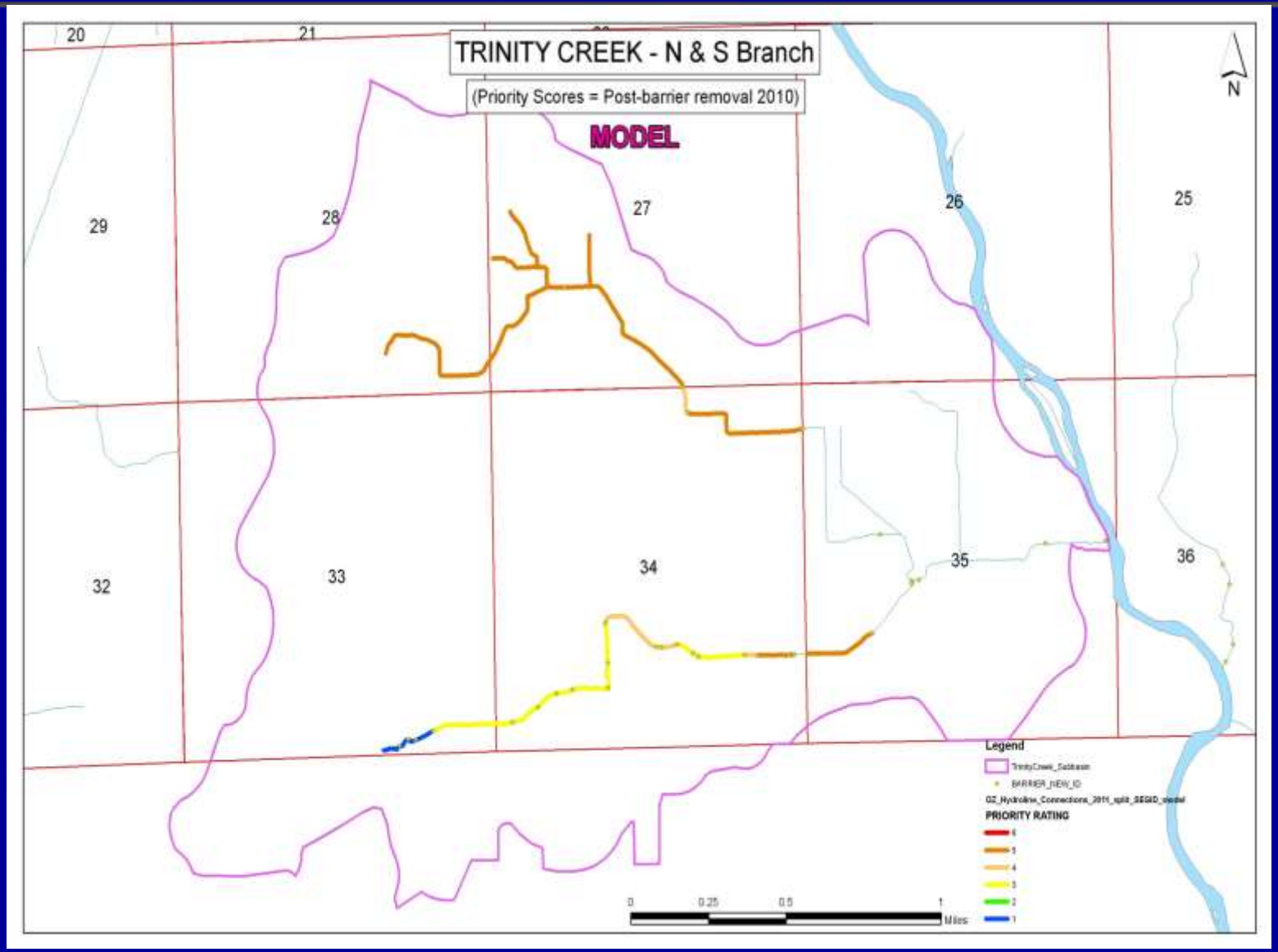


428 Incomplete, 233 Complete

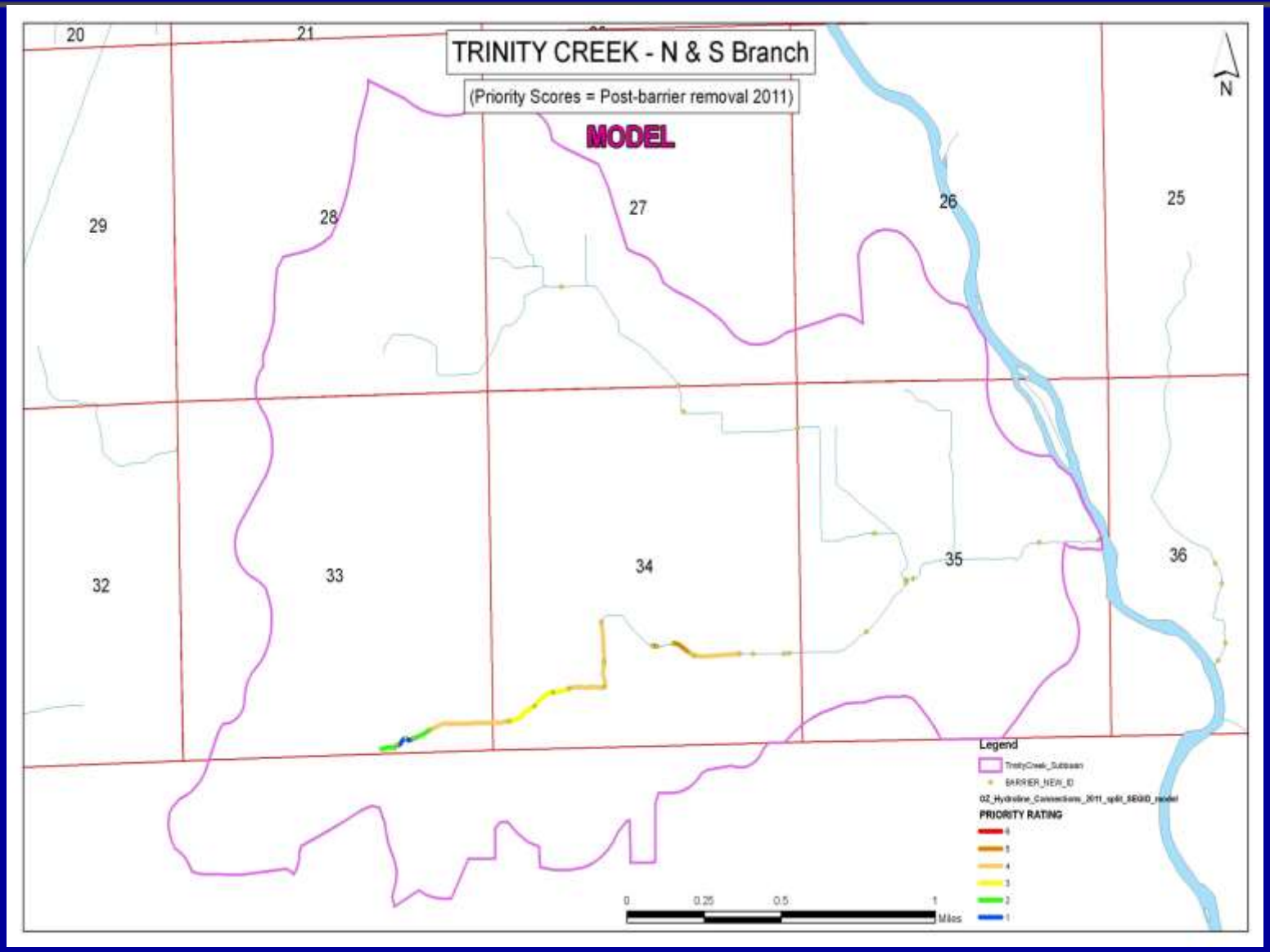
Stream Reach Prioritization Methodology



Stream Reach Prioritization Methodology



Stream Reach Prioritization Methodology

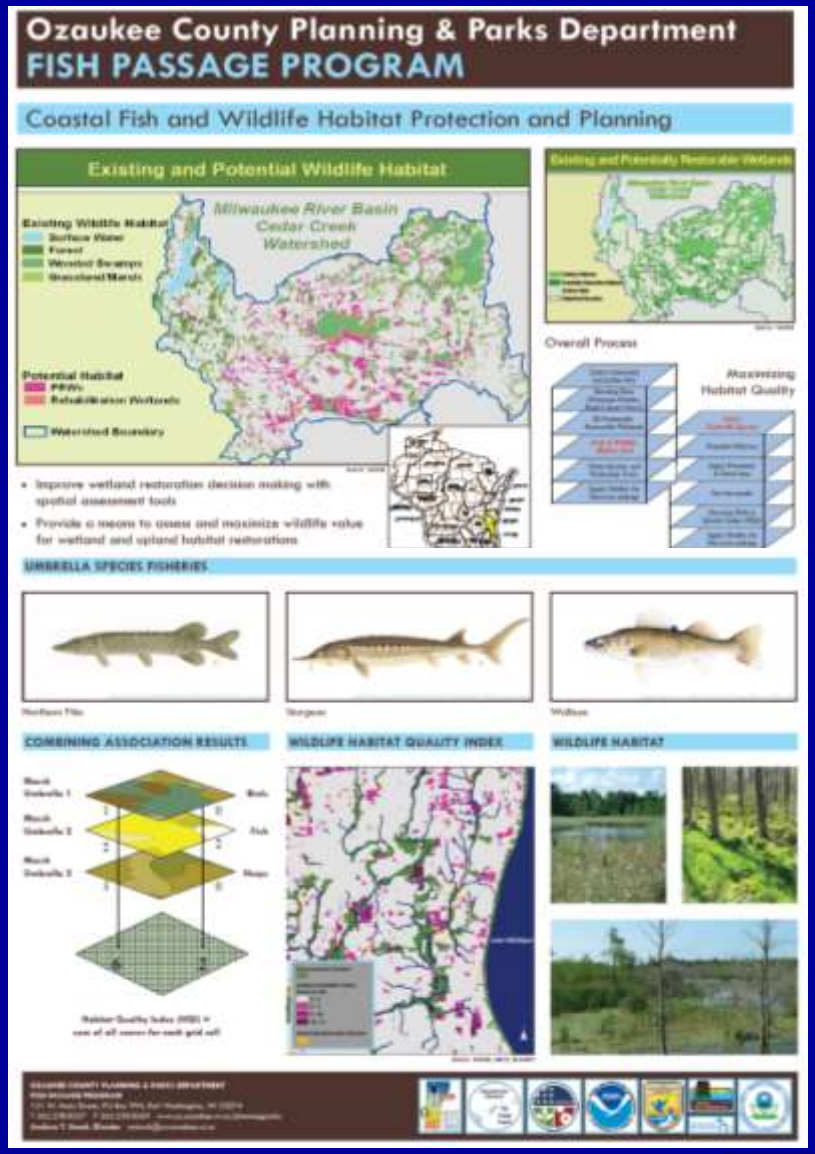


Habitat Reconnected and Goals

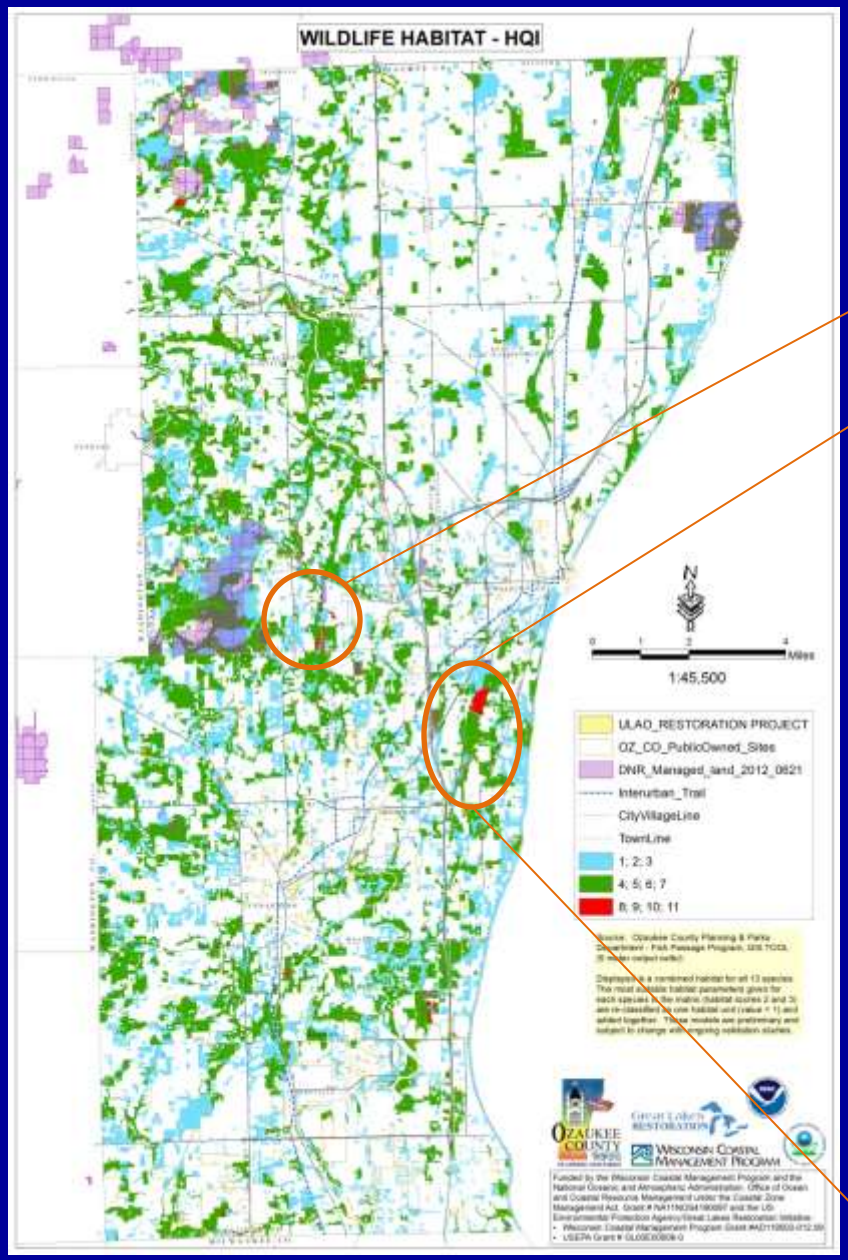
	Stream Miles		Wetland Acres	
	Reconnected	Goal	Reconnected	Goal
All Inclusive	129	215	8,043	11,149
Program Streams	129	205	7,976	10,820
Committed Streams	129	163	7,976	9,599
Existing Funding	129	151	7,976	8,918
NOAA Streams	113	113	5,149	5,149

GIS-Based Fish and Wildlife Decision Support Tool

- Program staff and partners are developing and refining GIS Tools to:
  - Identify native fish and wildlife Species of Local Conservation Interest (SLCI)
  - Identify critical habitats important to ensuring the survival of native fish and wildlife, especially SLCI's
  - Guide habitat enhancement projects for maximum economic and ecological value



GIS-Based Fish and Wildlife Decision Support Tool

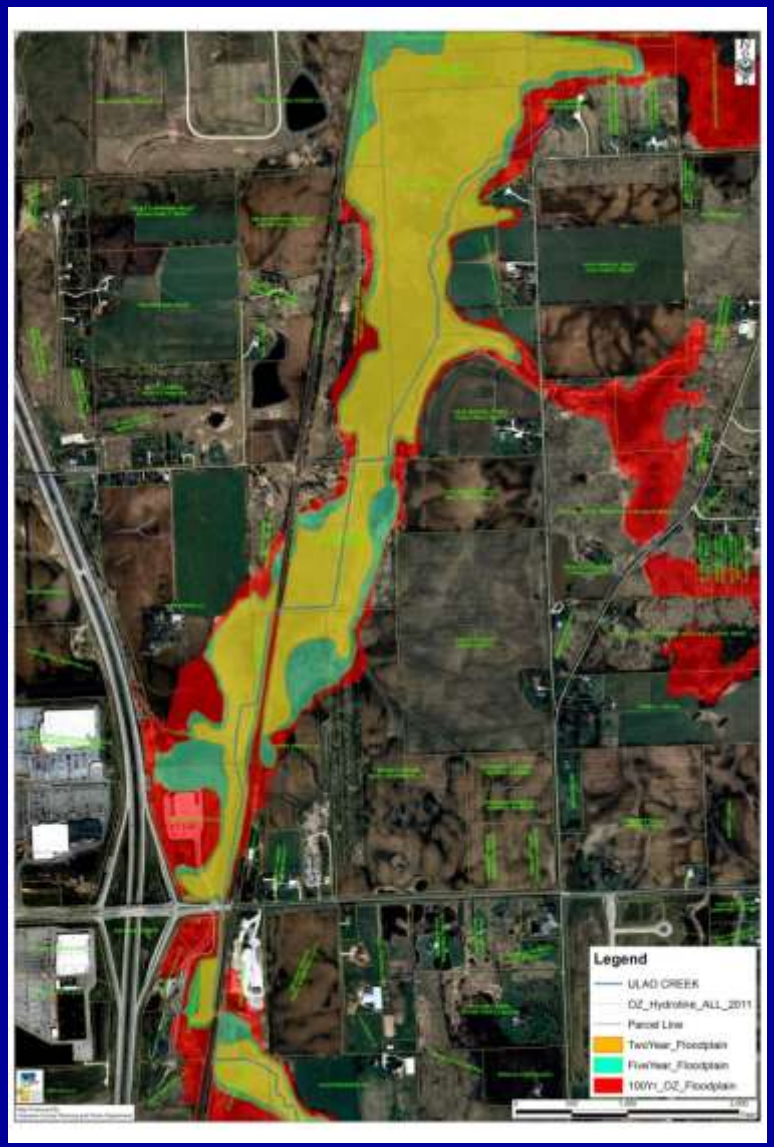


Mole Creek Habitat Enhancement Project

Ulao Creek Habitat Enhancement Project

HABITAT QUALITY INDEX

Habitat Enhancement Projects – Ulao & Mole Creeks



Ulao Creek Habitat Improvement/Restoration

- Ulao Creek watershed contains 28% of suitable wetlands for northern pike spawning in Milwaukee River Watershed
- Multiple ephemeral and intermittent tributaries
- Connects 490 acre Ulao Swamp and USFWS Waterfowl Protection Areas to the Milwaukee River
- Swamp designated a Natural Area of Local Significance (SEWRPC)
- Anecdotal and landowner evidence of historic northern pike spawning
- Known birding stopover site

Ulao & Mole Creek Current Conditions

- Channelized reaches (artificially straightened for agricultural uses) provide poor habitat
- Linear sinuosity
- In-stream features are excessively wide and are exclusively shallow runs with maximum water depth
- Overwinter pool cover and spawning quality riffles are absent and substrate is dominated by fine materials
- Canopy shade almost absent
- Channel is incised and hydrologically disconnected from floodplain
- Lack of recurring overbank flows prohibit floodplain building and the former wetland corridor lacks suitable overbank flood flows to sustain a diverse wetland plant and wildlife community

Hydrologic connection

Hydrologic disconnection

Photo Credits: Will Wawrzyn, WDNR

Habitat Enhancement – Mole and Ulao Creeks

- **Mole/Ulao Creek Project Goal**
  - Rehabilitate the function and values associated with a cold and/or warm stream ecosystem and floodplain wetlands
- **Mole/Ulao Creek Project Objectives**
  - Excavate a stable meandering stream plan form
  - Increase stream length and sinuosity
  - Decrease mean stream width, and increase effective water depths and stream velocities (levees)
  - Increase in-stream and bank cover for fish and wildlife, emphasizing coarse woody debris in pools and boulder retards in pools and glides
  - Rehabilitate acres of wet deciduous forest and wet meadow wetland currently in agricultural land use by excavating connected wetlands and wetland scrapes
  - Increase duration of suitable hydro-period for northern pike spawning
  - Increase topographic diversity to improve canopy shading - planting deciduous trees and expanding shrub-carr areas
  - Creation of additional habitat for birds, herps, and other wildlife
  - Increase the amount of pool and deep glide and construct coarse substrate riffles for lithophilic spawning fish and macroinvertebrates

Geomorphic Assessment/Reference Reaches

Eight reference (non disturbed) stream reaches analyzed:

- Channel and valley lengths for calculating sinuosity
- Channel gradients
- Mean, maximum, and minimum radii of curvature
- Meander wavelength
- Meander belt widths
- Channel top width

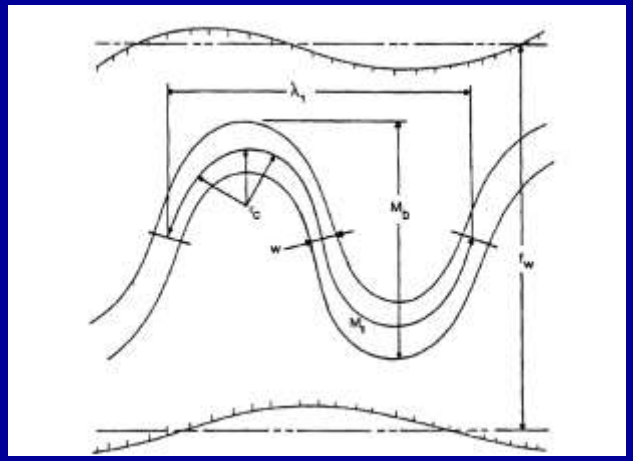
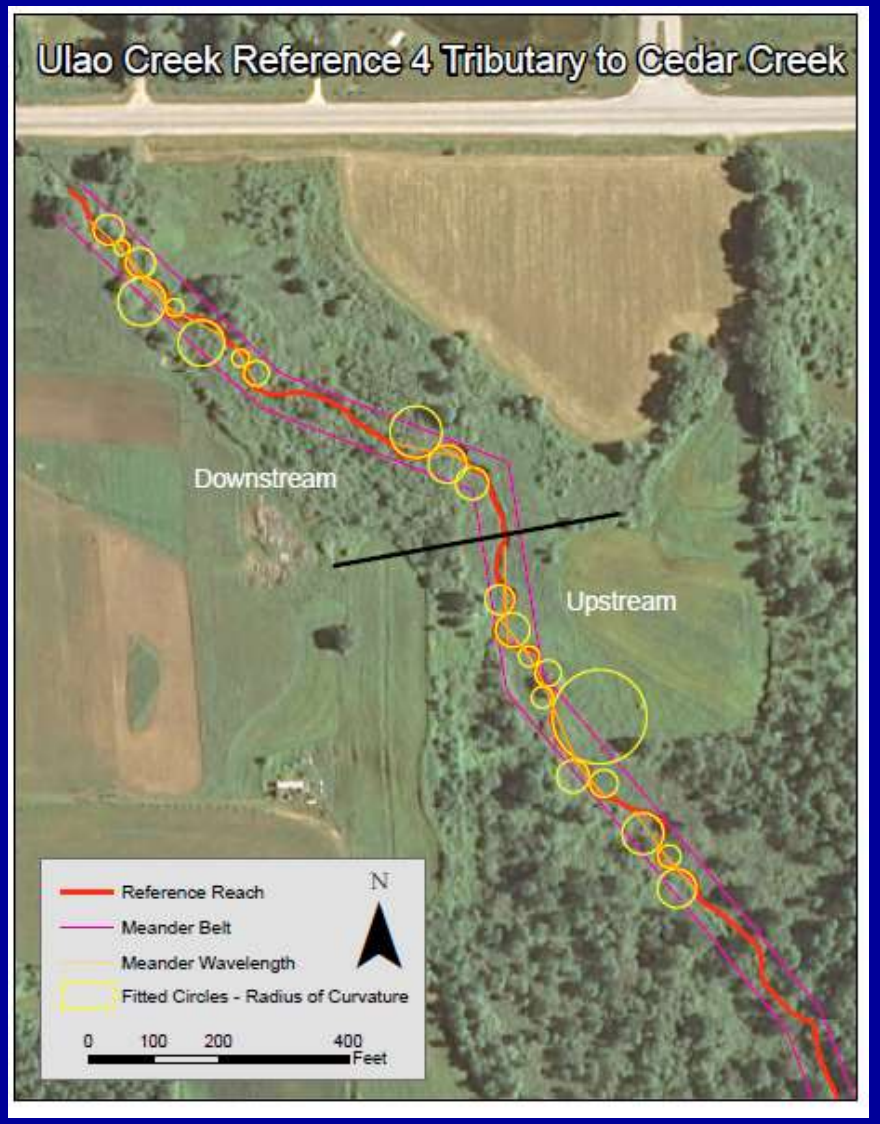
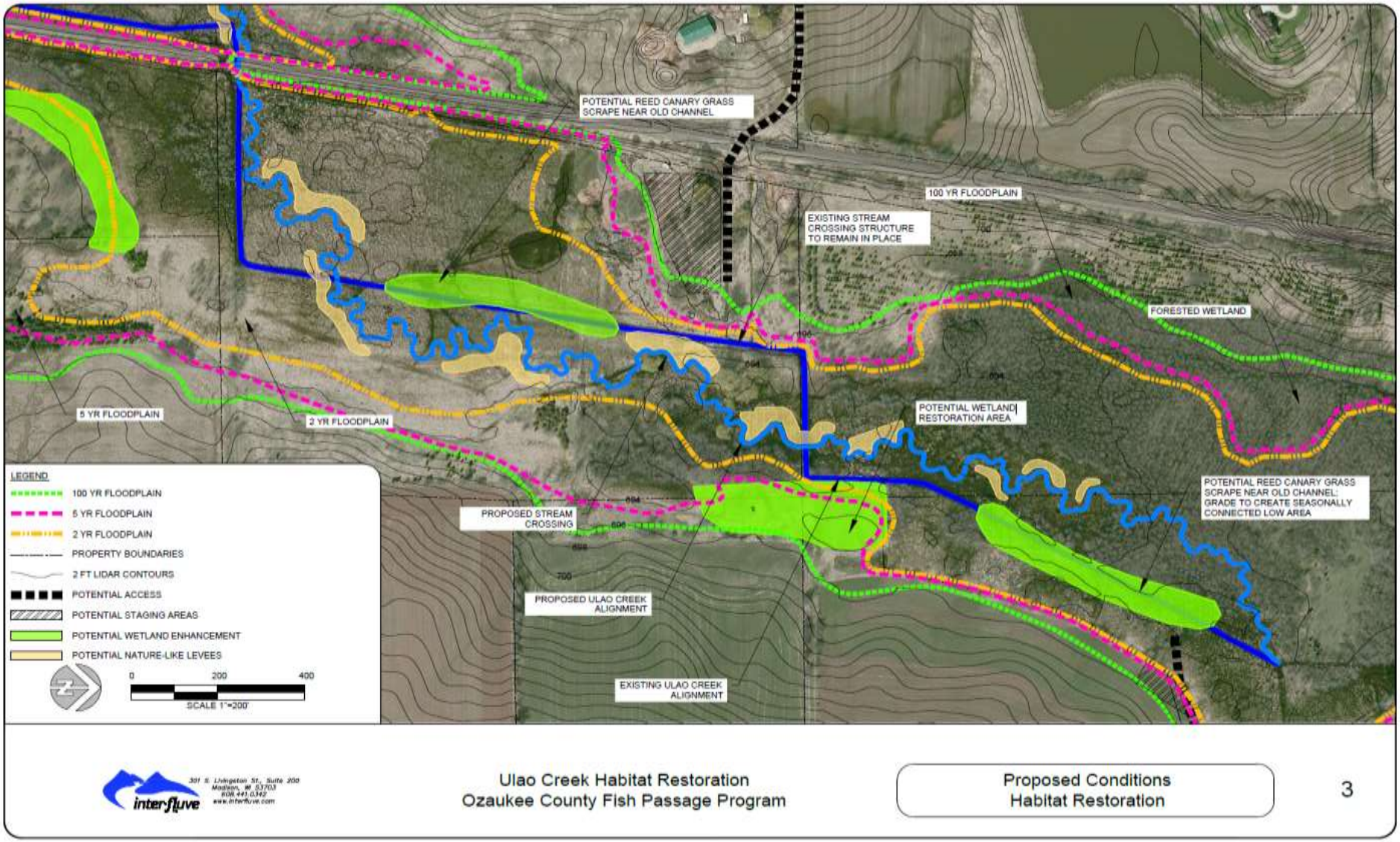


Figure 1. Meander characteristics. l*1* = wavelength, *W* = channel width measured at crossing (inflection point), *Mb* = meander belt width and *rc,* = radius of curvature.



Ulao Creek Habitat Improvement/Restoration



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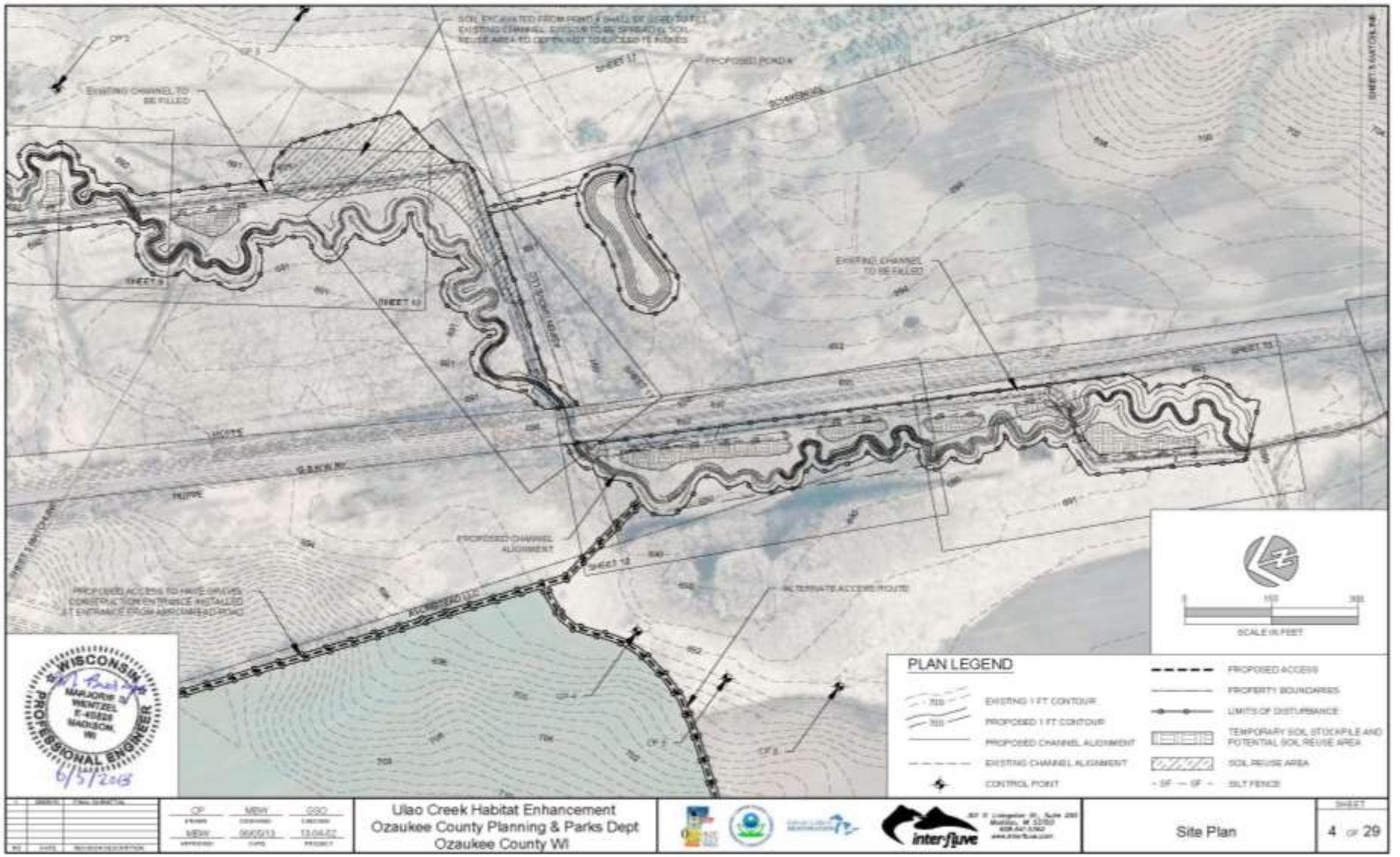
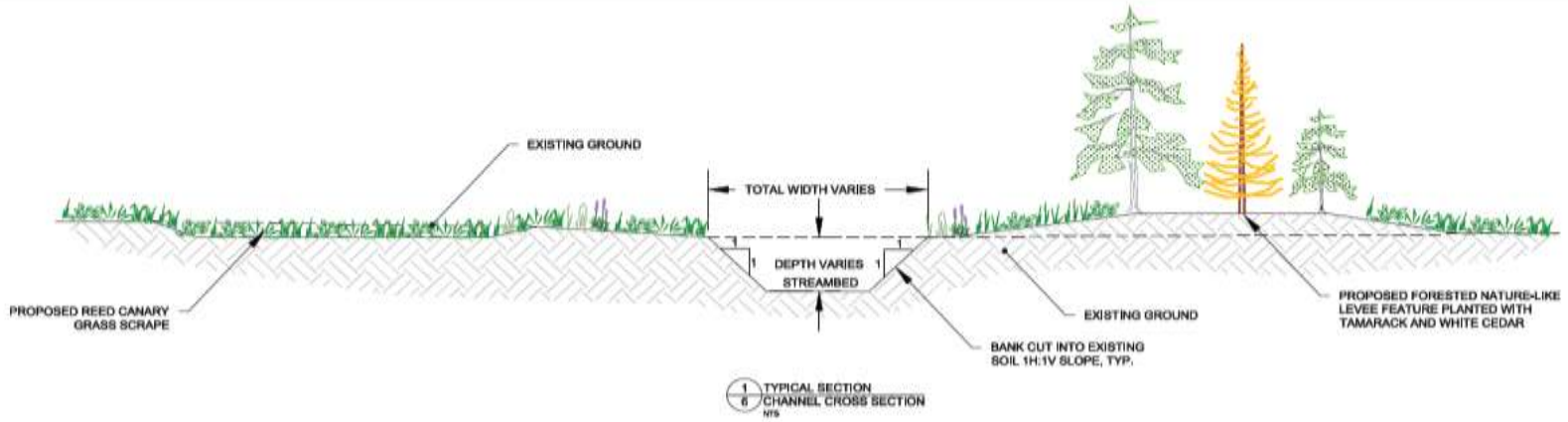
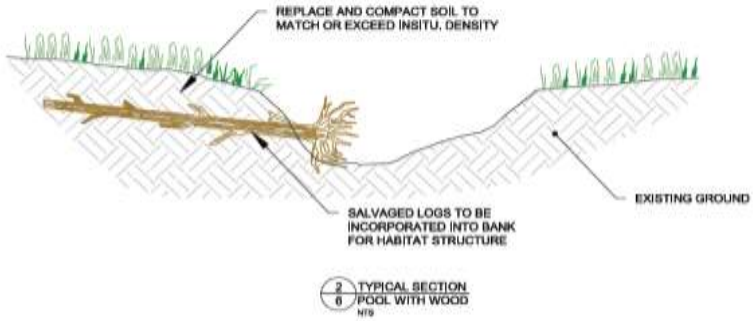


Ulao Creek Habitat Improvement/Restoration





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Madison, WI 53703
608.441.0342
www.interfluve.com

Ulao Creek Habitat Restoration
Ozaukee County Fish Passage Program

Typical Sections
Habitat Restoration

Fisheries Monitoring

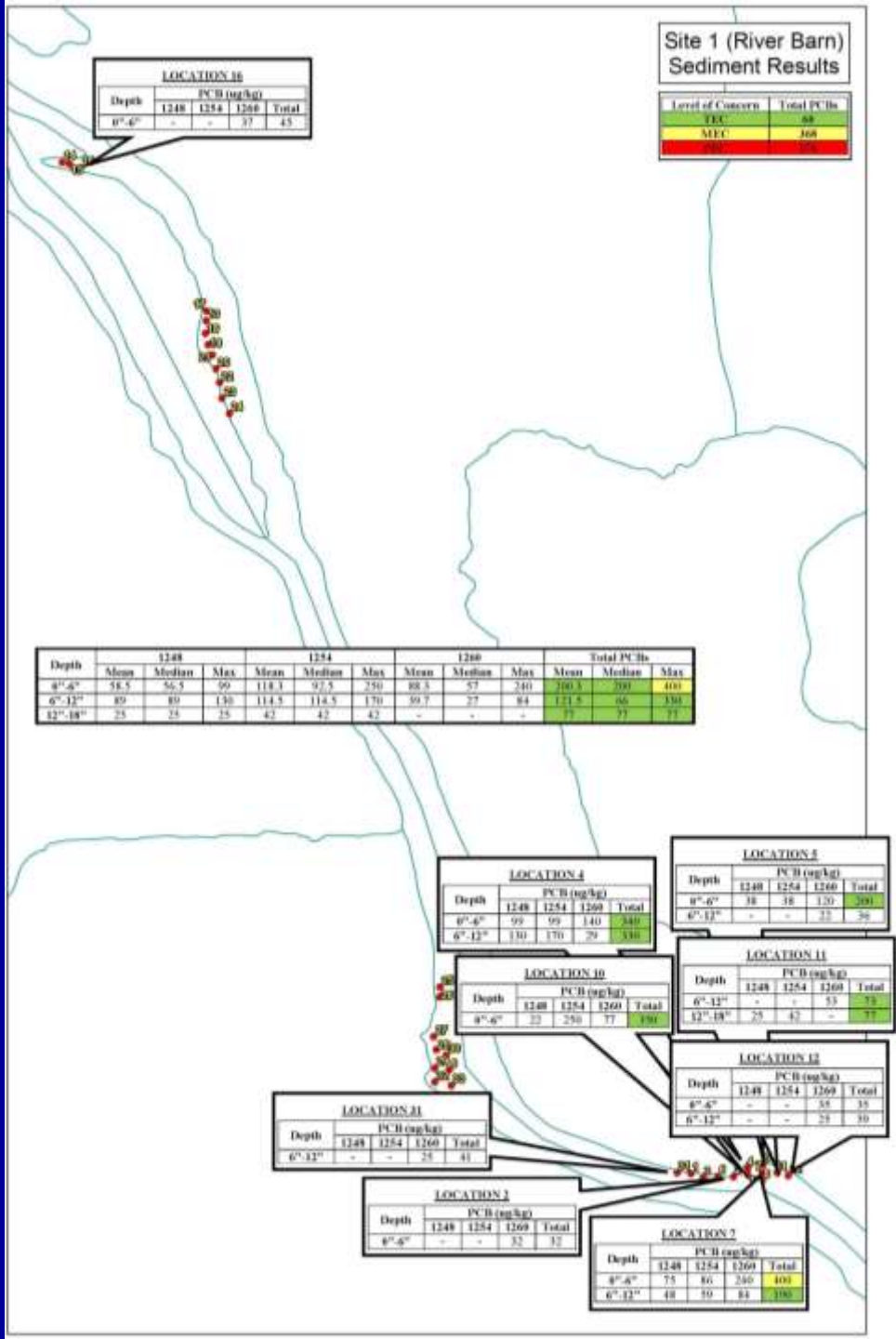
Fisheries Monitoring Statistics

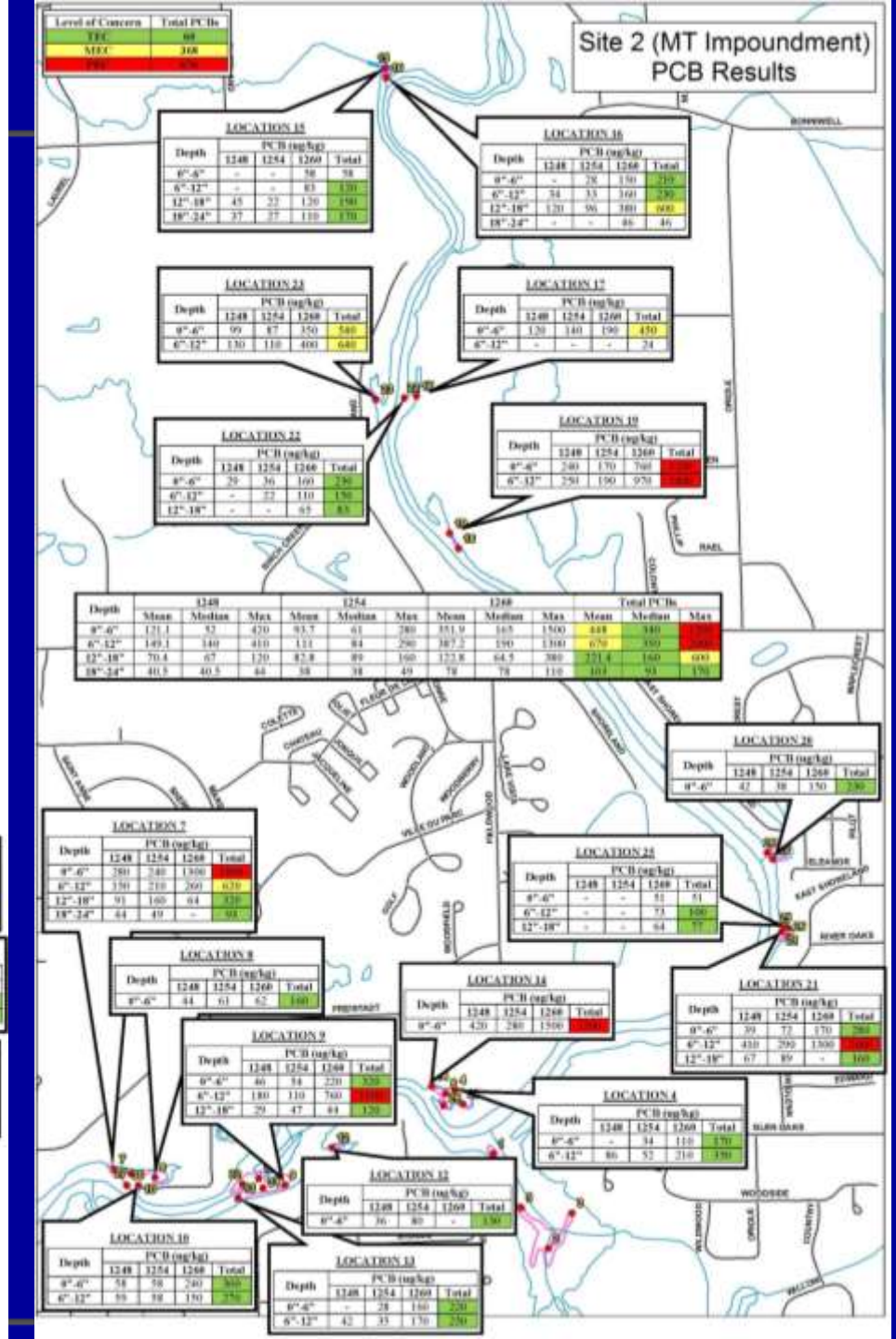
- Mainstem Milwaukee River Sites: 11
- Mainstem Milwaukee River Surveys (2010-13): 49
- Tributary Streams Sampled: 20
- Fish Species Captured: 58
- Total Fish Captured: 21,049
- M-T Fishway Species: 36
- M-T Fishway PIT Tags: 35
- Documented Tributary Passage Post-Restoration: 5 Streams
- Documented Pike Reproduction Post-Restoration: 3 Streams
- Rare and/or Imperiled Species Documented: 7

Sediment Contamination & Water Quality Sampling (2011-13)

- Sediment Sampling Sites: 6
- Sample Cores: 164
- Core Segments Analyzed: 411
- PCB Locations Identified: 100
  - < TEC: 25 Samples
  - TEC: 63 Samples
  - MEC: 6 Samples
  - PEC: 6 Samples

- Water Quality Sampling Sites: 30
- Continuous Water Quality Monitors: 3
- Water Sampling Events: 4 (5 total anticipated)
- Grab Samples Collected: 120
- Continuous Monitoring Samples: 73,821


Site 1 (River Barn)
Sediment Results
Level of Concern | Total PCBs
TEC | 60
MEC | 368
PEC | 676
LOCATION 16
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | - | - | 37 | 45
Depth | 1248 | | | 1254 | | | 1260 | | | Total PCBs | | |
| Mean | Median | Max | Mean | Median | Max | Mean | Median | Max | Mean | Median | Max
0"-6" | 58.5 | 56.5 | 99 | 118.3 | 97.5 | 250 | 88.5 | 57 | 240 | 200.3 | 200 | 400
6"-12" | 89 | 89 | 130 | 114.5 | 114.5 | 170 | 59.7 | 27 | 84 | 171.5 | 66 | 330
12"-18" | 25 | 25 | 25 | 42 | 42 | 42 | - | - | - | 77 | 77 | 77
LOCATION 4
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | 99 | 99 | 140 | 340
6"-12" | 130 | 170 | 29 | 330
LOCATION 5
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | 38 | 38 | 120 | 200
6"-12" | - | - | 22 | 29
LOCATION 10
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
8"-6" | 22 | 250 | 77 | 350
LOCATION 11
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
6"-12" | - | - | 53 | 70
12"-18" | 25 | 42 | - | 77
LOCATION 12
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
6"-6" | - | - | 35 | 35
6"-12" | - | - | 25 | 30
LOCATION 31
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
6"-12" | - | - | 25 | 41
LOCATION 2
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
6"-6" | - | - | 32 | 32
LOCATION 7
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
6"-6" | 75 | 86 | 250 | 400
6"-12" | 48 | 59 | 84 | 190


Site 2 (MT Impoundment)
PCB Results
Level of Concern | Total PCBs
TEC | 60
MEC | 368
PEC | 676
LOCATION 15
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
6"-6" | - | - | 58 | 58
6"-12" | - | - | 83 | 130
12"-18" | 45 | 22 | 120 | 190
18"-24" | 37 | 27 | 110 | 170
LOCATION 16
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | - | 78 | 150 | 230
6"-12" | 54 | 33 | 160 | 230
12"-18" | 120 | 90 | 380 | 600
18"-24" | - | - | 46 | 46
LOCATION 23
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | 99 | 87 | 350 | 540
6"-12" | 130 | 110 | 400 | 640
LOCATION 17
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
6"-6" | 120 | 140 | 190 | 450
6"-12" | - | - | - | 24
LOCATION 22
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
8"-6" | 70 | 36 | 160 | 230
6"-12" | - | 22 | 110 | 130
12"-18" | - | - | 85 | 85
LOCATION 19
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
8"-6" | 240 | 170 | 760 | 1200
6"-12" | 250 | 150 | 970 | 1400
Depth | 1248 | | | 1254 | | | 1260 | | | Total PCBs | | |
| Mean | Median | Max | Mean | Median | Max | Mean | Median | Max | Mean | Median | Max
8"-6" | 171.1 | 52 | 420 | 93.7 | 61 | 280 | 351.9 | 165 | 1500 | 448 | 340 | 1200
6"-12" | 149.1 | 140 | 410 | 111 | 84 | 290 | 387.2 | 190 | 1300 | 670 | 350 | 2000
12"-18" | 70.4 | 67 | 120 | 82.8 | 89 | 160 | 122.8 | 64.5 | 380 | 221.4 | 160 | 600
18"-24" | 40.5 | 40.5 | 44 | 58 | 58 | 49 | 78 | 78 | 110 | 103 | 93 | 170
LOCATION 20
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | 42 | 38 | 150 | 230
LOCATION 7
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
8"-6" | 280 | 240 | 1300 | 1800
6"-12" | 190 | 210 | 260 | 670
12"-18" | 91 | 160 | 64 | 320
18"-24" | 64 | 49 | - | 98
LOCATION 25
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
8"-6" | - | - | 51 | 51
6"-12" | - | - | 73 | 150
12"-18" | - | - | 64 | 77
LOCATION 8
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
8"-6" | 44 | 61 | 62 | 160
LOCATION 14
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | 420 | 280 | 1500 | 2200
LOCATION 21
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
0"-6" | 39 | 72 | 170 | 280
6"-12" | 410 | 290 | 1300 | 2000
12"-18" | 67 | 89 | - | 160
LOCATION 9
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
0"-6" | 46 | 54 | 220 | 320
6"-12" | 180 | 110 | 760 | 1100
12"-18" | 29 | 47 | 44 | 120
LOCATION 4
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
6"-6" | - | 34 | 110 | 170
6"-12" | 86 | 52 | 210 | 350
LOCATION 12
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
8"-6" | 36 | 80 | - | 130
LOCATION 10
Depth | PCB (ug/kg) | 1248 | 1254 | 1260 | Total
8"-6" | 58 | 58 | 240 | 360
6"-12" | 50 | 58 | 150 | 270
LOCATION 33
Depth | PCB (ug/kg) | 1248 | 1254 | 1269 | Total
6"-6" | - | 28 | 160 | 220
6"-12" | 42 | 35 | 170 | 250

Fish Passage Program – Ecological Impacts

- 233 Impediments Removed
  - –47 Culverts Replaced or Removed
  - –8 Dams Removed or Remediated
  - –178 Other Impediments Removed
- 129 Stream Miles Reconnected
- 8,043 Acres of Wetlands Reconnected
- Increased abundance of target species
  - –Documented fish reproduction after impediment removals and presence of target species at monitoring sites
- Impact on status of listed species or species of concern
  - –7 rare and/or imperiled species documented
- Changes in recreational angling
  - –Creel pre-survey completed (post-survey anticipated)
  - –County-wide tourism increase

- M-T Fishway Monitoring
  - – 36 Fish Species, Multiple Wildlife Species
  - – Several Citizen Reports
- Water Quality Monitoring
  - – 73,821 Continuous Monitoring Samples
  - – 120 Grab Samples
- Sediment Contamination Monitoring
  - – 411 Samples Analyzed
  - – 135 PCB Locations Identified

Fish Passage Program – Economic Impacts

- Impact to Planning and Parks Department
  - Total Labor Hours: 43,170 (20.8 FTEs)
  - Total Labor Dollars: $1,320,025
  - Non-Program Dedicated Staff - Total Labor Dollars: $299,742
- Impact to Highway Department
  - Labor Hours: 15,381 (7.4 FTEs)
  - Labor Dollars: $609,000
  - Total Revenue: $1,955,034
- Impact to Private Sector
  - Construction Revenue: $1,830,732
  - Engineering, Design and Professional Services Revenue: $1,699,819
  - Total Revenue: $3,530,551
- Impact to Municipalities
  - Municipalities Worked With: 11
  - Total Investment: $5,206,579

PROGRAM OPERATES WITHOUT ANY LEVY DOLLARS

Fish Passage Program – Social/Community Impacts

- Landowners Worked With: 147
- Volunteers and Hours: 462 and 2,709 hours
- Youth Job Training Hours and Revenue: 11,441 hours and $280,283
- Parks Projects: 7 (9 total anticipated), $167,233 in revenue ($345,034 total anticipated)
- Events and Presentations: 114
  - People Reached: 9,450
- Tourism Impacts
  - Ozaukee County Jobs Supported By Tourism: 1,969
  - Annual Statewide Fishing Participants: 1.2 Million
  - 37.4% of WI's Outdoor Recreation Participants Go Fishing
- Total Snowmobile Trail Revenue: $122,210
- Public Access Amenities: 6 (e.g. deck, trail, kayak launch)

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Fish Passage Program Partners & Funders

- National Oceanic and Atmospheric Administration
- US Environmental Protection Agency Office of the Great Lakes
- WI Department of Natural Resources
- Milwaukee Community Service Corps
- US Geological Survey - Conte Anadromous Fish Laboratory
- US Fish and Wildlife Service
- Southeast Wisconsin Chapter of Trout Unlimited
- Ulao Creek Partnership
- Riveredge Nature Center
- Mequon Nature Preserve
- Concordia University
- Marquette University
- University of Wisconsin-Milwaukee Field Station
- University of Wisconsin-Milwaukee
- University of Wisconsin-Stevens Point
- University of Wisconsin Extension Service
- University of Notre Dame
- Milwaukee Area Technical College
- Southeastern Wisconsin Regional Planning Commission
- Great Lakes Sportfisherman Club
- Milwaukee Riverkeeper
- Ozaukee County Tourism Council
- Milwaukee Audubon Society
- Community High Schools
- River Revitalization Foundation
- Treasures of Oz
- Urban Ecology Center
- Ozaukee Washington Land Trust
- Ozaukee County Land Conservation Partnership
- Ozaukee County (multiple departments)
- Ozaukee County Volunteer Center
- Ozaukee County Master Gardeners
- City of Mequon
- Village of Thiensville
- Village of Newburg
- Village of Grafton
- Town of Grafton
- Town of Saukville
- Village of Fredonia
- Town of Fredonia
- Town of Cedarburg



~Making Connections Across Our Watersheds~

QUESTIONS?