WIZARD LAKE

Approximately 60 km southwest of Edmonton

General Information

- Length : 11.5km (7.2mi)
- Width : .55km (.34mi)
- Average depth : 6.2m (20.3ft)

- Jubilee Campground Day Use area
- Jubilee Campground – 112 Sites

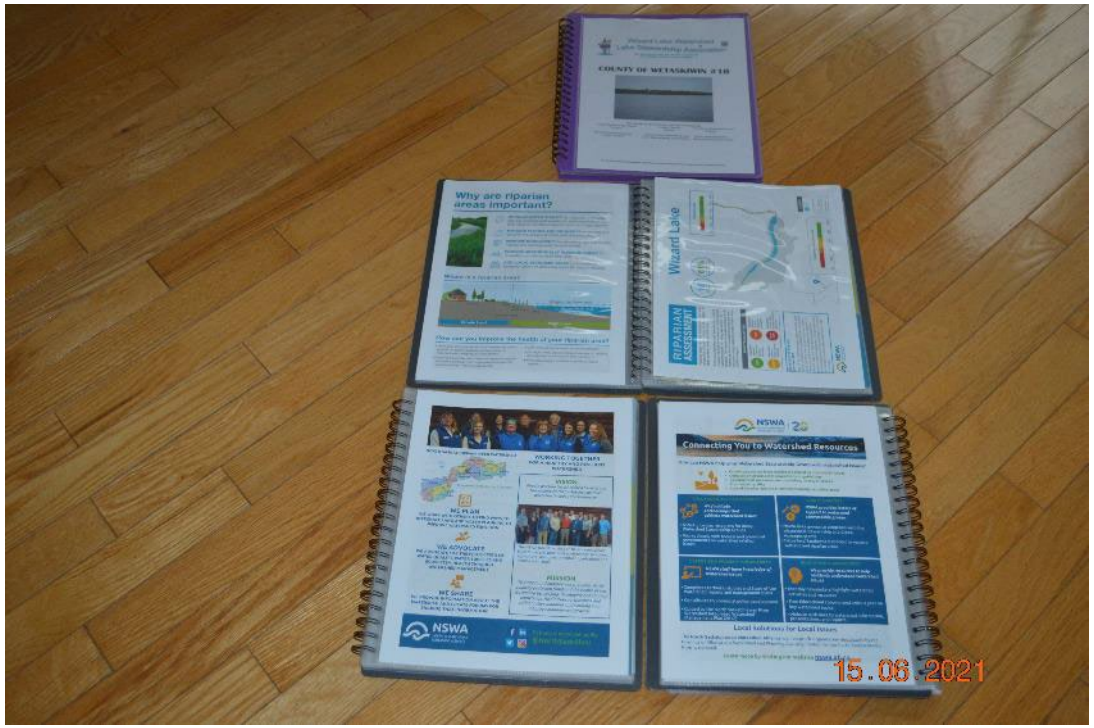
Wizard Lake Watershed Community Engagement Program

MP Mike Lake

MLA Rick Wilson, Wetaskiwin Reeve Josh Bishop with WLWLSA Chair and Treasurer

Informational binder delivered to over 300 watershed residents

Hand delivered by Board of Directors



3 questions we were hearing from watershed residents

- What does the data mean?
- What is the health of Wizard Lake?
- How can I help?

- Comment: "I didn't know"

4 Water Quality Reports delivered by WLWLSA Board of Directors to watershed residents. Positive feedback/appreciation.

FROM DATA TO ACTION

WIZARD LAKE TIME LINE OF REPORTS

1947- 2025

Common thread throughout reports :

- ✓ Nutrient loading off the landscape

WIZARD LAKE WATER QUALITY PROGRAM

- ❑ WLWLSA Tributary Sampling – 12 locations by Volunteers
- ❑ ALMS Lakewatch and Lakekeepers Programs
- ❑ Bureau Veritas Lab
- ❑ Consultant: Associated Environmental Consultants: Dr. Dorte Koster
- ❑ Wetland Specialist: Kristen Anderson

Have you noticed high algal growth in Wizard Lake?

What's being done:

- The Wizard Lake Watershed and Lake Stewardship Association has been evaluating water quality at the tributaries since 2007.
- Alberta Health Services has been collecting algae data at Jubilee since 2014.
- LakeKeepers and LakeWatch (via Alberta Lake Management Society) have evaluated lake water quality from 2019-2024 and 2006-2024, respectively.

Not all sampling locations from the programs are shown on this map.

Which water quality parameters are being evaluated and why?

- Phosphorus, nitrogen, ammonia (algae food)
- Chlorophyll-a (indicates algae amount)
- Dissolved oxygen (evaluation of fish habitat)
- Conductivity (indicates saltiness)
- Coliform bacteria (indicates fecal contamination)
- Cyanobacteria (toxic algae)

Key findings:

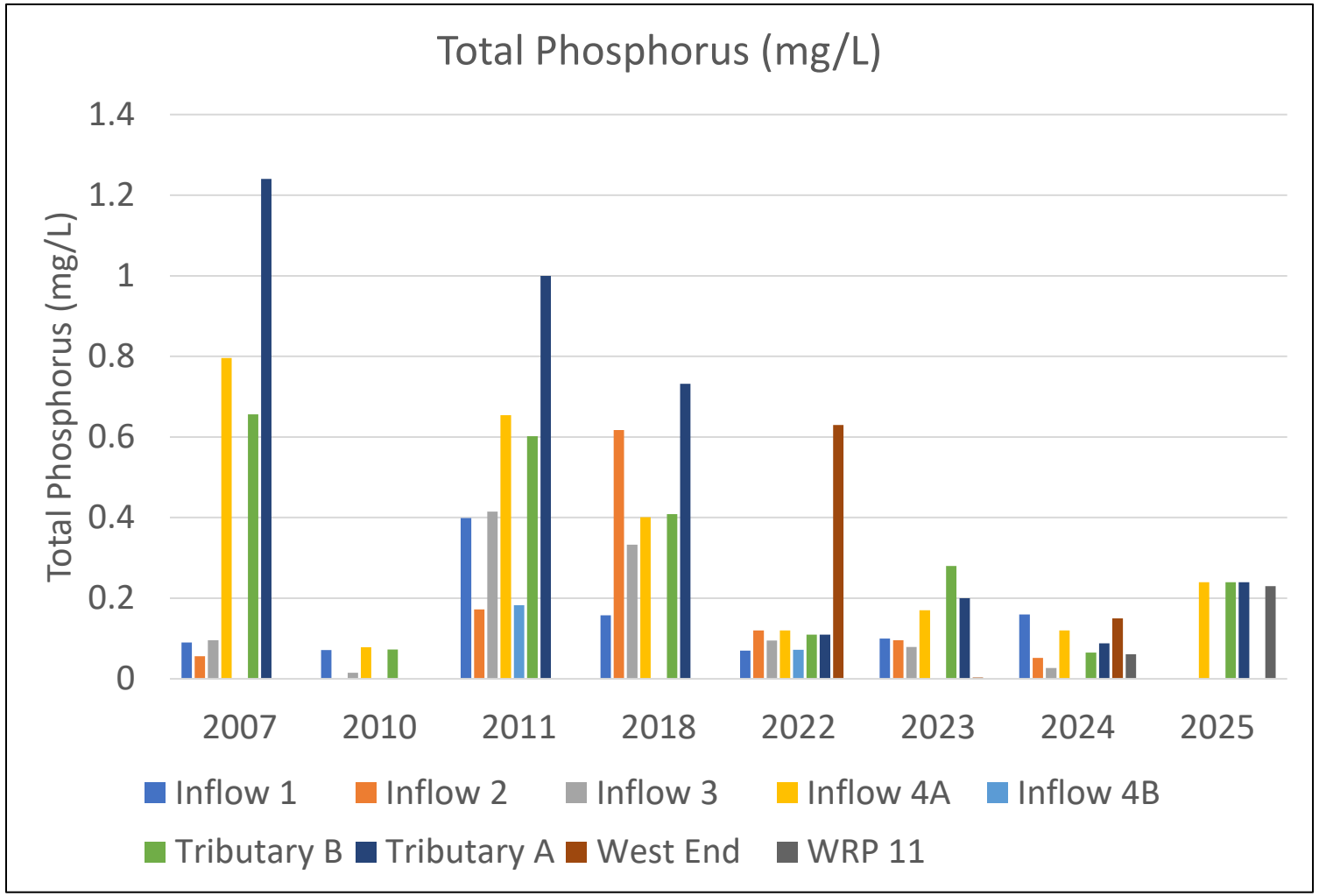
- Tributary A likely has the greatest influence on water quality in Wizard Lake.
- Wizard Lake is rich in nutrients that promote algal growth.
- Wizard Lake may sometimes provide unsuitable habitat for aquatic life.
- Water quality at Jubilee is generally slightly poorer than at West Basin.
- Tributary nutrient concentrations have declined in recent years, likely due to lower flow.

Why would a wetland help?

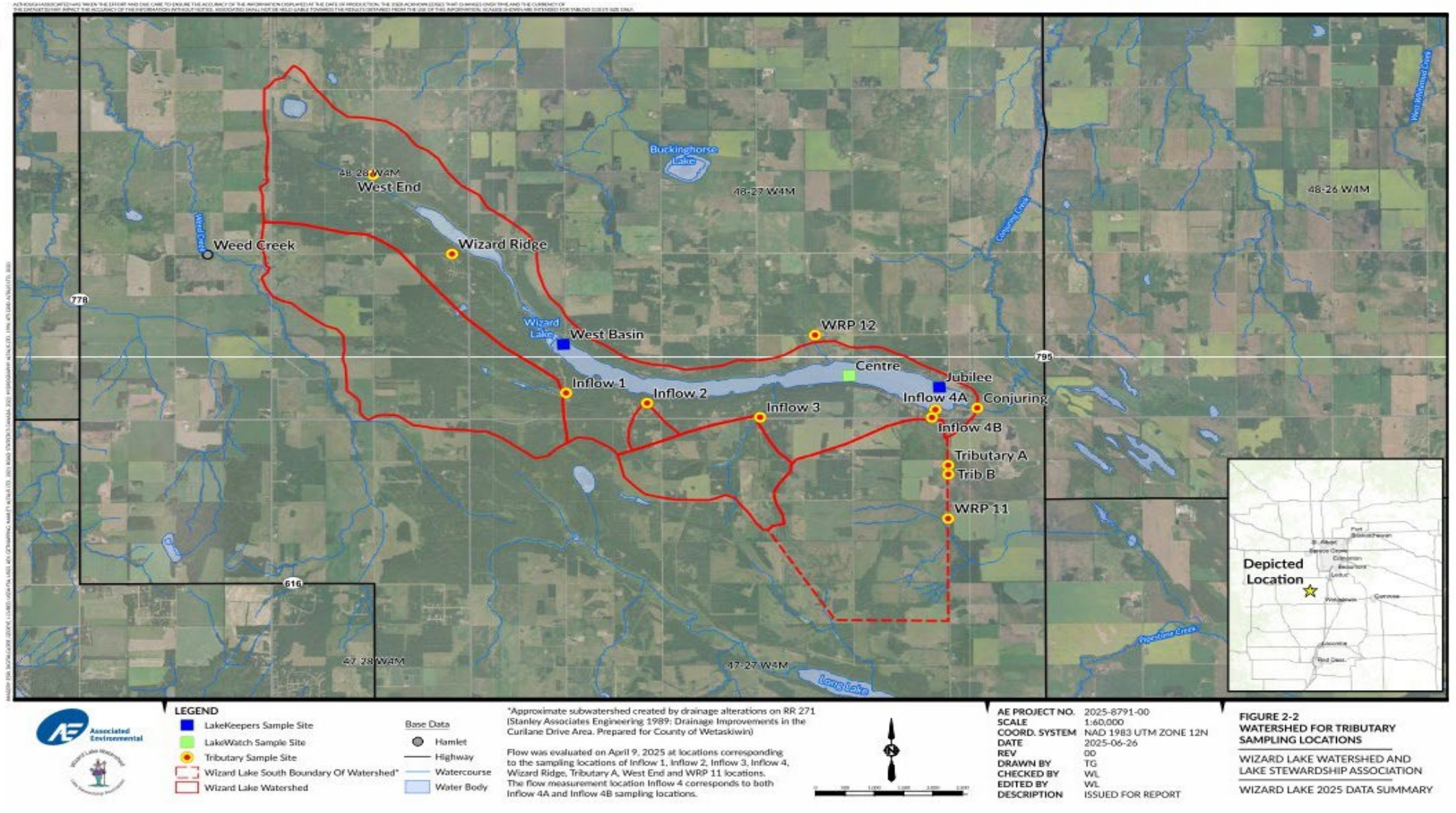
- **Nutrient filtration:** Wetlands trap and absorb phosphorus, reducing nutrient runoff into lakes.
- **Nutrient balance:** Wetlands help keep nutrients from building up, preventing harmful algal blooms.
- **Water purification:** Wetlands filter out pollutants, sediments, and pathogens.
- **Flood control:** Wetlands absorb and slowly release stormwater, reducing flood peaks.
- **Habitat support:** Wetlands provide critical habitat for various wildlife and aquatic species.
- **Carbon storage:** Wetlands capture carbon, helping mitigate climate change.

WIZARD LAKE WATER QUALITY PROGRAM

- WLWLSA Volunteers completed Tributary Sampling – 12 locations – 8 years (2007-2025)
- Field parameters: pH, temperature
- Laboratory parameters: nutrients, bacteria, total suspended solids

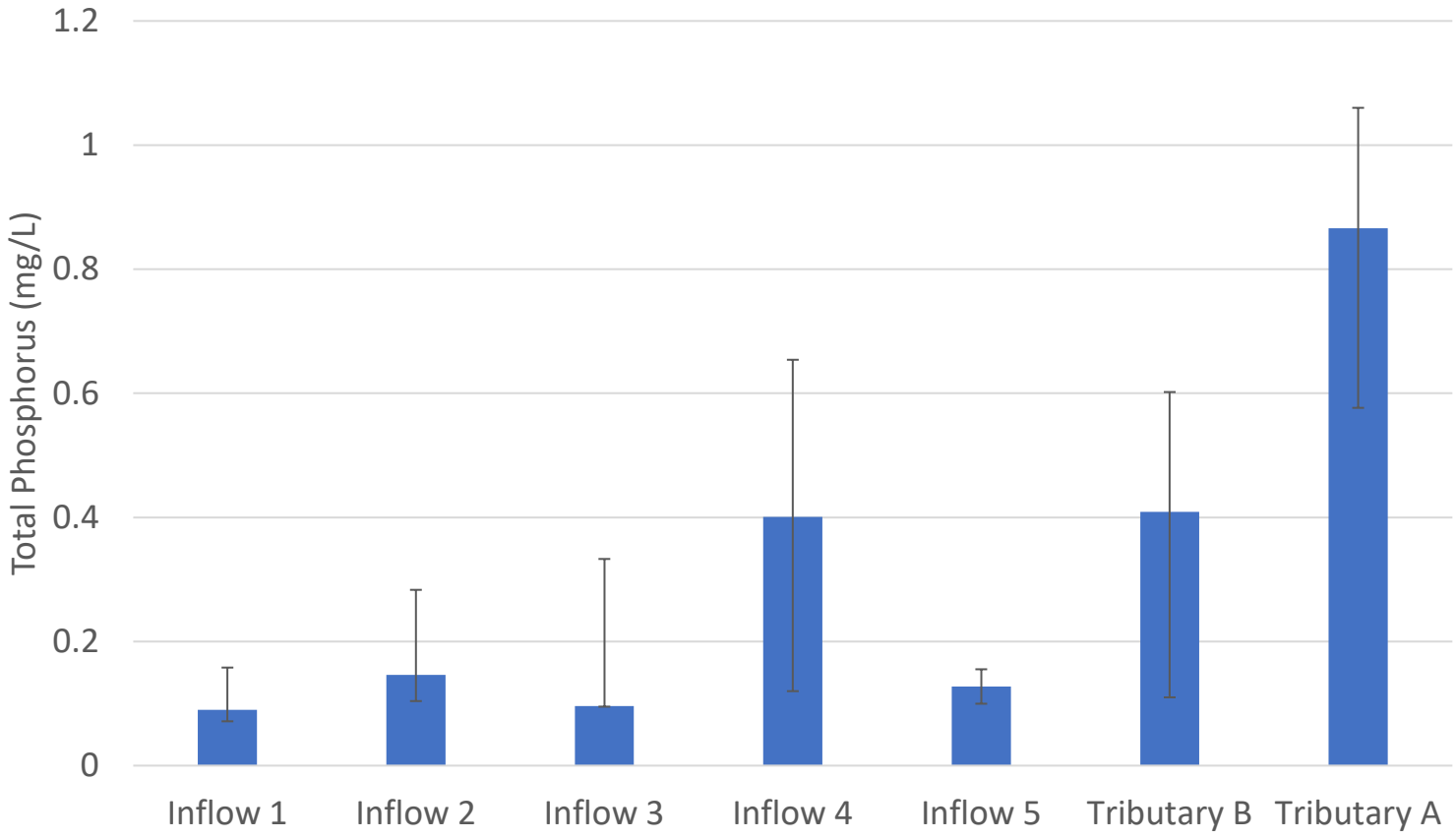


WIZARD LAKE TRIBUTARY PROGRAM

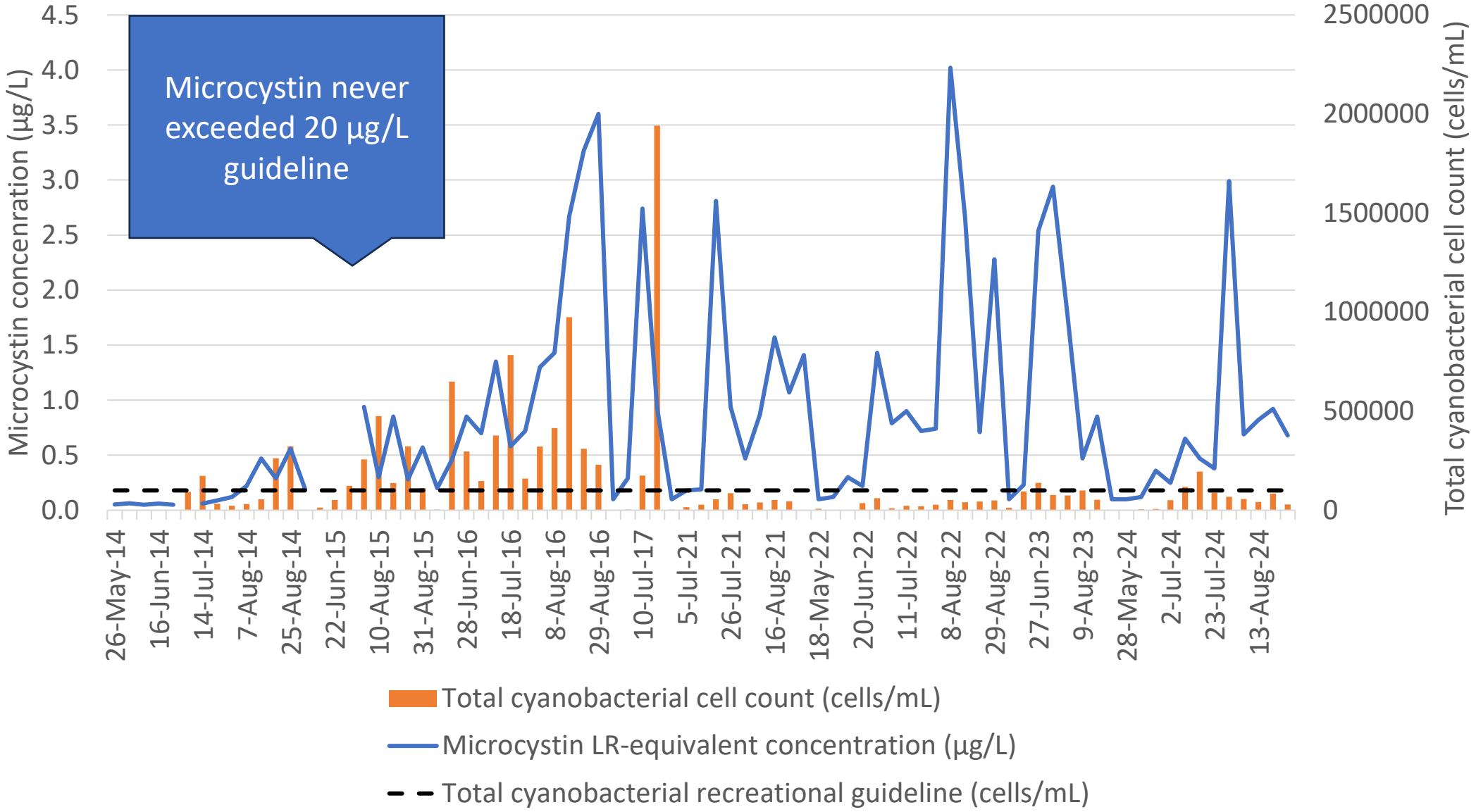


WIZARD LAKE TRIBUTARY PROGRAM

- Total phosphorus highest in tributaries of the south-east portion of the watershed (Trib 4, A, B)
- Flow was also highest there



WIZARD LAKE BEACH MONITORING



TRIBUTARY A FLOW PATTERN

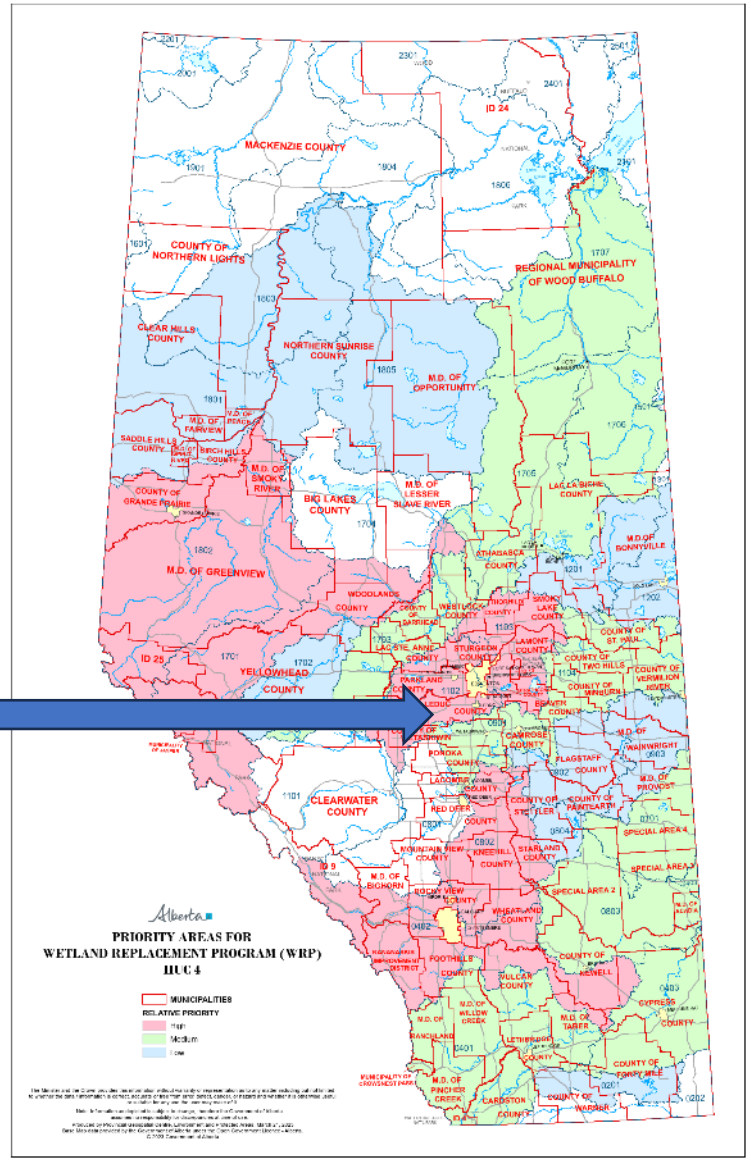
OVERLAND DRAINAGE TO COUNTY DITCH THEN TO WIZARD LAKE


Yard between Upstream and Downstream of Farm
17.04.2020


Horse paddock Southside of TWP 480 where water turns & flows through culverts north to Wizard Lake
22.05.2020

Currently working with Associated in preparation for Wetland Restoration Project : 4 in que at moment : working with Leduc County and Wetaskiwin County #10

Wizard Lake is in a high-priority area for wetland replacements projects



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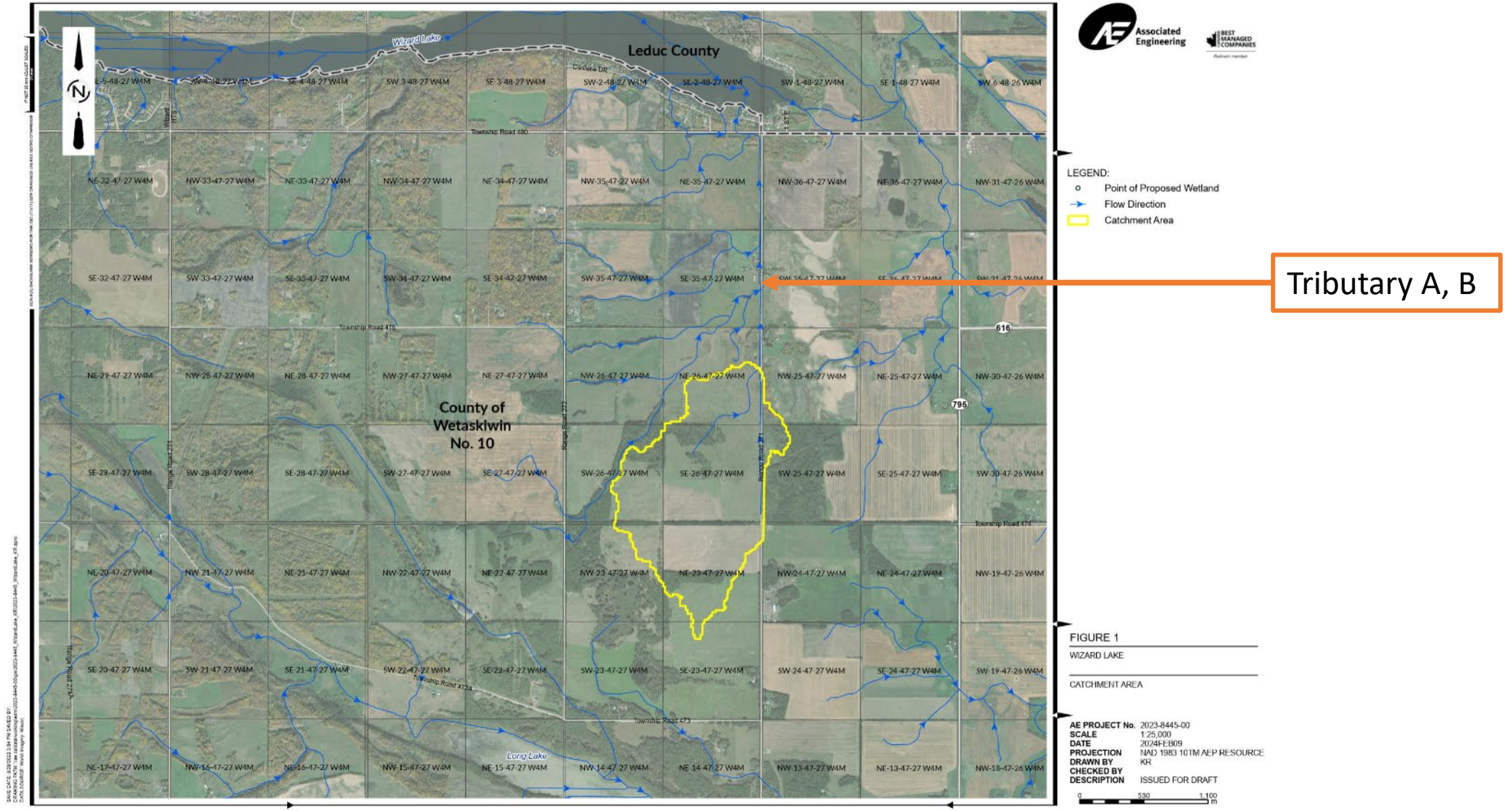

Example of Successful Wetland Restorations

Rosy Farms, Sturgeon County

Before

After

Example of Successful Wetland Restorations

Disabling Ditches

Before

After

WLWLSA IS STALLED

WHERE DO WE GO FROM HERE?

WRP Program
: Requires landowners consent

Safety Concern
Excessive traffic for a narrow lake

Sediment Release:
Excessive wave action releases phosphorous & nitrogen