
# DEEP RIVER-PORTAGE BURNS WATERWAY INITIATIVE

Environmental Management & Policy Committee

Purdue University Calumet

March 3, 2016

# THE WATERSHED RESTORATION PLAN

- Watershed Community Initiative (elements 1-3)
- Watershed Inventory (elements 4-16)
- Identify Problems & Causes (elements 17-18)
- Identify Sources & Calculate Loads (elements 19-21)
- Set Goals & Identify Critical Areas (elements 22-24)
- Choose Measures/ Best Management Practices (elements 25-26)
- Action Register & Schedule (element 27-31)
- Tracking Effectiveness (elements 32-33)

# CRITICAL AREA IDENTIFICATION

| STEPL Loads (adjusted for catchment area) |
|---|
| • Nitrogen load |
| • Phosphorus load |
| • Biological oxygen demand load |
| • Sediment load |
| • Runoff volume |
| Water Chemistry (% observations exceeding target value or water quality standard) |
| • Dissolved oxygen |
| • Ammonia |
| • Nitrate |
| • Total Kjeldahl nitrogen |
| • Total phosphorus |
| • Total suspended solids |
| • Turbidity |
| • E. coli |
| Habitat Quality |
| • Qualitative Habitat Evaluation Index scores |
| Fish & Macroinvertebrate Community Health |
| • Index of biotic integrity scores |
| • Macroinvertebrate Index of Biotic Integrity scores |
| Land Cover (% of land cover in catchment area) |
| • Forest |
| • Agriculture |

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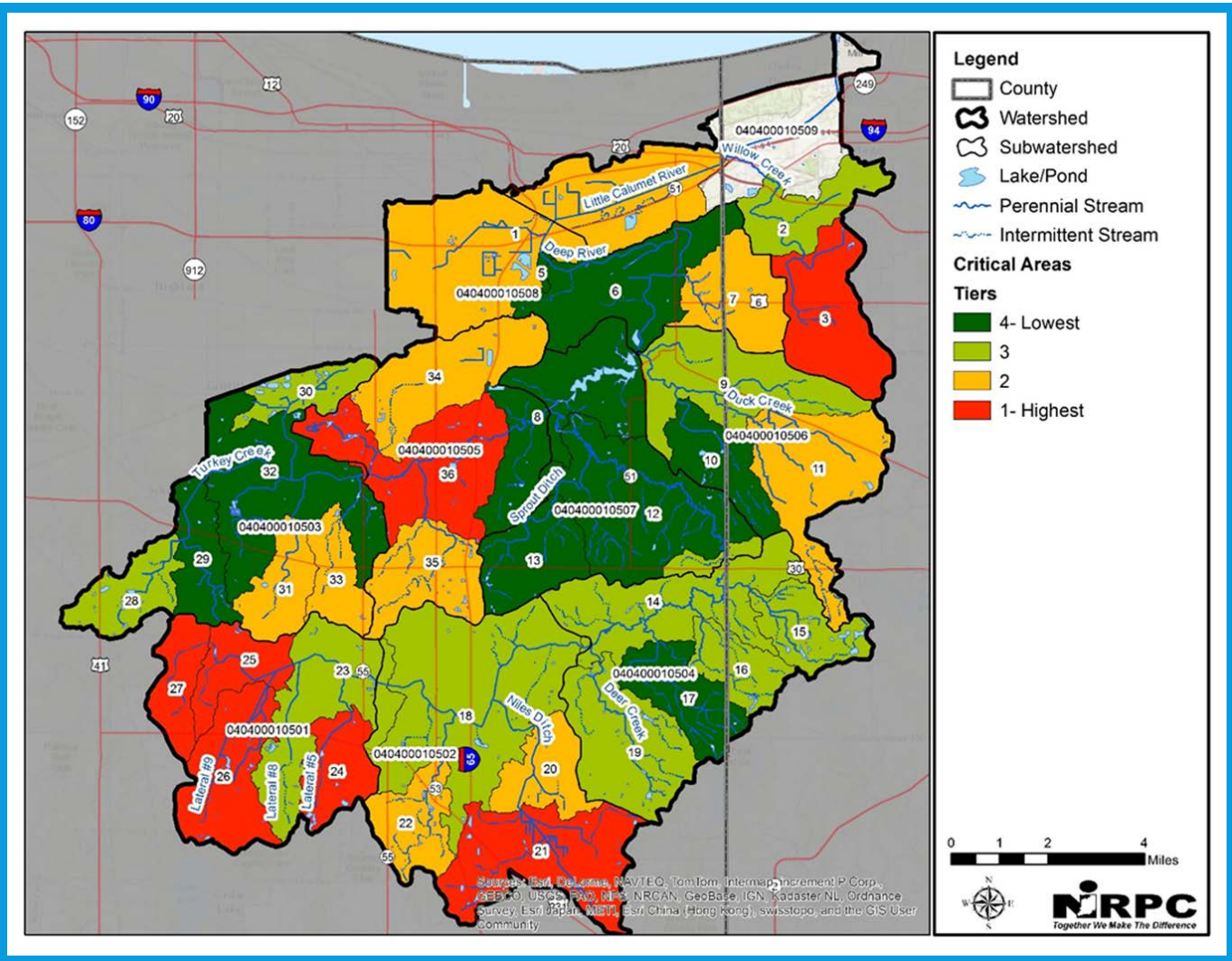
| Stakeholder Concerns |
|---|
| • Percent wetland loss |
| • Percent Green Infrastructure Vision lands not protected |
| • Recreational sites located on or adjacent to impaired waterways |
| • Approximate percentage of impaired streams that are regulated drains |
| • Percent human land cover |
| • Percent riparian human land cover |
| • Percent impervious surfaces |

# CRITICAL AREAS




Deep River – Portage Burns Waterway Initiative

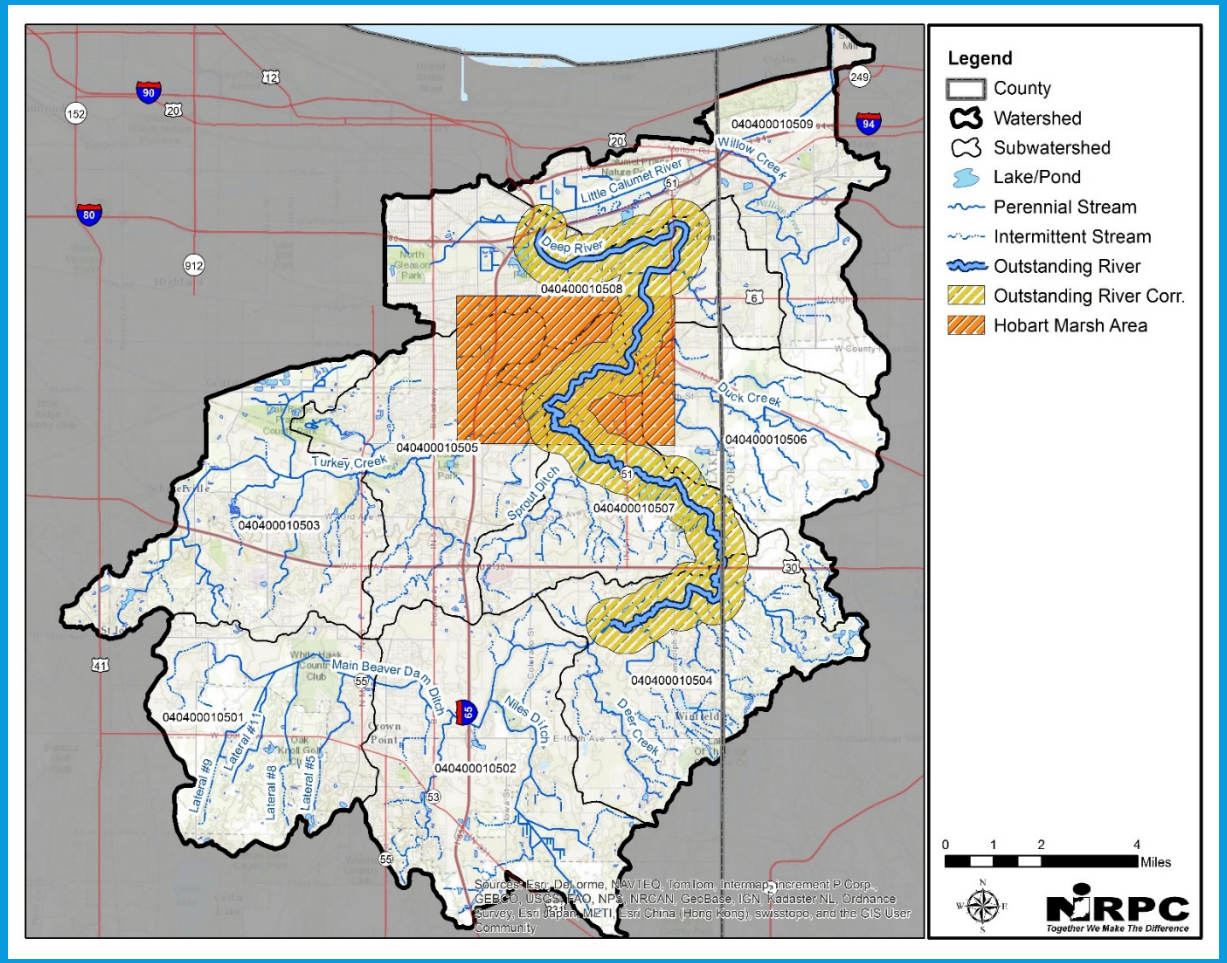
# CRITICAL AREA PROBLEMS

| Tier 1 Critical Areas | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Catchment Area** | E. coli | Dissolved Oxygen | Nutrients | Sediment | Ammonia Toxicity | Physical Habitat | Aquatic Life |
| **3** | X | | X | X | | X | X |
| **21** | X | X | X | X | X | X | X |
| **24** | X | X | X | X | X | X | X |
| **25** | X | X | X | X | X | X | X |
| **26** | X | X | X | X | | X | X |
| **27** | X | X | X | X | | X | X |
| **36** | X | | X | X | | X | X |

| Tier 2 Critical Areas | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Catchment Area** | E. coli | Dissolved Oxygen | Nutrients | Sediment | Ammonia Toxicity | Physical Habitat | Aquatic Life |
| **1** | X | | X | X | | X | X |
| **7** | X | | X | X | | | X |
| **11** | X | X | X | X | | X | X |
| **20** | X | X | X | X | X | X | |
| **22** | X | | X | X | | X | |
| **31** | X | | X | X | | X | X |
| **33** | X | X | X | X | | X | X |
| **34** | X | X | X | X | X | X | X |
| **35** | X | | X | X | | X | X |

# PRIORITY PRESERVATION AREA

- Higher water quality compared to other locations
- Healthier fish and macroinvertebrate assemblages
- Higher quality stream and riparian habitat
- Land area included in the Green Infrastructure Vision ecological network
- Concentrations of natural habitat features that provide important ecosystem functions (ex. water purification, groundwater recharge, and stream flow regulation)
- Concentrations of high quality natural areas and Heritage Database species
- Habitats most at risk to invasive species



# NEXT STEPS

## IDEM & EPA Plan Approval

- IDEM review and comments (March 10th)
- EPA review and comments (April 11th)
- Plan update
- Final plan approved (May 10th)
- Develop cost-share program (March-April)
- Begin implementing cost-share program (May 10th)

## NIRPC Plan Adoption

- 30-day public comment period (March 3rd- April 1st)
- Produce public comment report
- EMPC for recommendation
- Commission takes action for adoption

# QUESTIONS OR COMMENTS?

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http://www.nirpc.org/environment/deep-river-portage-burns-waterway-initiative.aspx