

Lake Wakanda Enhancement Plan

Informational Presentation to Kandiyohi
County Board - February 17th, 2014

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Skip Wright - DNR Ecological and Water Resources
Loren Engleby – Kandiyohi County
Dave Coahran – DNR Fisheries



**Blomkest
Sportsmens Club**



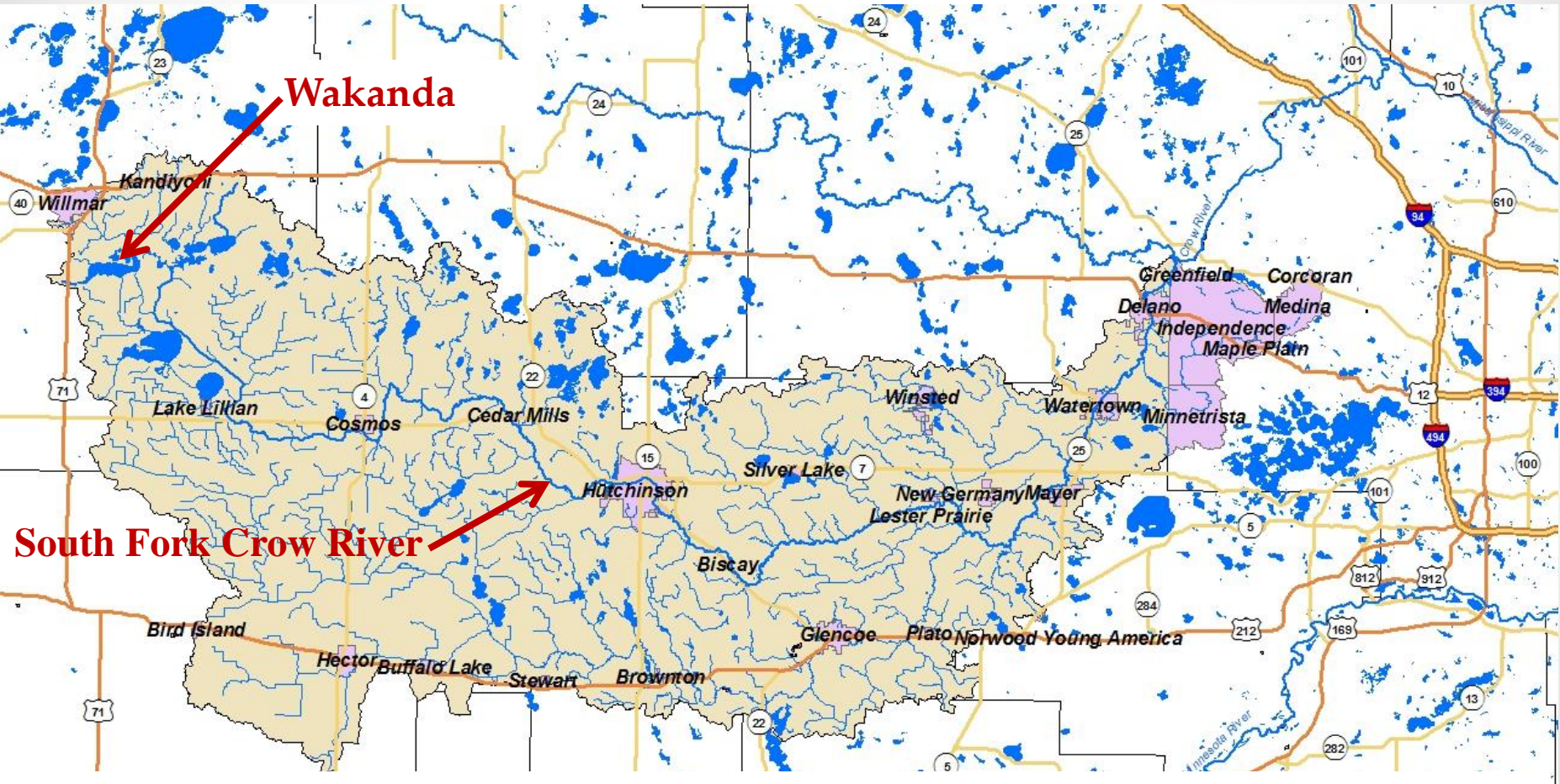
**Friends of
Lake Wakanda**

Key components of this plan:

- 1) **Main Goal is to improve Water Quality.**
- 2) **Locally led - Collaborative Effort.**
- 3) **Combines In-Lake and Watershed Management strategies to address short term and long term water quality problems.**
- 4) **Adaptive - includes monitoring and annual review by the project partners.**
- 5) **Based on an increased understanding of Lake Wakanda, shallow lake and watershed science.**
- 6) **The restoration of Grass Lake, WRAPS and Legacy Funding offer a historical moment to address nonpoint source pollution for this important chain of lakes.**



South Fork Crow River Watershed(2,756 square miles)



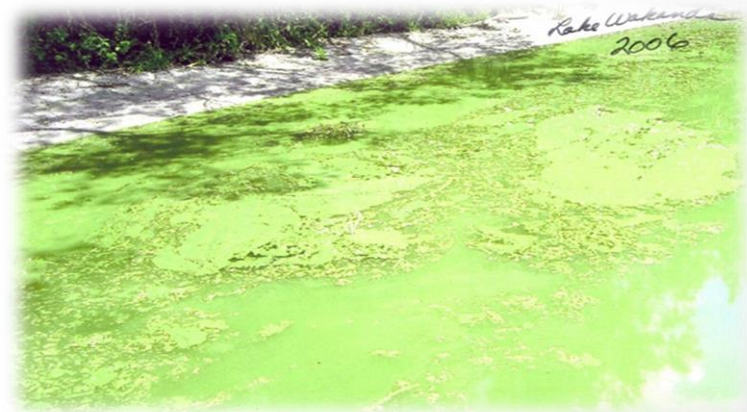
MNPCA – WRAPS(Watershed Restoration and Protection Strategy)

Wakanda – Water quality a historical problem

A MPCA report from 1970 cites: “An investigation was made by the Minnesota Department of Health for the Minnesota Water Pollution Control Commission of Wagonga Lake and County Ditch 23A on September 18, 1956. A sample taken at the junction of the county ditch and County Road 88...had high concentrations of coliform group organisms, suspended solids, and biochemical oxygen demand.” (MPCA, 1971).

A US EPA report from 1974 cites: “Survey limnologists noted the lake had a ‘pea-soup’ appearance at all sampling visits and reported an ‘enormous’ bloom decomposing in late August, 1972.” (US EPA, 1974).

2006 Algae Bloom



Big Kandiyohti – a long history of water quality problems and citizen complaints

A MPCA report from 1970 cites: “On June 13, 1960, four dogs were reported to have died after drinking contaminated water from Big Kandiyohti Lake. A later report set the total at six dogs, a cow and a calf.” (MPCA, 1971).

Aphanizomenon Bloom 2006



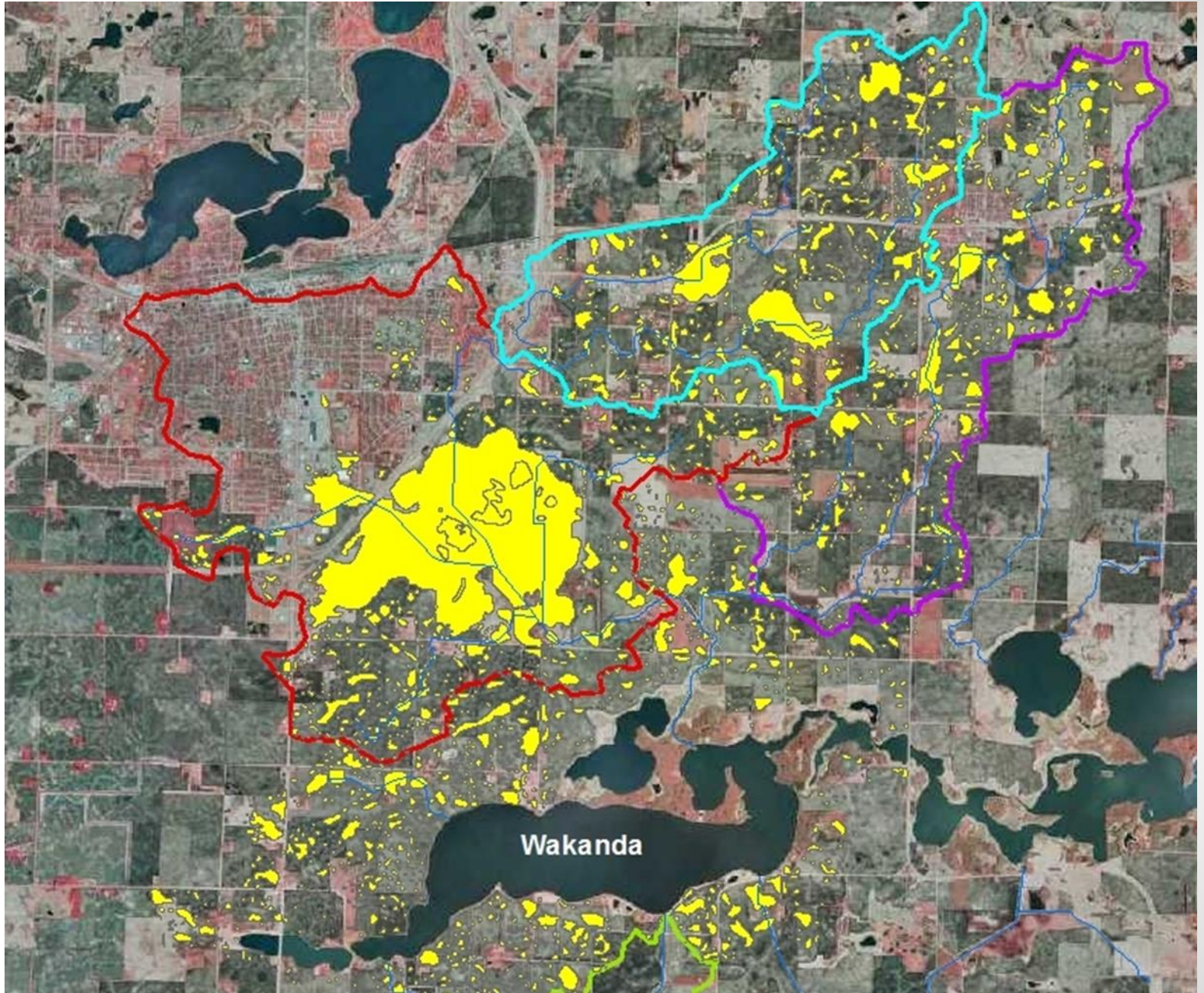
Pam Anderson - MPCA •



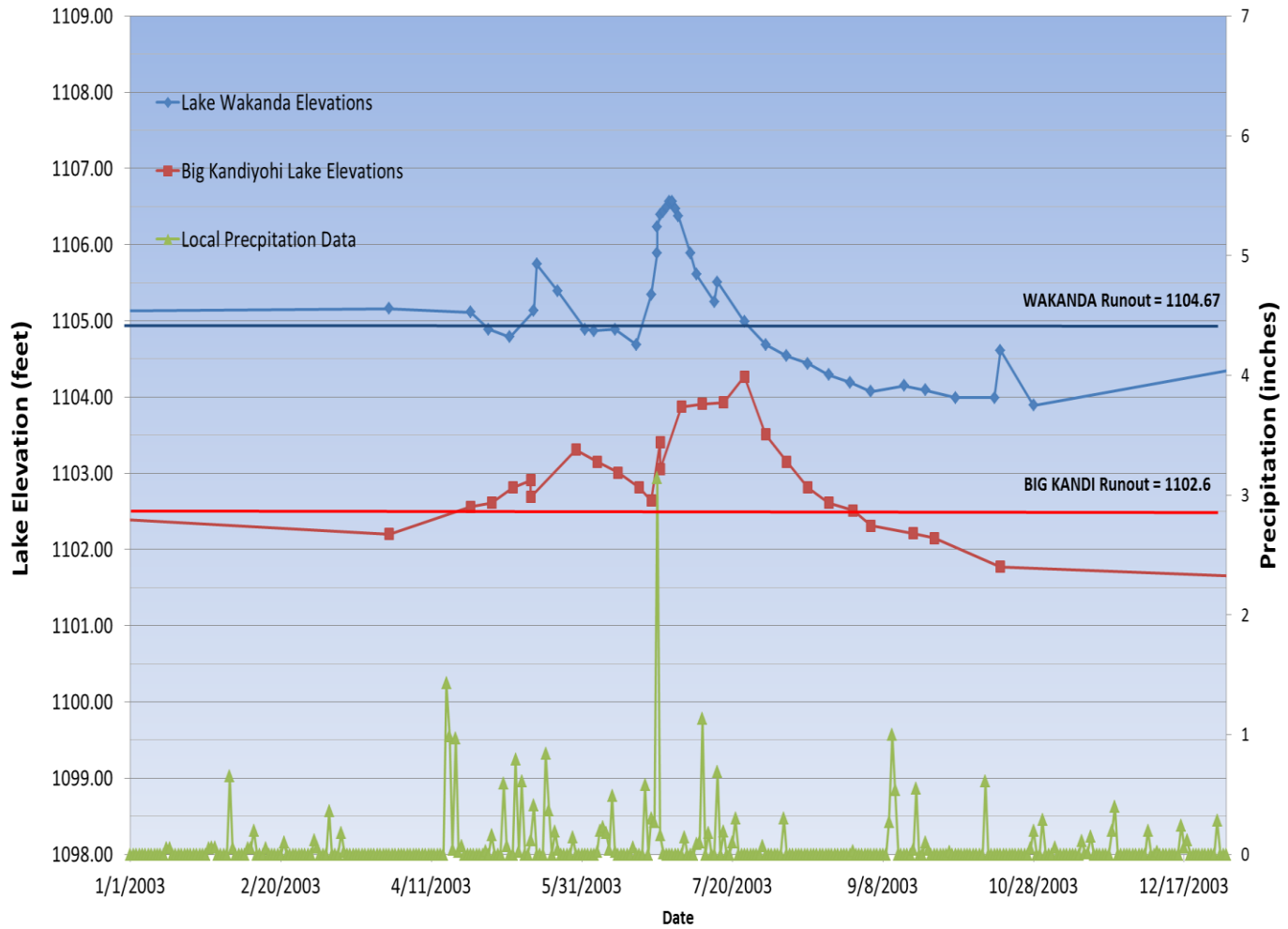
Peach Creek – June 2014



Restorable Wetlands



Big Kandi and Wakanda Hydrology



Summer 2014

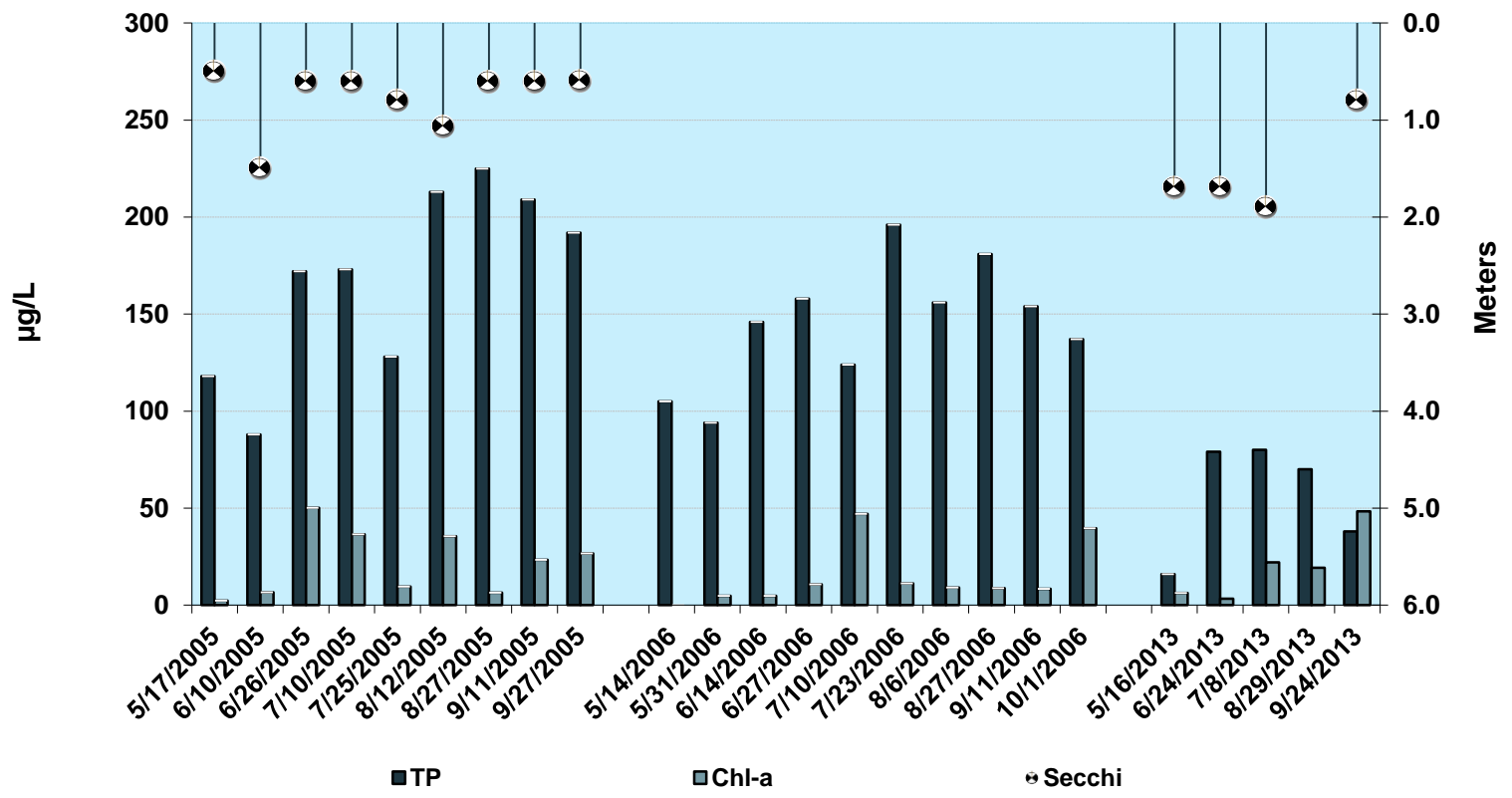


Summer 2013





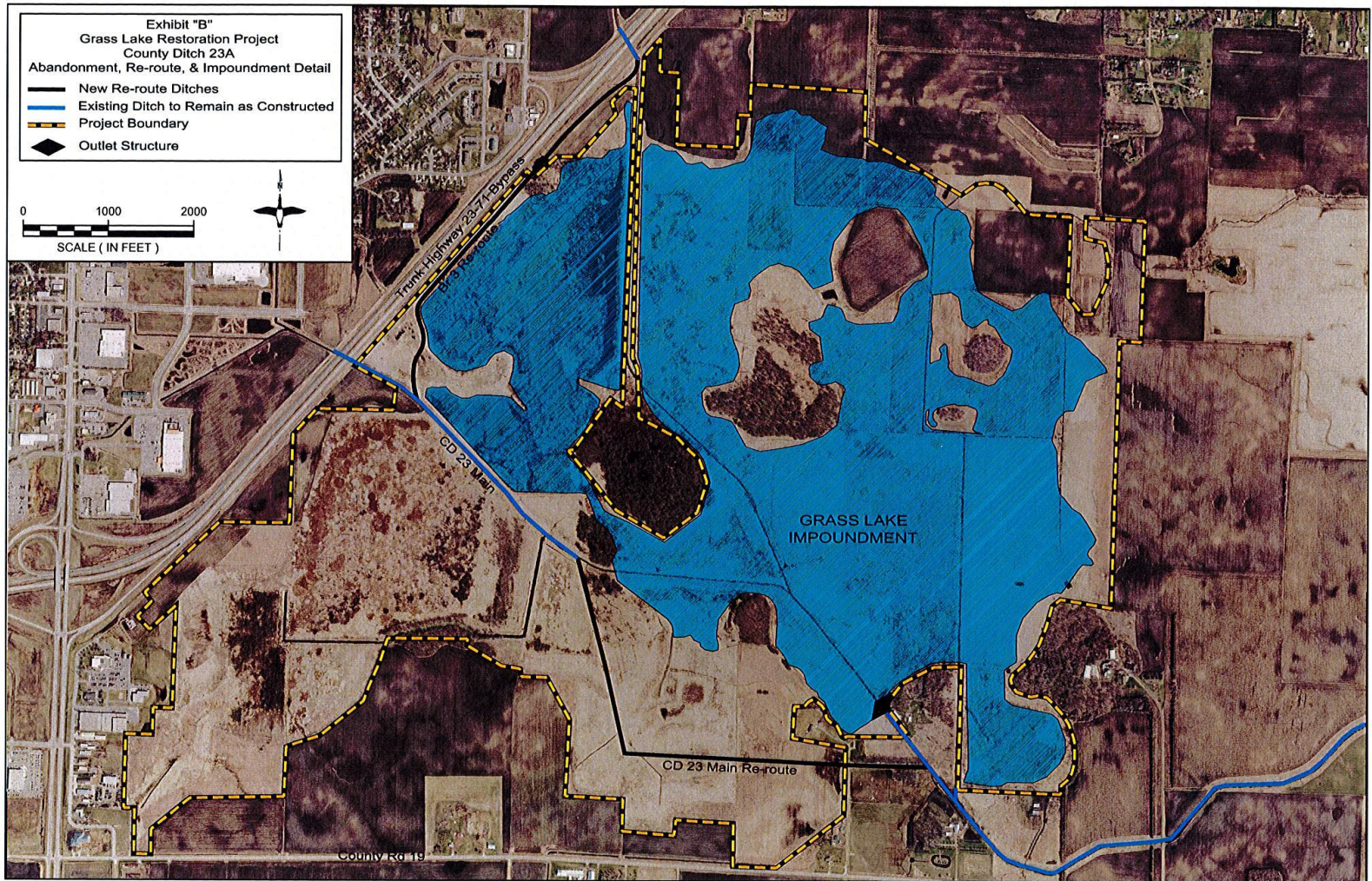
Big Kandiyohi



Pam Anderson - MPCA



Grass Lake



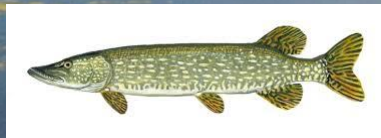
Lake Wakanda Most of Time



Our Goal

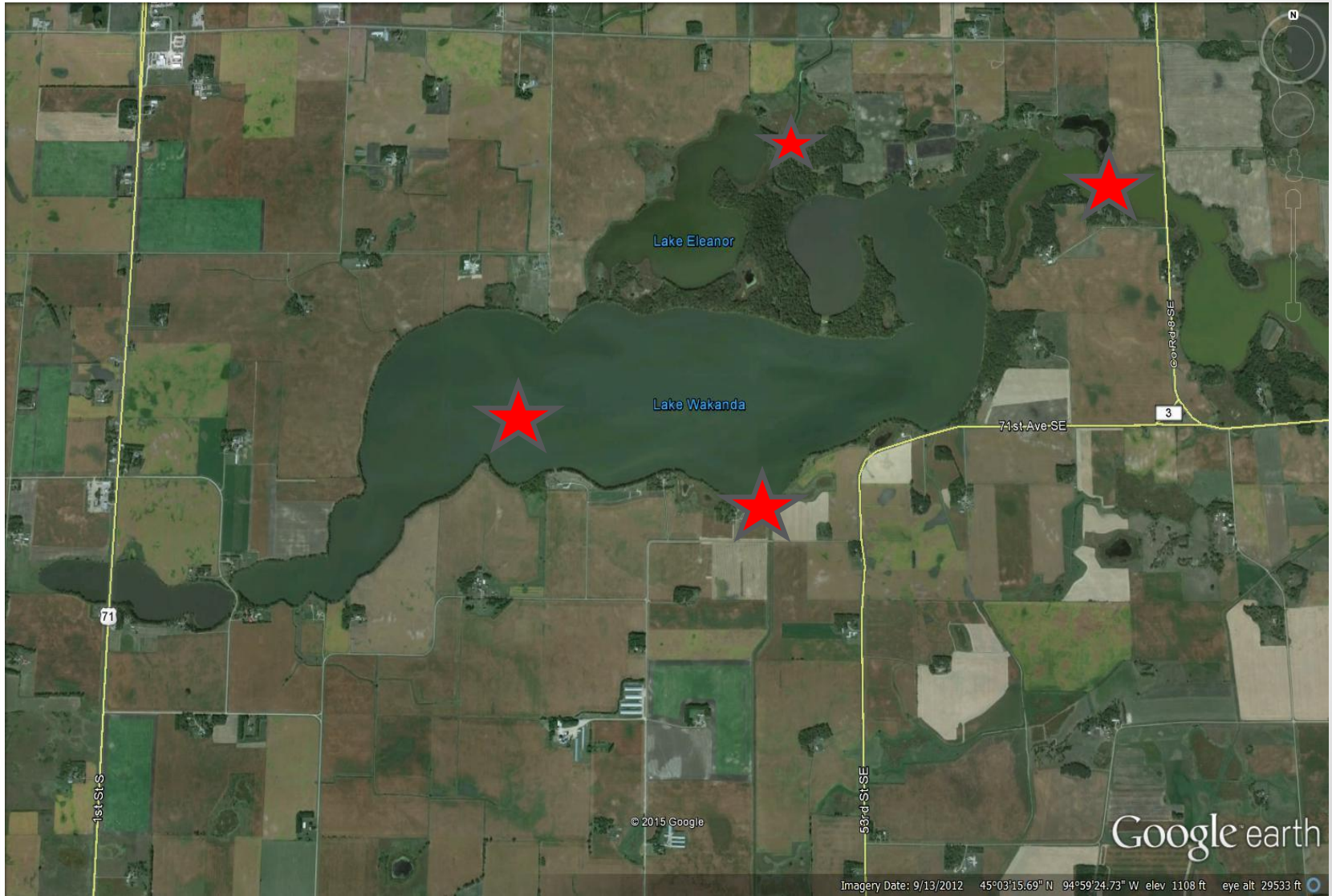
Improve Water Quality so Wakanda can support more diversity and recreation.

- Maintain submersed vegetation at 75% of sampling points, more fringe emergents
- Reduce peak flows (lake bounce) by 50% (< SL Erosion)
- Reduce average in-lake TP to 90ppb or less
- Reduce TSS entering lake to 25ppb or less
- Clearer water = more plants = more fish and wildlife diversity = more hunting, more fishing, more recreation!



Our Strategy

Long-Term (Watershed BMPs) and **Short-Term** (Authority to Manage Water Levels following Wakanda Plan, Funding for 2 Water Level Control/Fish Barrier Structures, Provide Effective Aeration, Predator Fish Management, Carp Control!)



CARP CONTROL!



I HATE THE
WAKANDA
ENHANCEMENT
PLAN!



In-Lake Management Specifics

Goal - Recreational Fishery 2/3 of Time

- Conduct partial drawdowns to induce winterkill, consolidate fringe sediments and promote vegetation growth (no more than once every 6 years with a goal of 8-10+ years).
- Triggers – vegetation <50% of SW/NE bay sample stations, roughfish >60%, gamefish <20%, poor water clarity (<1 foot July/Aug), favorable water levels.
- Partial drawdown duration – no more than 2 winters and 1 summer.
- Staged Refill
- Predator Fish Stocking, Effective Aeration, Effective Barriers



