



# Deeds Creek Bank Stabilization Feasibility Study 1<sup>st</sup> Public Meeting

PRESENTER:  
Ross St. Clair, PE

February 24, 2021

## Topics Discussed

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- Review LARE Program

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- Define Study Area

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- Goals of Study

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- Scope of Field Investigations

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- Project Timeline

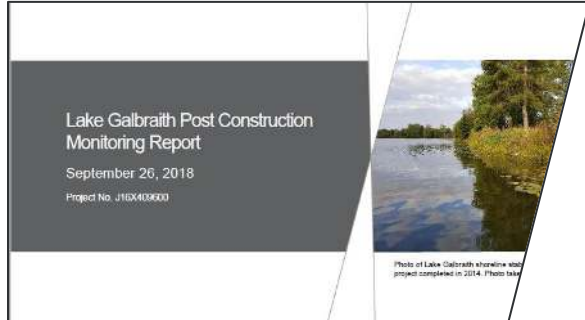
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- Questions

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# IDNR: Lake and River Enhancement (LARE) Overview

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> “to protect and enhance aquatic habitat for fish and wildlife, and to insure the continued viability of Indiana’s publicly accessible lakes and streams for multiple uses, including recreational opportunities.”

- reduce non-point source pollution
- aquatic invasive plant control
- sediment removal and logjam removal



> Cost share: **80% LARE** - **20% Sponsor**

> Grant funding types include:

- Watershed diagnostic studies
- Feasibility and design
- Implementation/construction
- Water quality monitoring
- Aquatic invasive species control
- Dredging
- Logjam removal



## Project Sponsors

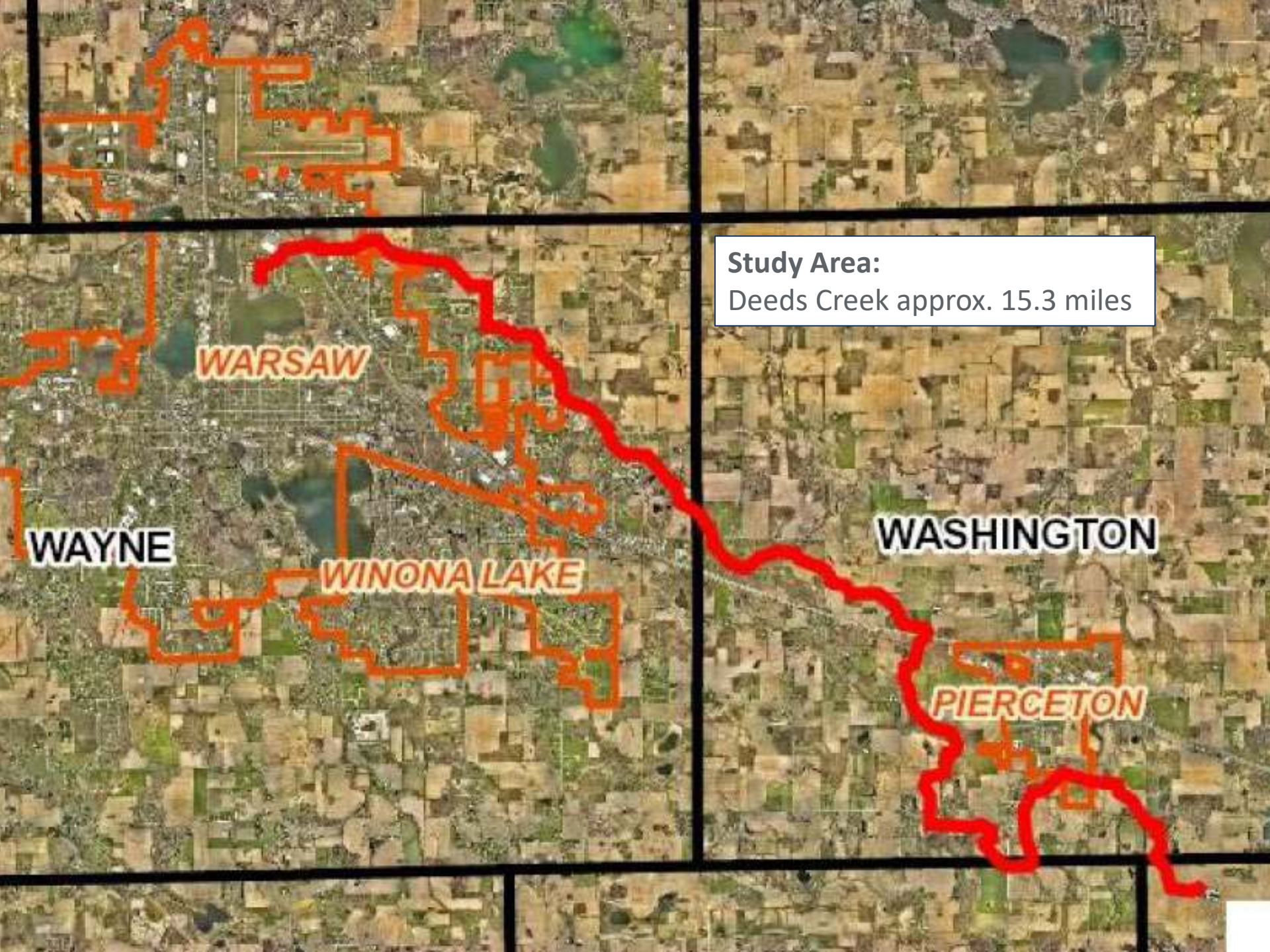
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- > The Pike Lake Association
- > The City of Warsaw
- > The Watershed Foundation (TWF)
- > Kosciusko County Surveyor







**Study Area:**

Deeds Creek approx. 15.3 miles

**WARSAW**

**WAYNE**

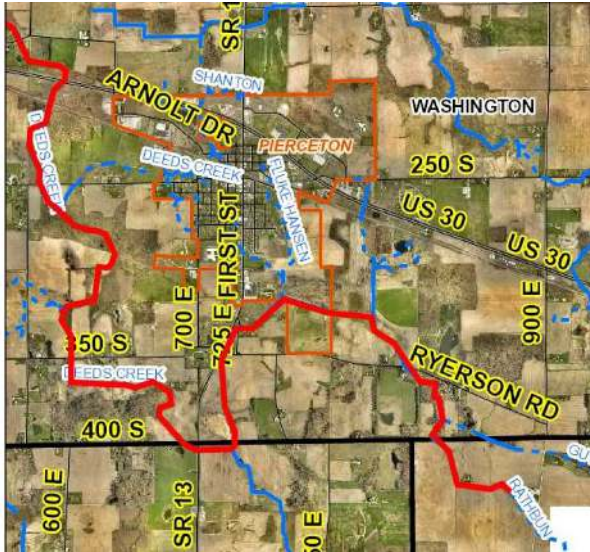
**WINONA LAKE**

**WASHINGTON**

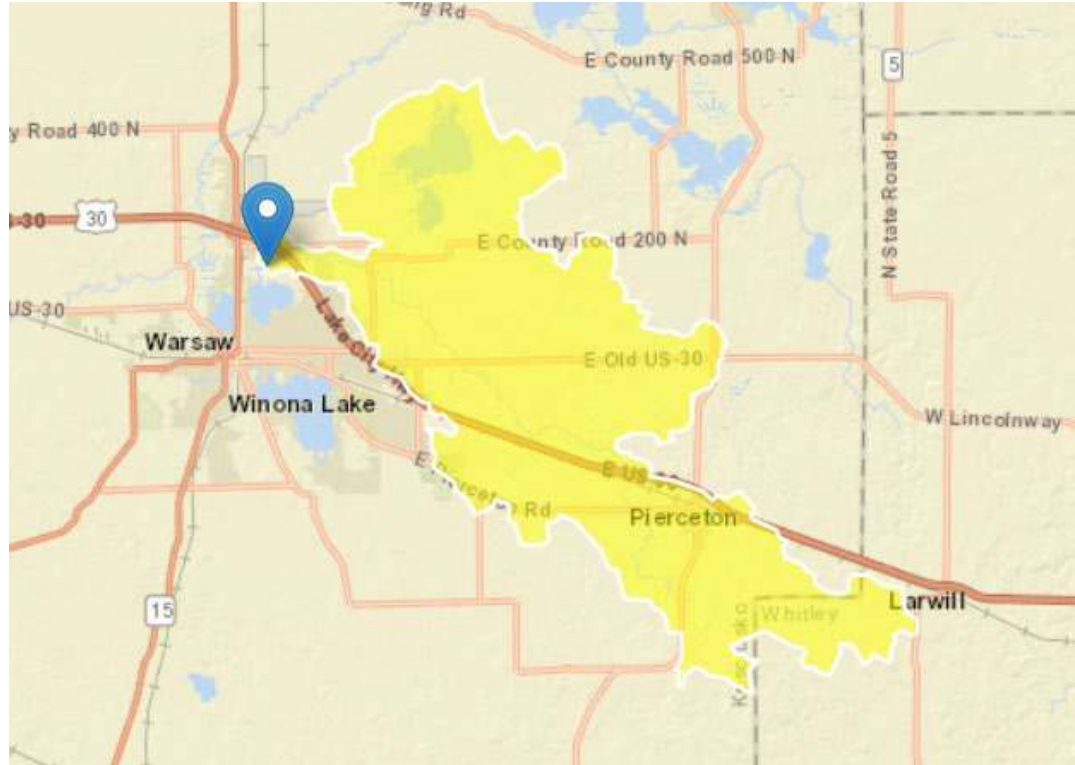
**PIERCETON**



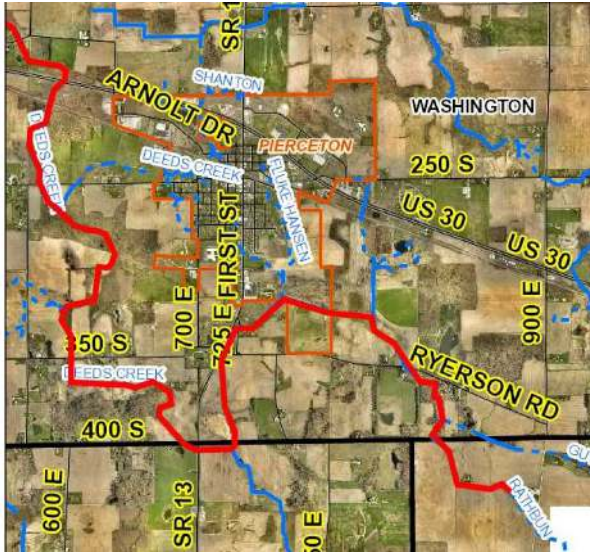
# Deeds Creek Watershed



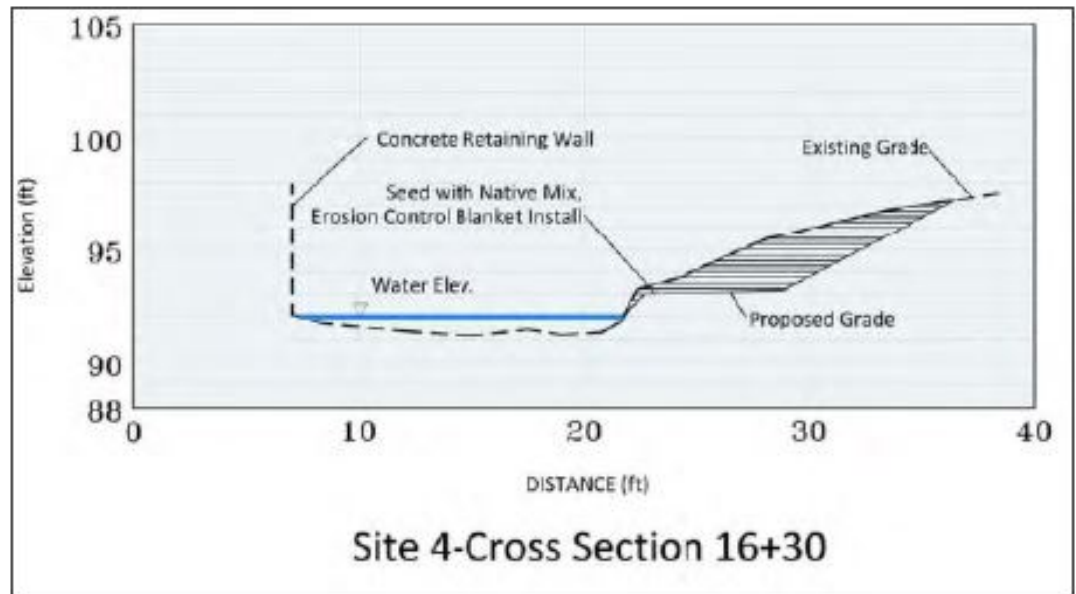
- Watershed Size: approx. 23,800 acres (37 square miles)
- Watershed Land Use: Primarily Agricultural, Forest 10.9%, Developed Lands (low-high intensity) 13.6%, Wetlands 7.2%
- Known conditions in Deeds Creek: down-cutting, bank erosion, lack of continuous vegetation, sediment/nutrient loading concerns



# Goals of Study



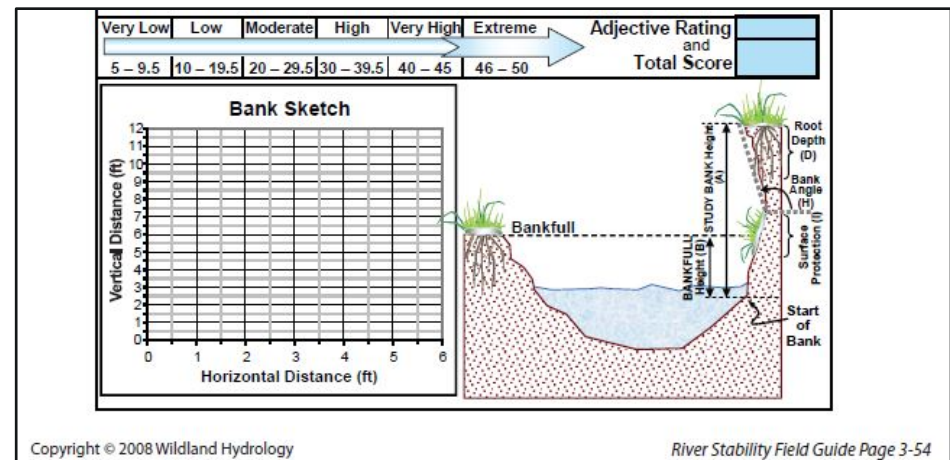
- Assess streambank erosion along Deeds Creek
- Prioritize erosion sites
- Develop relationships with landowners
- Conceptual designs for stabilization
- Early coordination with permitting agencies, including county drainage boards
- Feasibility report document





# Scope of Field Investigations

- Visually assess streambank conditions along the length of waterway (Ben Long and Tom Estrem with Cardno)
  - Via walking within stream or along top of bank
  - From road crossings as needed
- **Utilize Bank Erosion Hazard Index (BEHI) and Near Bank Stress (NBS) calculations to quantitatively assess sites. Look at characteristics such as:**
  - bank height - bankfull height - vegetation cover - bank materials (sand, gravel, etc.) - bank angle
  - Average water depth to near bank depth
- Mark erosion areas with GPS
- Example photos as necessary
- Infrastructure threats
- Notes on why erosion may be occurring





# Project Timeline

<b>Task</b>	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21
Stream Survey Fieldwork											
Preliminary Engineering											
Landowner meetings											
Conceptual drawings											
Cost Estimates											
Early Permit Coordination											
Draft Report											
Final Report											
Public Meetings (3 total)											

# Thank you

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For more information

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Any Questions? Please email: [pikelake@warsaw.in.gov](mailto:pikelake@warsaw.in.gov)

**[www.cardno.com](http://www.cardno.com)**