Lake Winnebago Regulation Meeting

USACE Detroit District

October 25, 2011

Agenda

- Basin Overview
- Major Stakeholders
- Maintenance and Repair Work
- Weather Conditions
- Data Available for Regulation
- Lakes Winnebago and Poygan Water Levels
- 2010-2011 Water Level Explanation
- 2011-2012 Water Level Strategy
- Questions

Fox-Wolf River Basin

Drainage Area

Basin = 6,430 mi²
Lake Winnebago = 206 mi²

Lake Winnebago Controls

Menasha Dam

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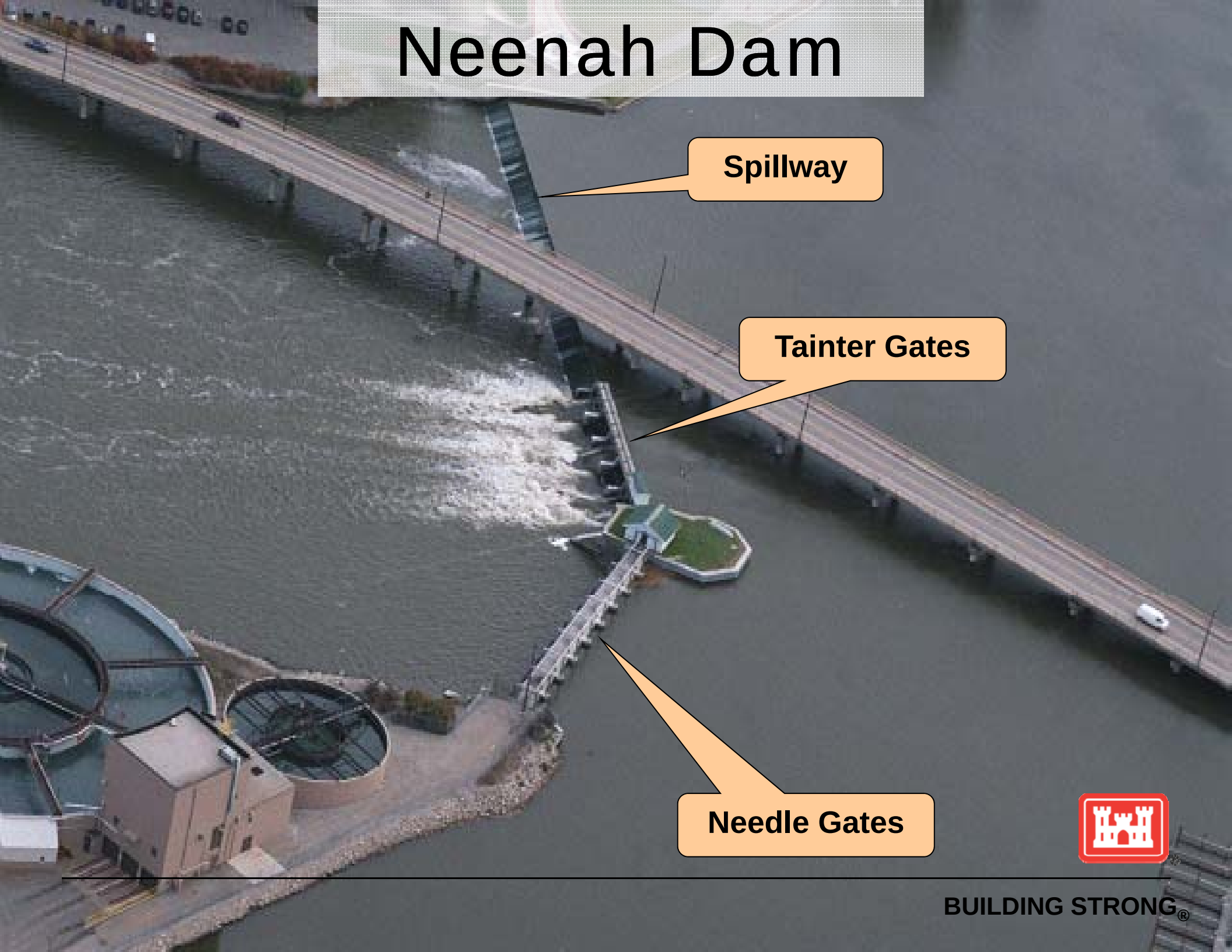
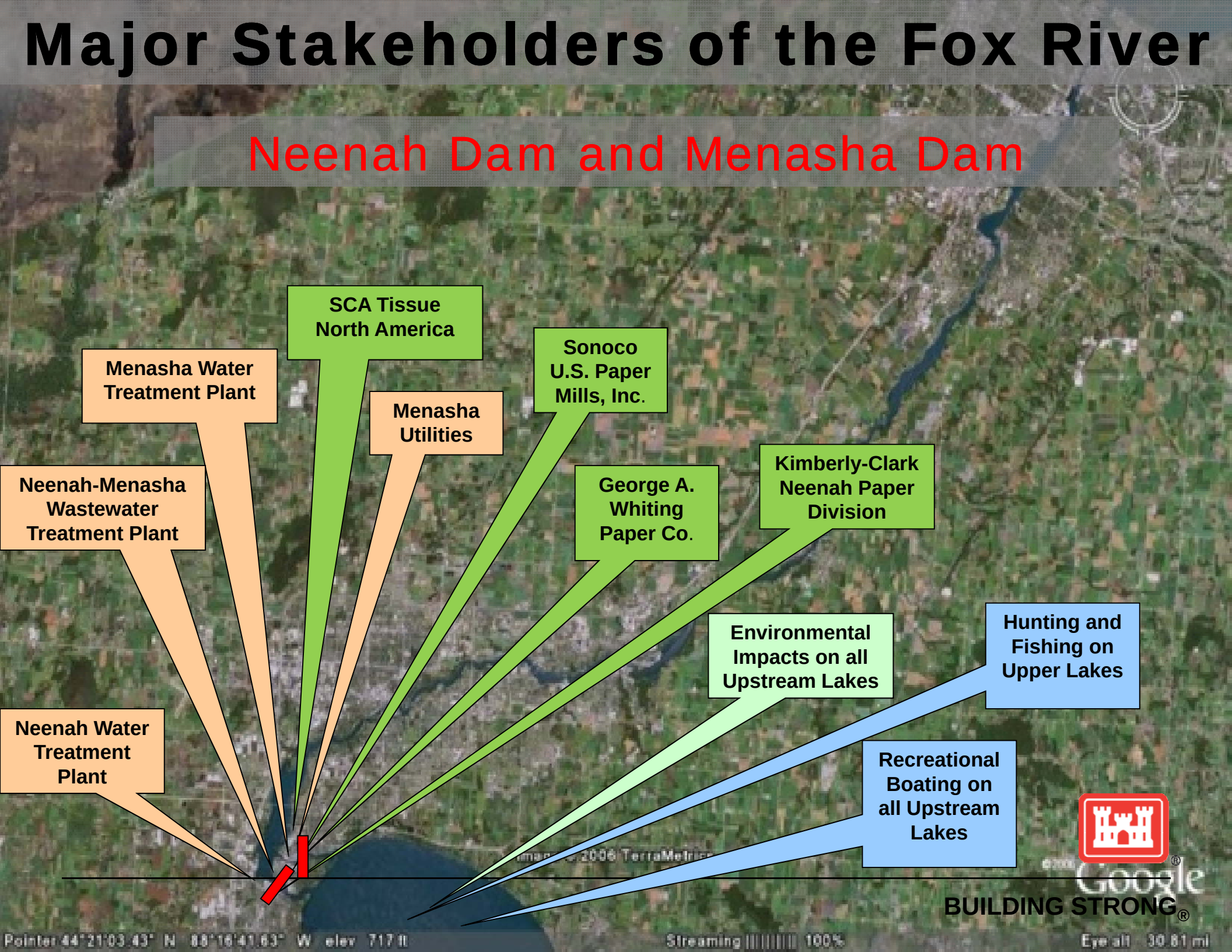
Neenah Dam



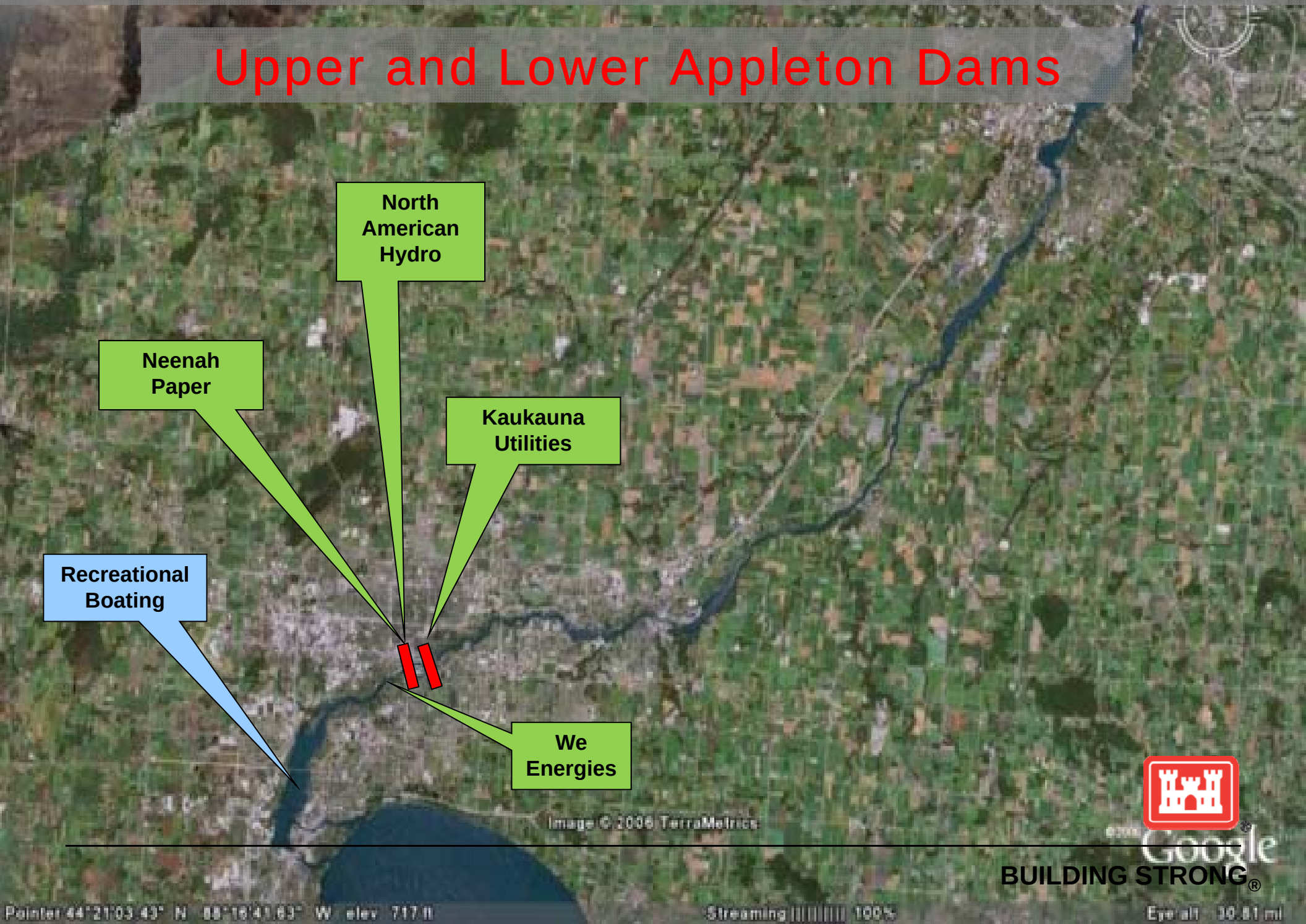
Major Stakeholders of the Fox River

Neenah Dam and Menasha Dam



Major Stakeholders of the Fox River

Upper and Lower Appleton Dams



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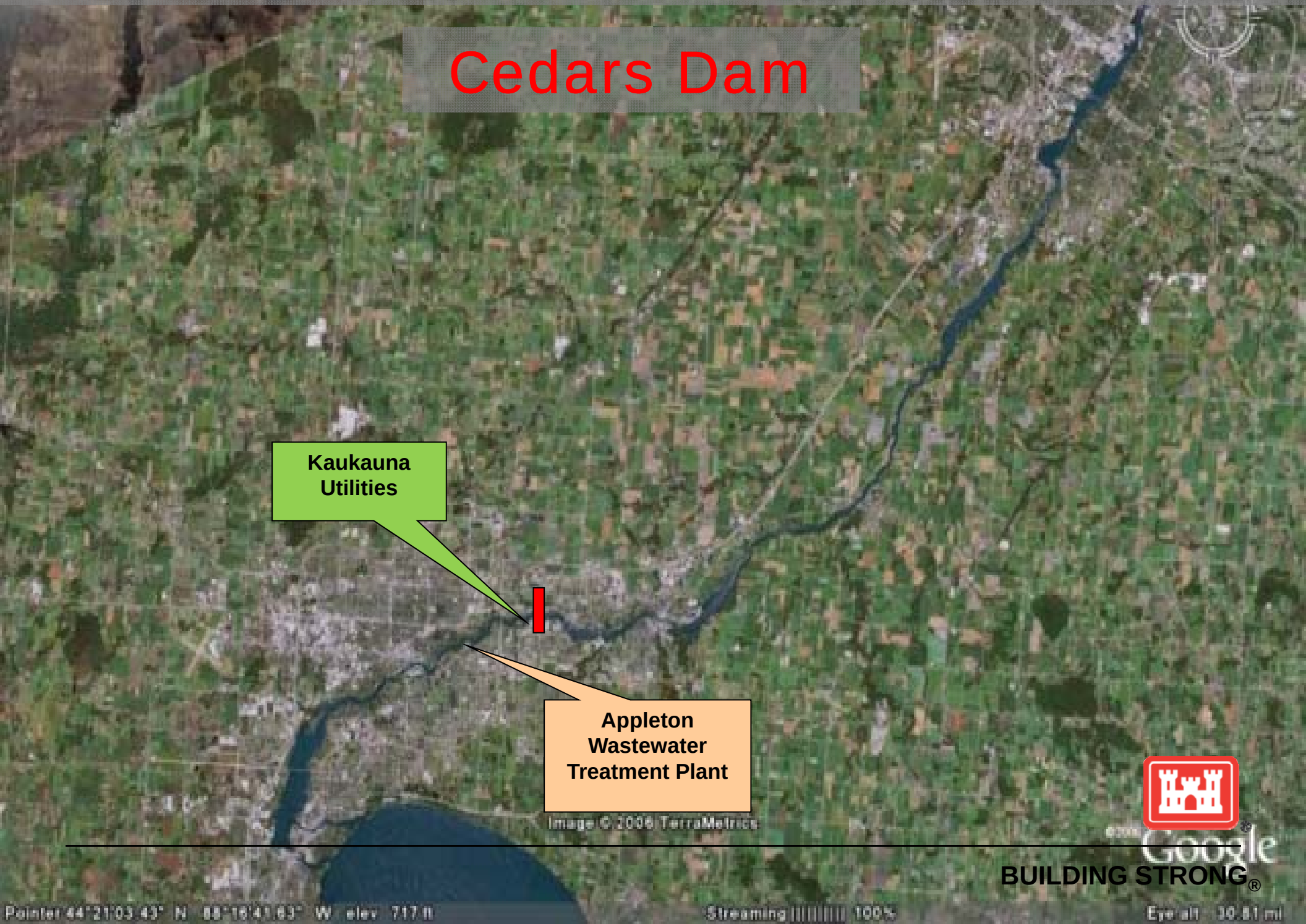
Major Stakeholders of the Fox River



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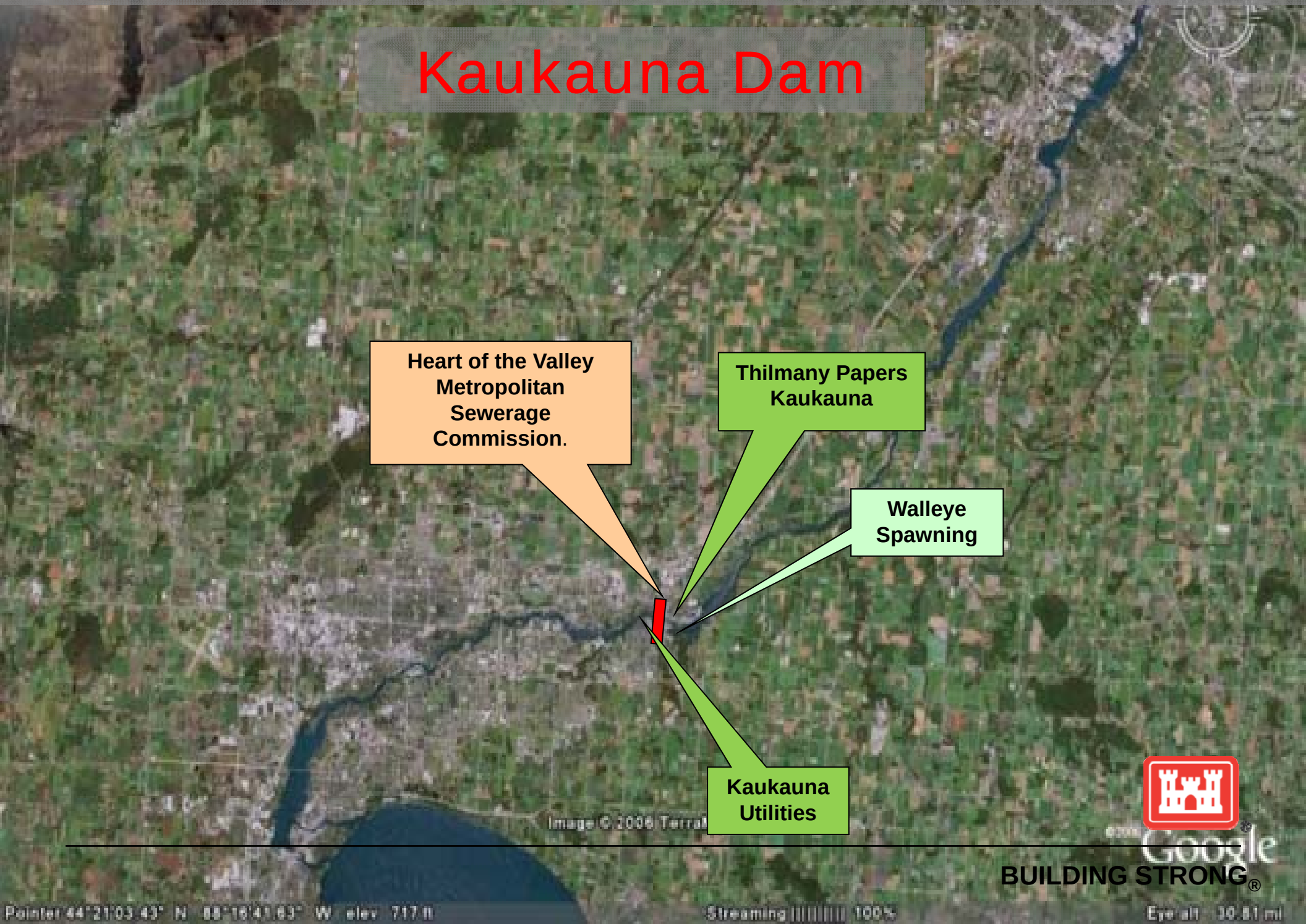

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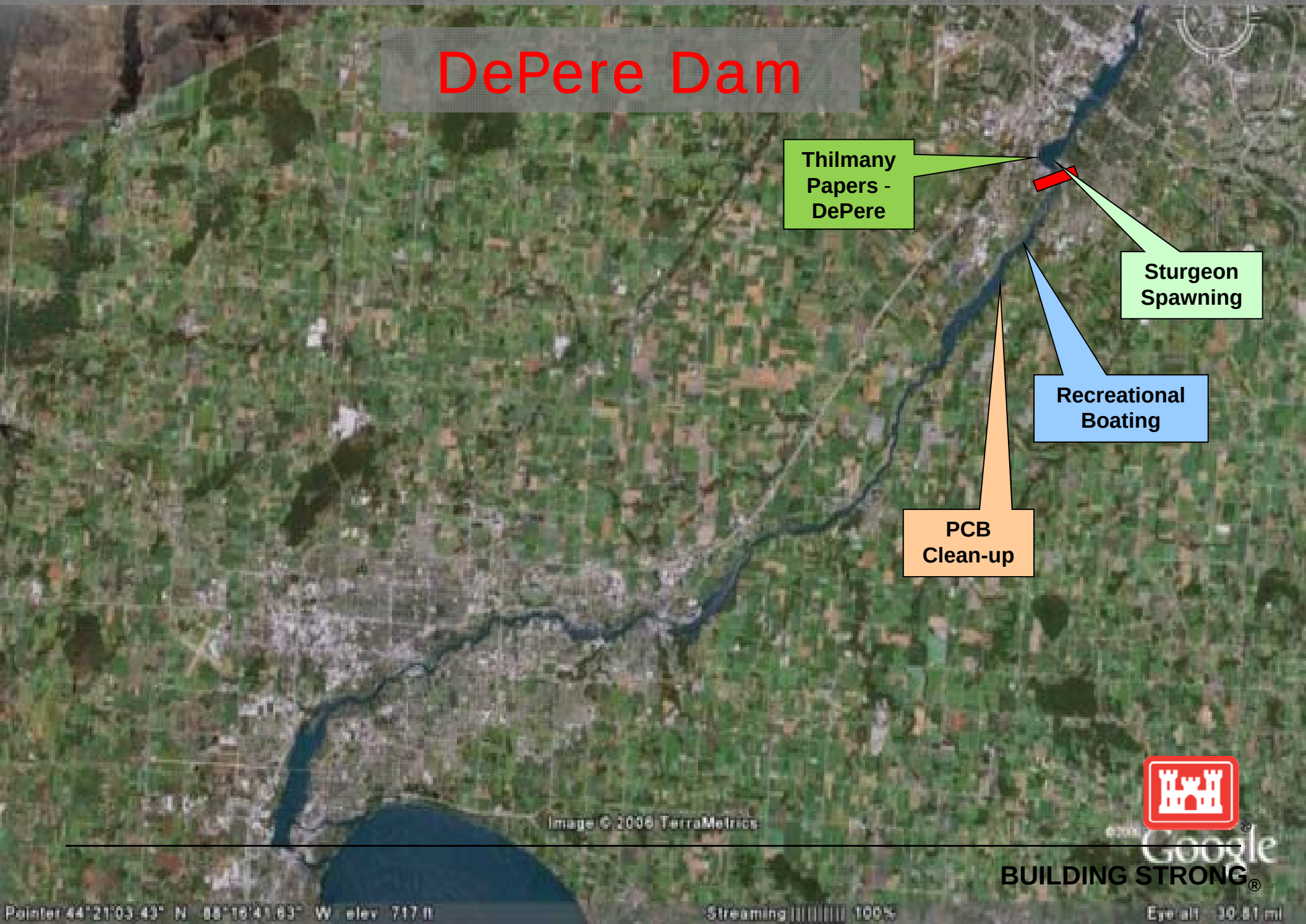
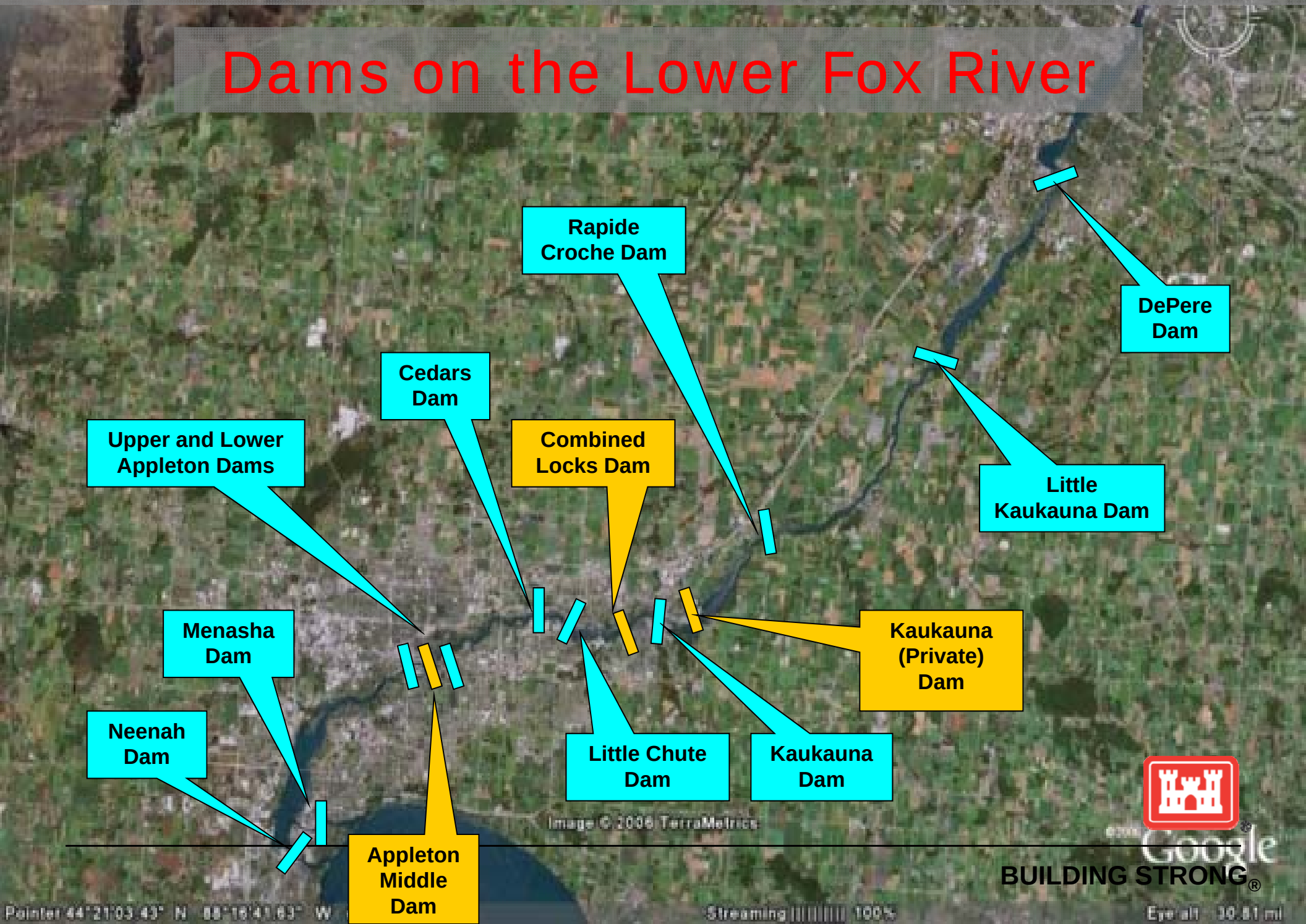


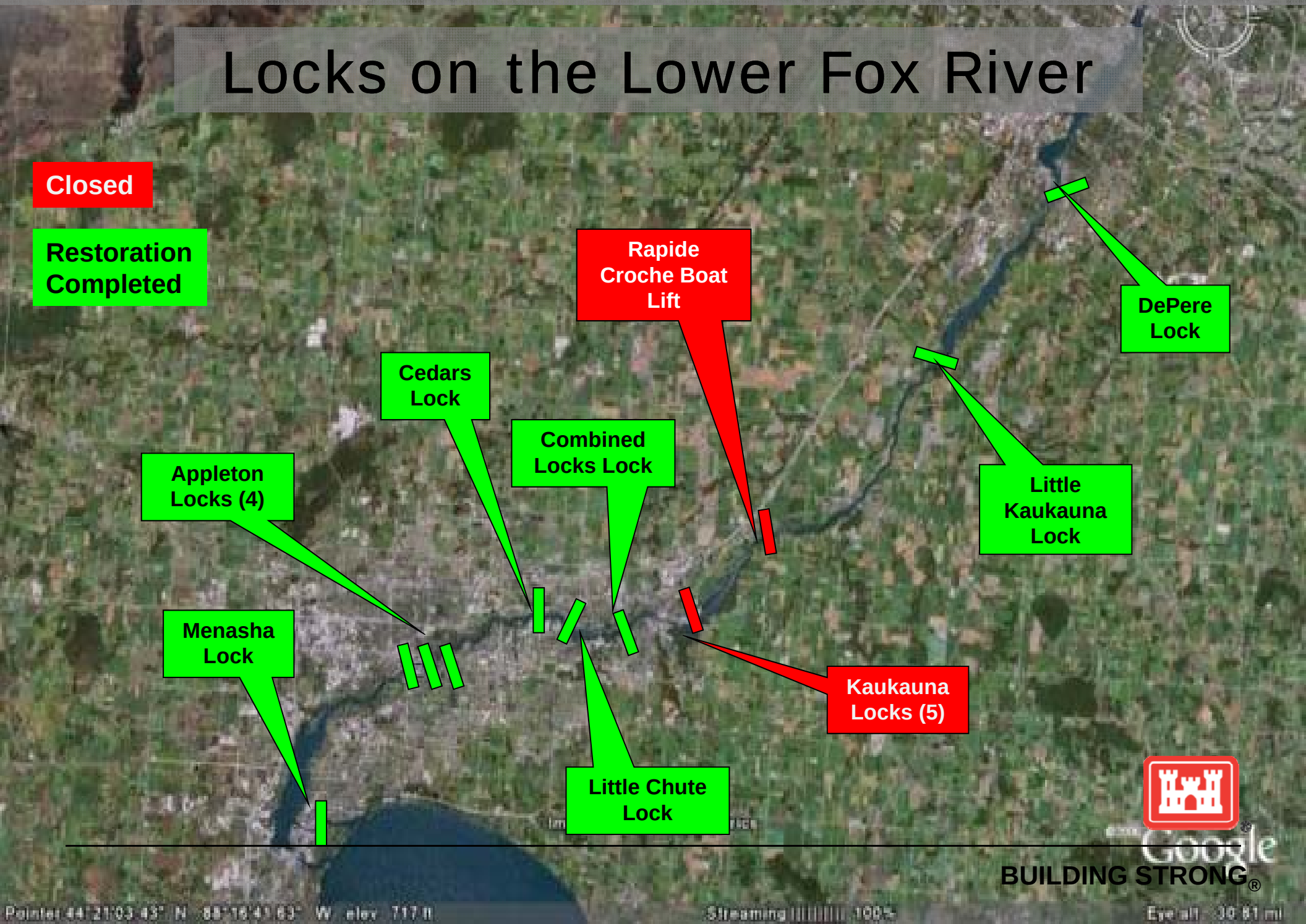
Major Stakeholders of the Fox River

Dams on the Lower Fox River



Major Stakeholders of the Fox River

Locks on the Lower Fox River



Maintenance / Repair Work

- Little Chute Seepage
- Trunnion Repairs
- Walkway Repairs
- Neenah Papers Hydro Rehab

Little Chute

DePere

Little Chute Seepage

Sink holes

Dye Testing

Little Chute Seepage

Dye Testing

Fill Material

Trunnion Pin and Walkway Repairs

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Dam Repairs

Concerns with cracking at gate anchorages (trunnions)

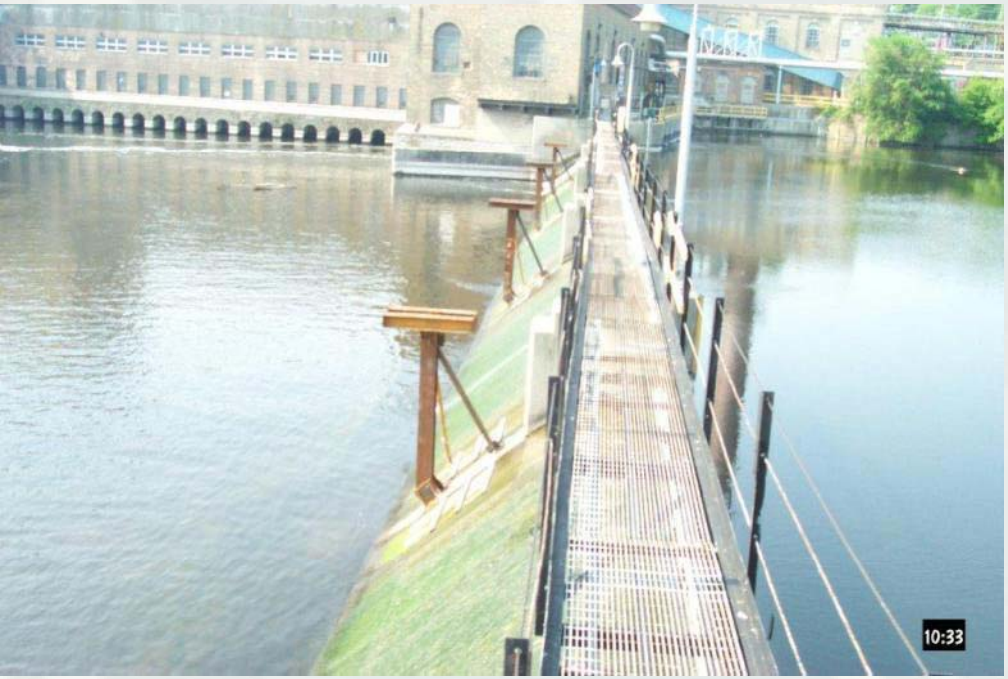
Concrete Removal

DePere Dam Repairs

Setting forms for new concrete

Trunnion installation in new concrete complete

Walkway Replacement



Cedars (Before)

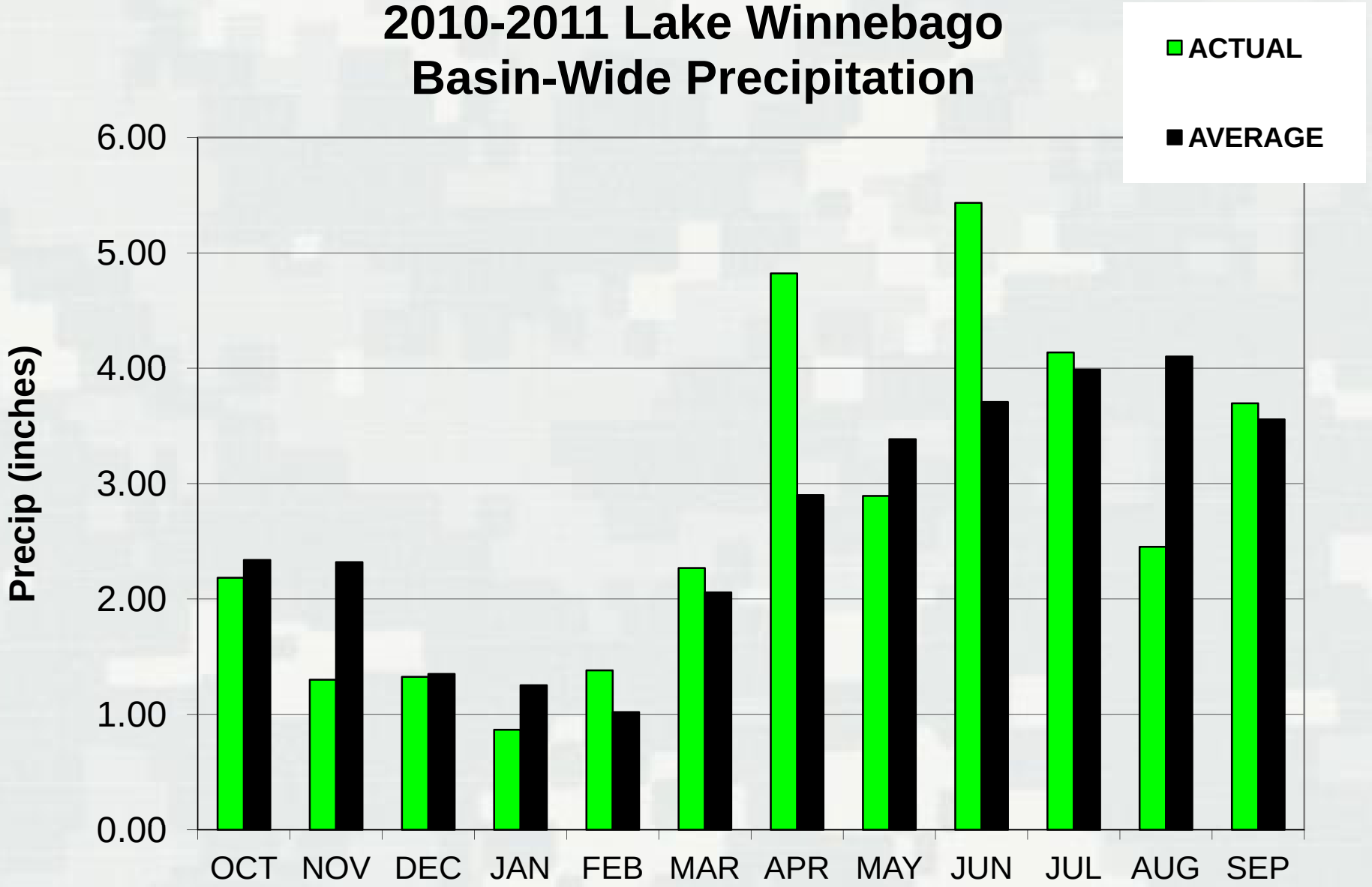
Little Chute (After)

Neenah Papers Hydro Rehab

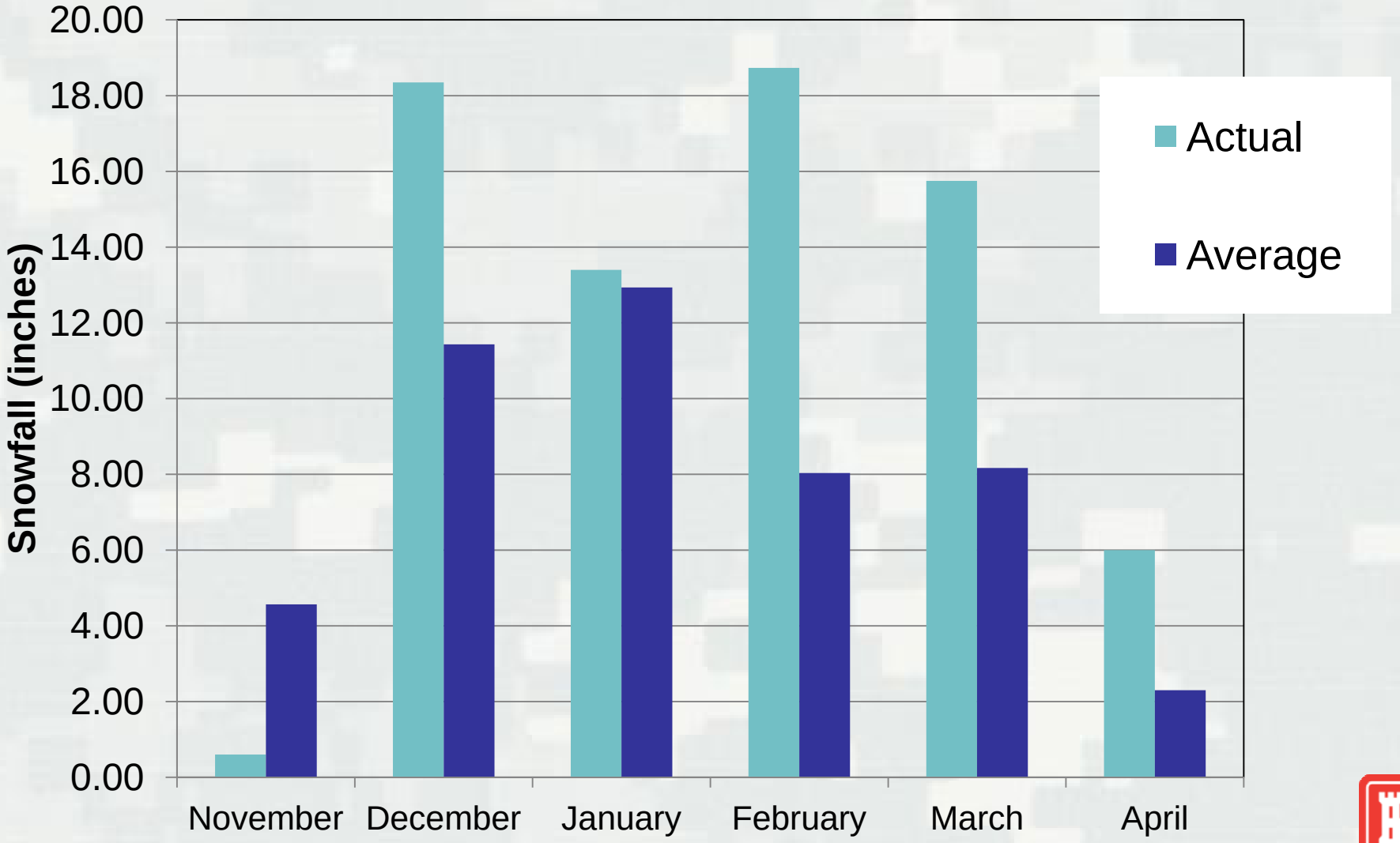
Inflatable Bladder

2010-2011 Weather

2010-2011 Lake Winnebago Basin-Wide Precipitation

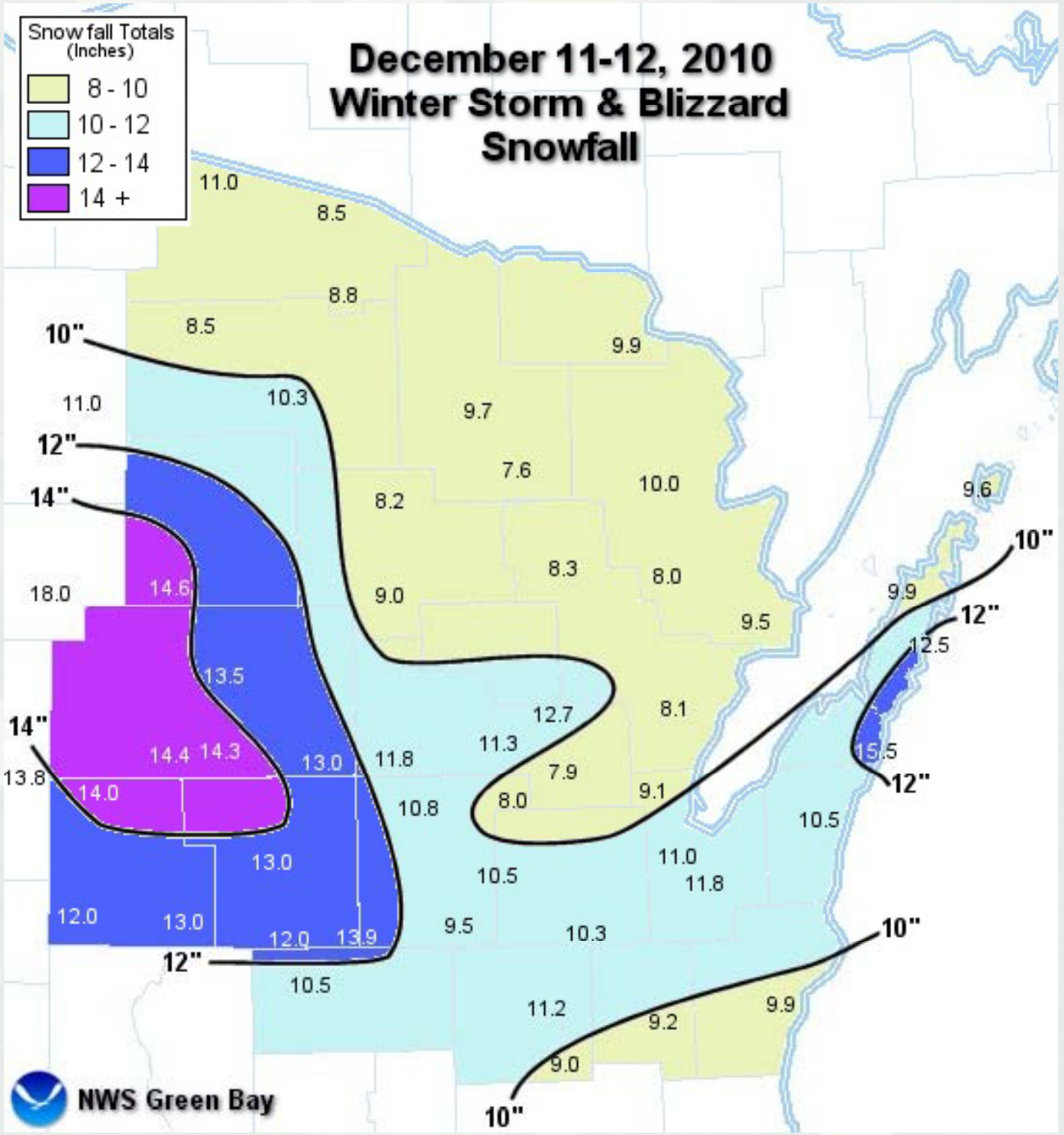


2010-2011 Lake Winnebago Basin Snowfall



Notes about the Winter of 2010-2011

- Cold!!!!!
  - At Oshkosh, only 5 days with an average temperature above 32 degrees
  - 41 days in a row with a below freezing daytime high temperature
- La Niña influenced pattern
  - Active storm track, bitter cold, above avg. snow
  - Looks to continue in 2011-2012



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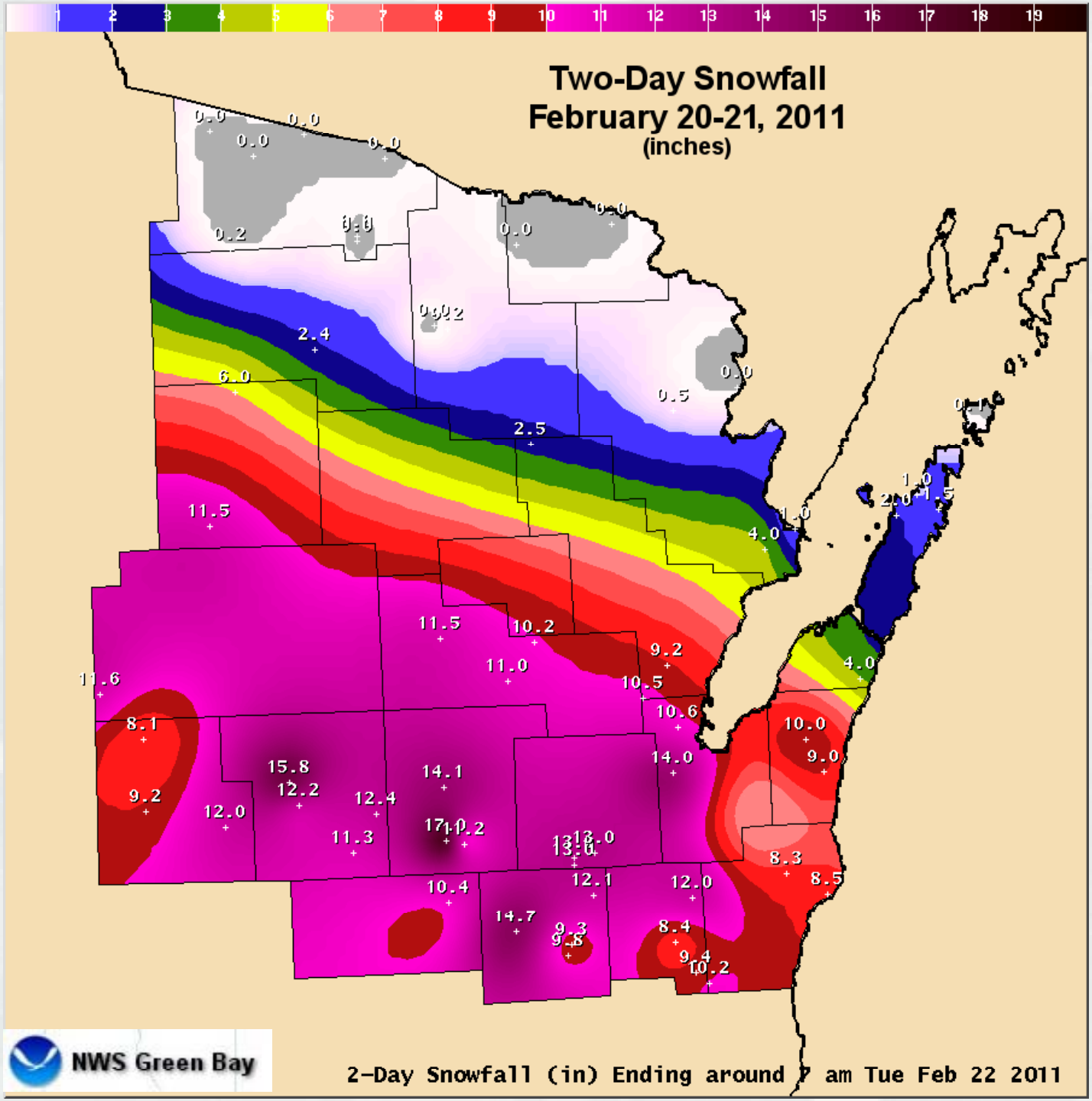

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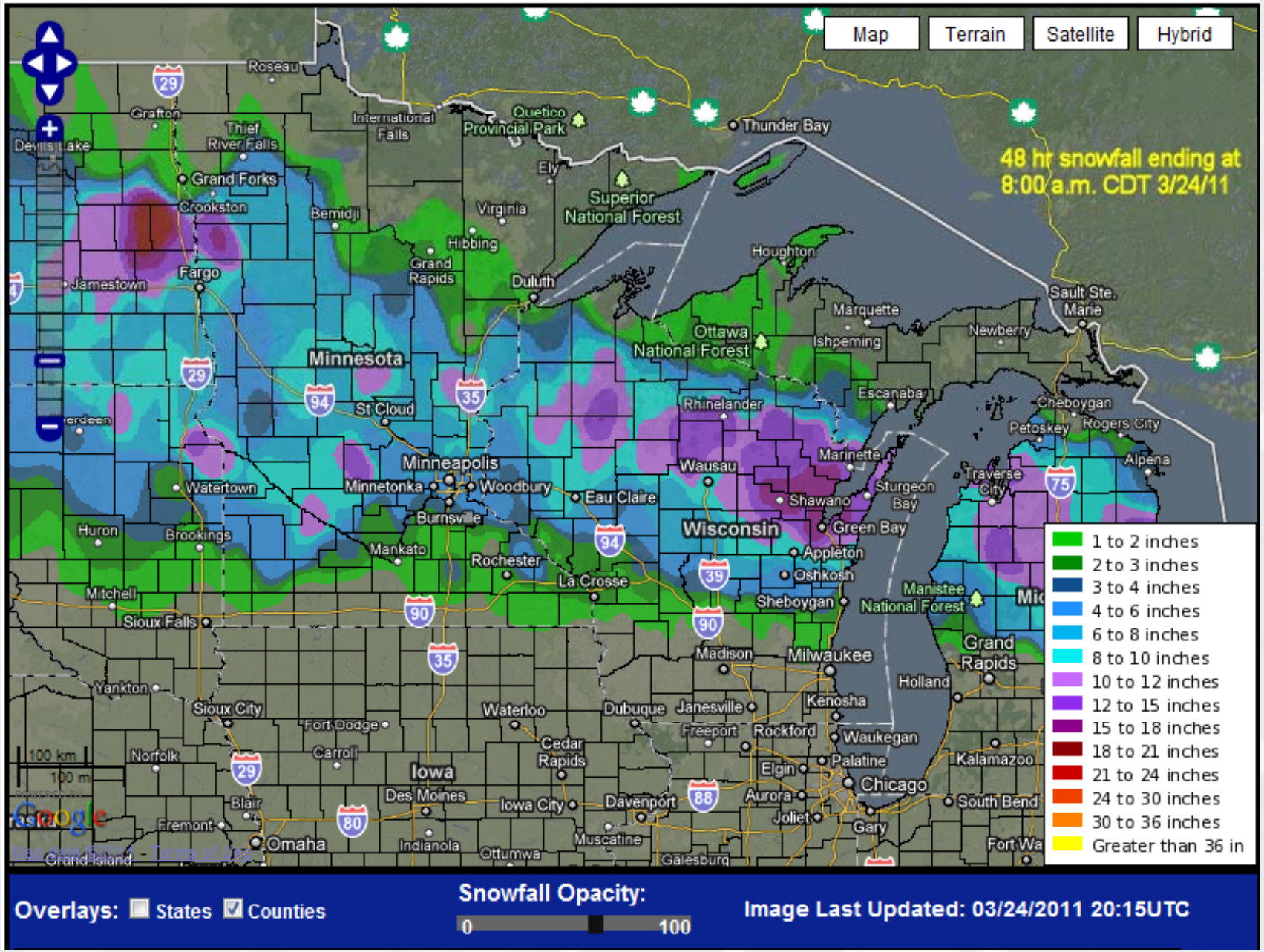


March 22-24, 2011 Winter storm

Lake Winnebago Ice Out

April 5, 2011

April 14, 2011

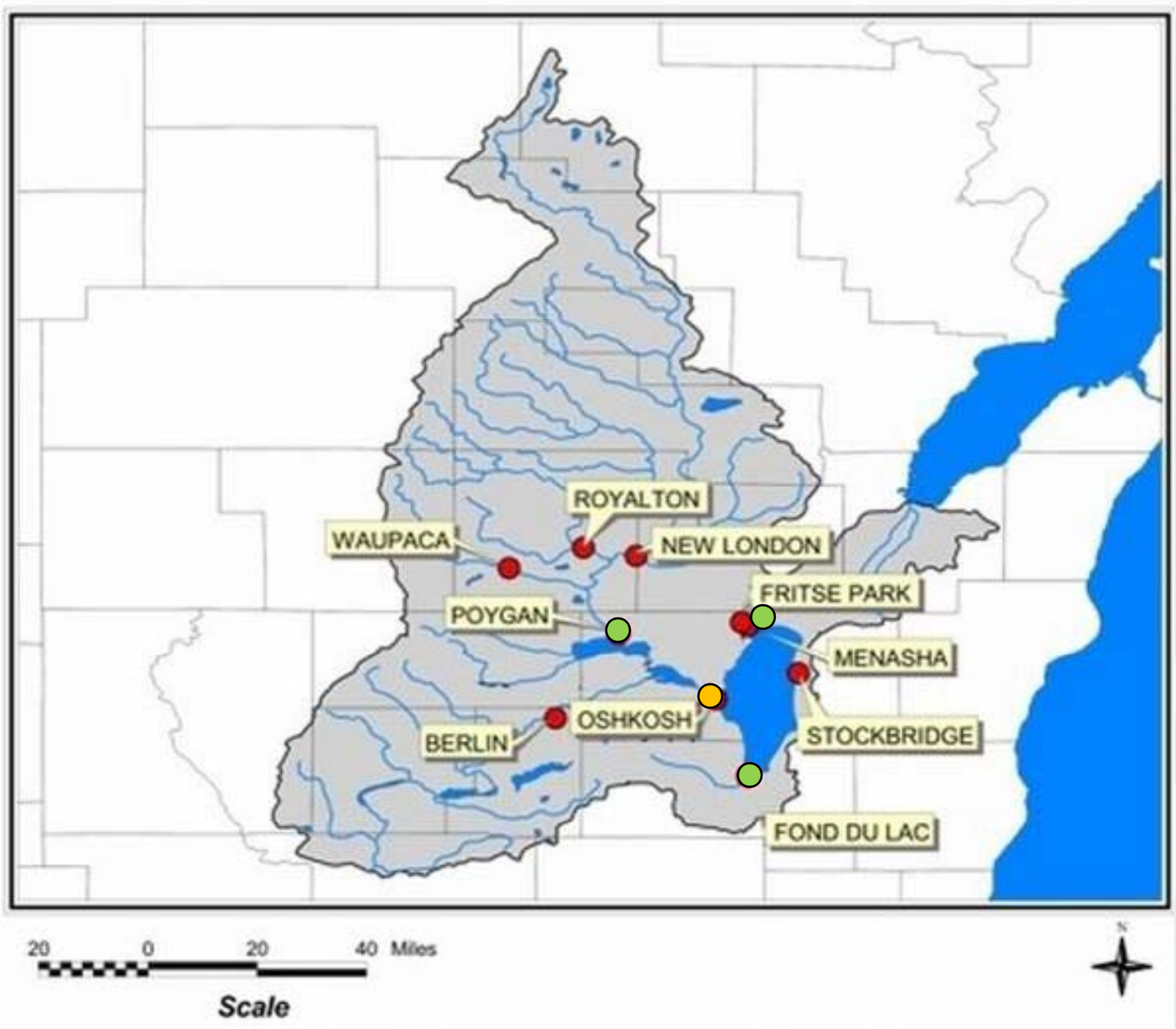
April 17, 2011

Latest Ice Out Date since 2006 - Previous Ice Out dates:

- March 29, 2010
- April 11, 2009
- April 14, 2008
- March 29, 2007
- March 30, 2006

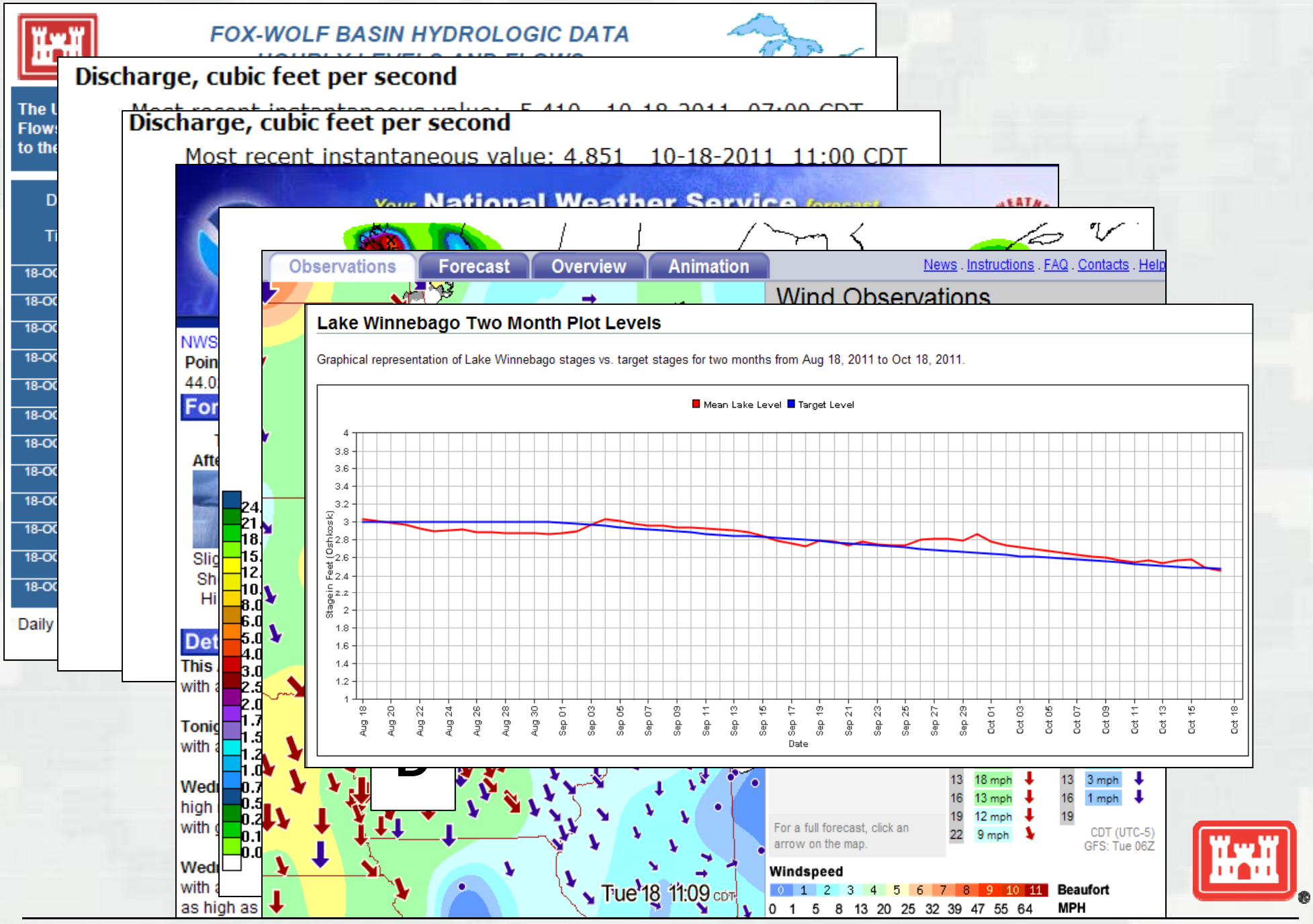
Data Available for Regulation Decisions

Data Collection Sites



- Water level and precipitation
- Water level, precipitation and water temperature
- Water level, precipitation, water temperature and weather data

Data Available for Regulation Decisions

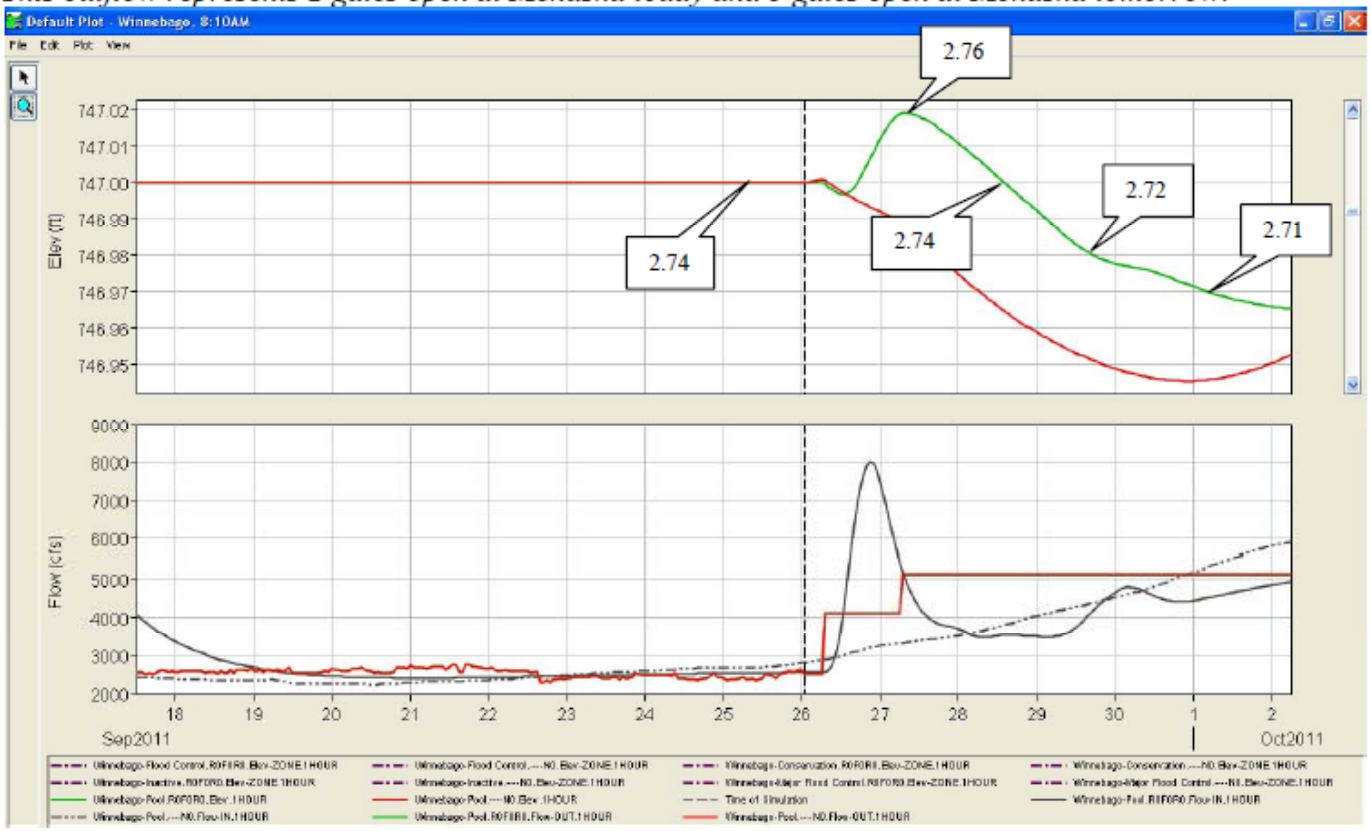


Lake Winnebago Model Results

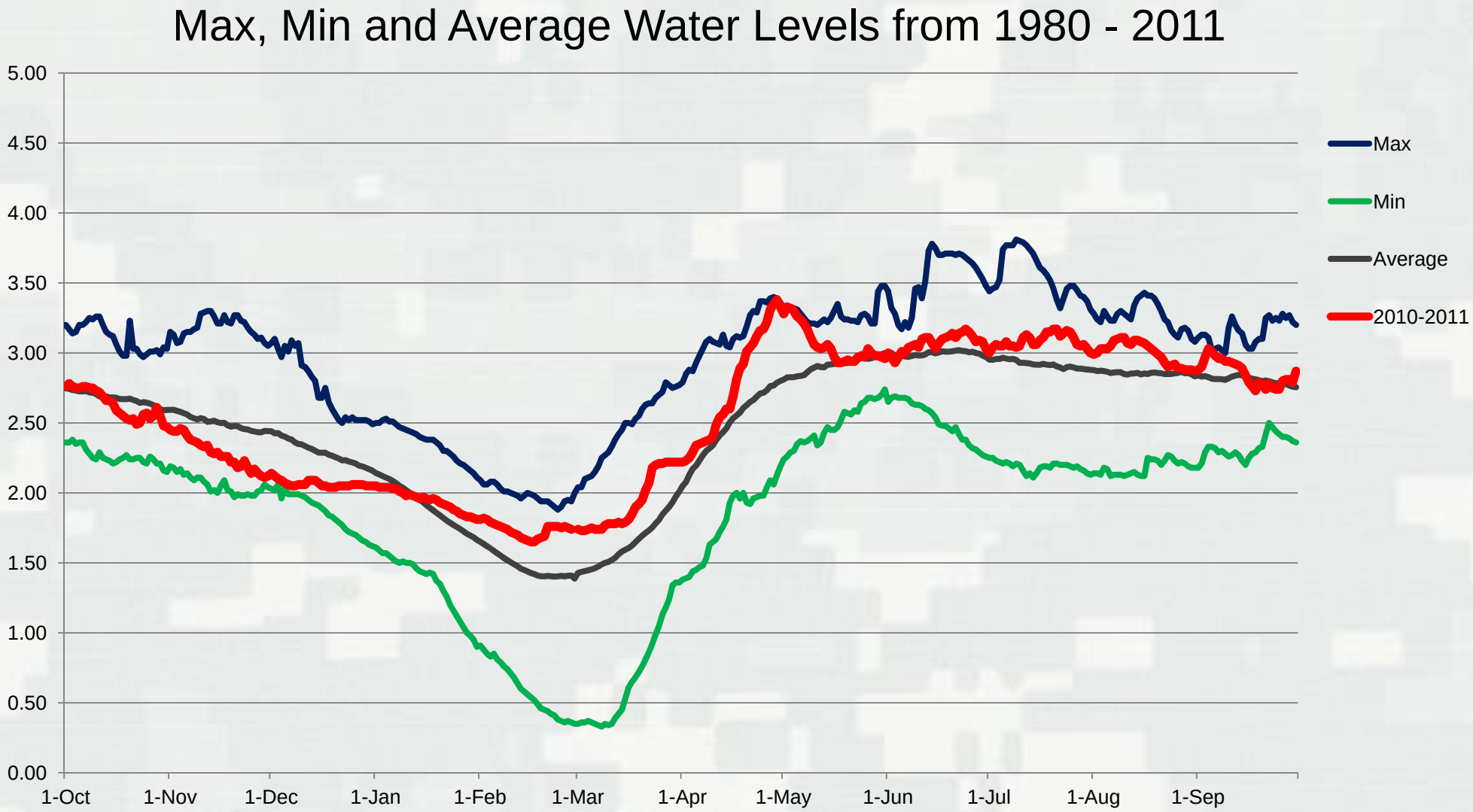
September 26, 2011

Winnebago:	2.74 ft (747.00)	Poygan:	3.13 ft (747.39)
Oshkosh USGS:	2,000 cfs	Sum upstream gages:	2,400 cfs
Appleton USGS:	2,500 cfs	Evaporation:	400 cfs
Precipitation:	0.95 in (through Thur.)		

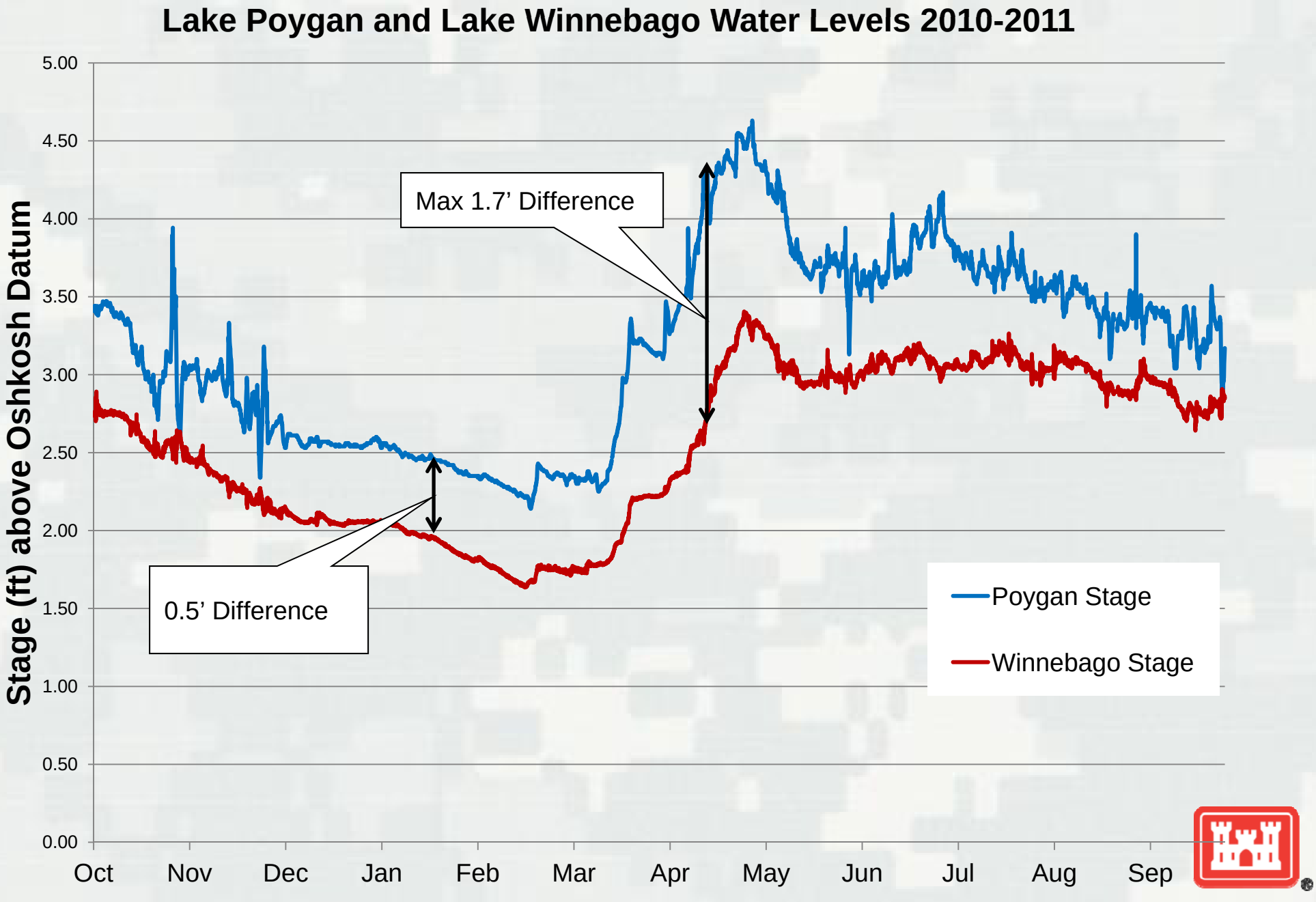
This outflow represents 2 gates open at Menasha today and 3 gates open at Menasha tomorrow:



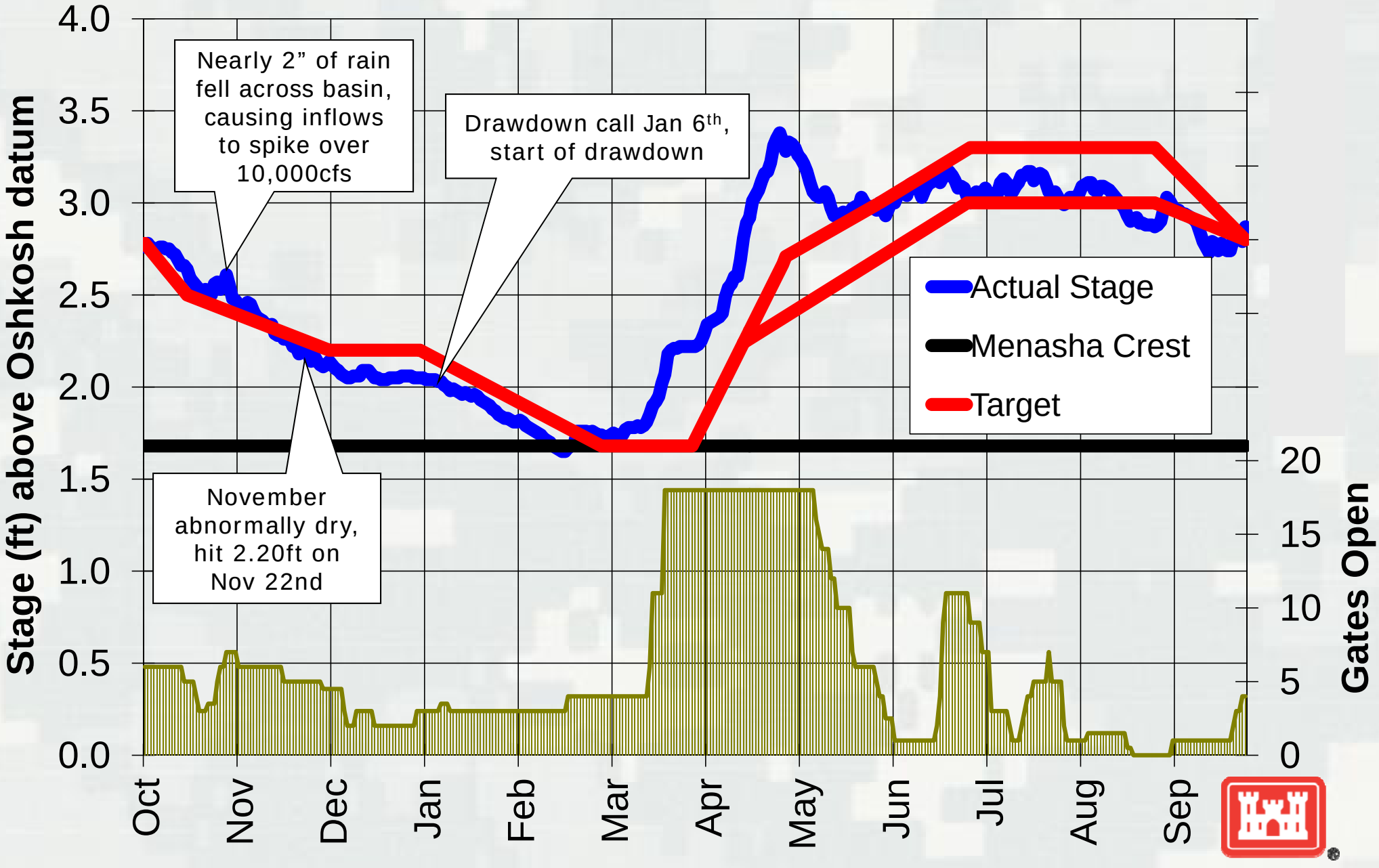
Historic Lake Winnebago Levels



Lake Poygan Water Levels



2010-2011 Stage with # of Open Gates



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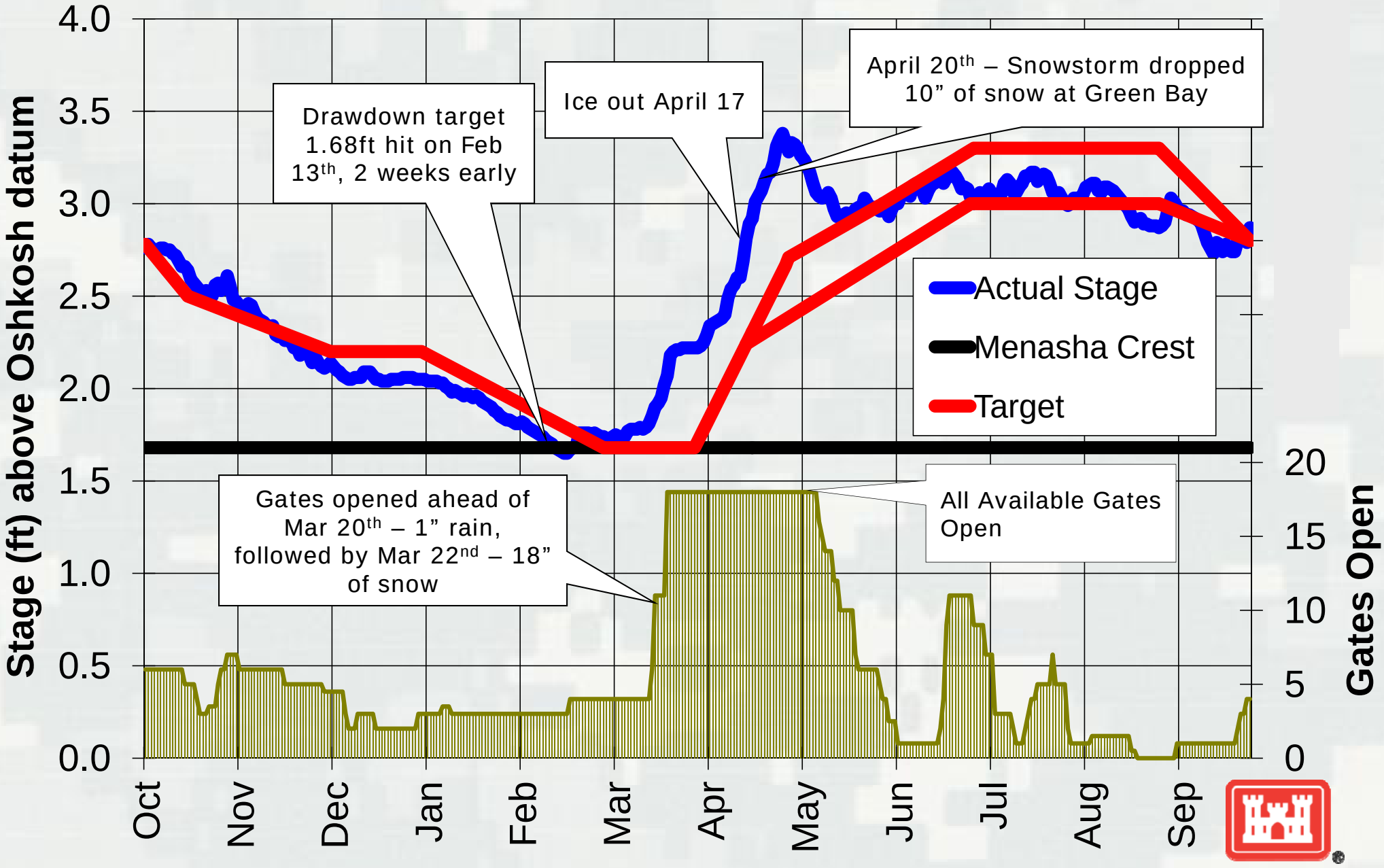

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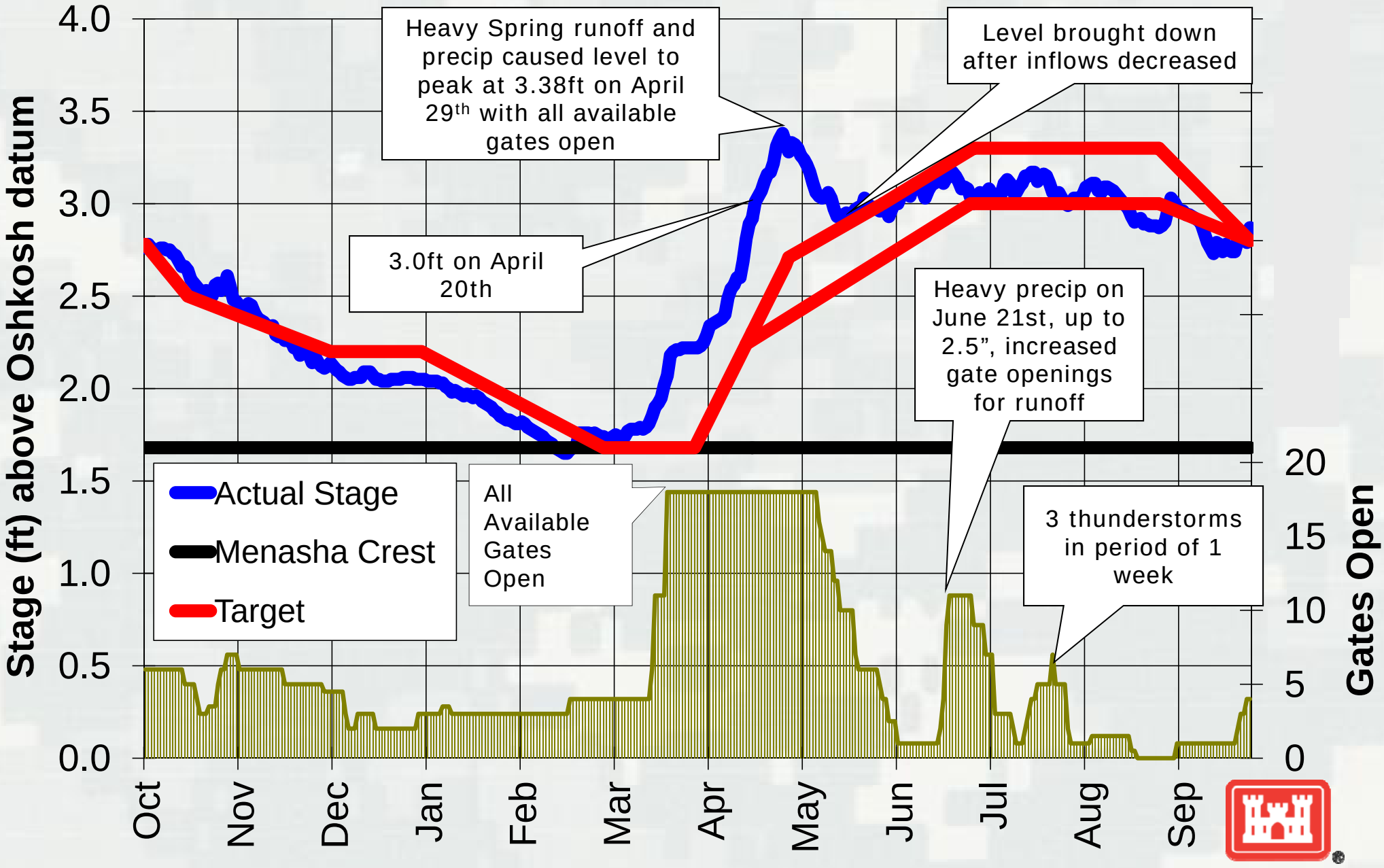

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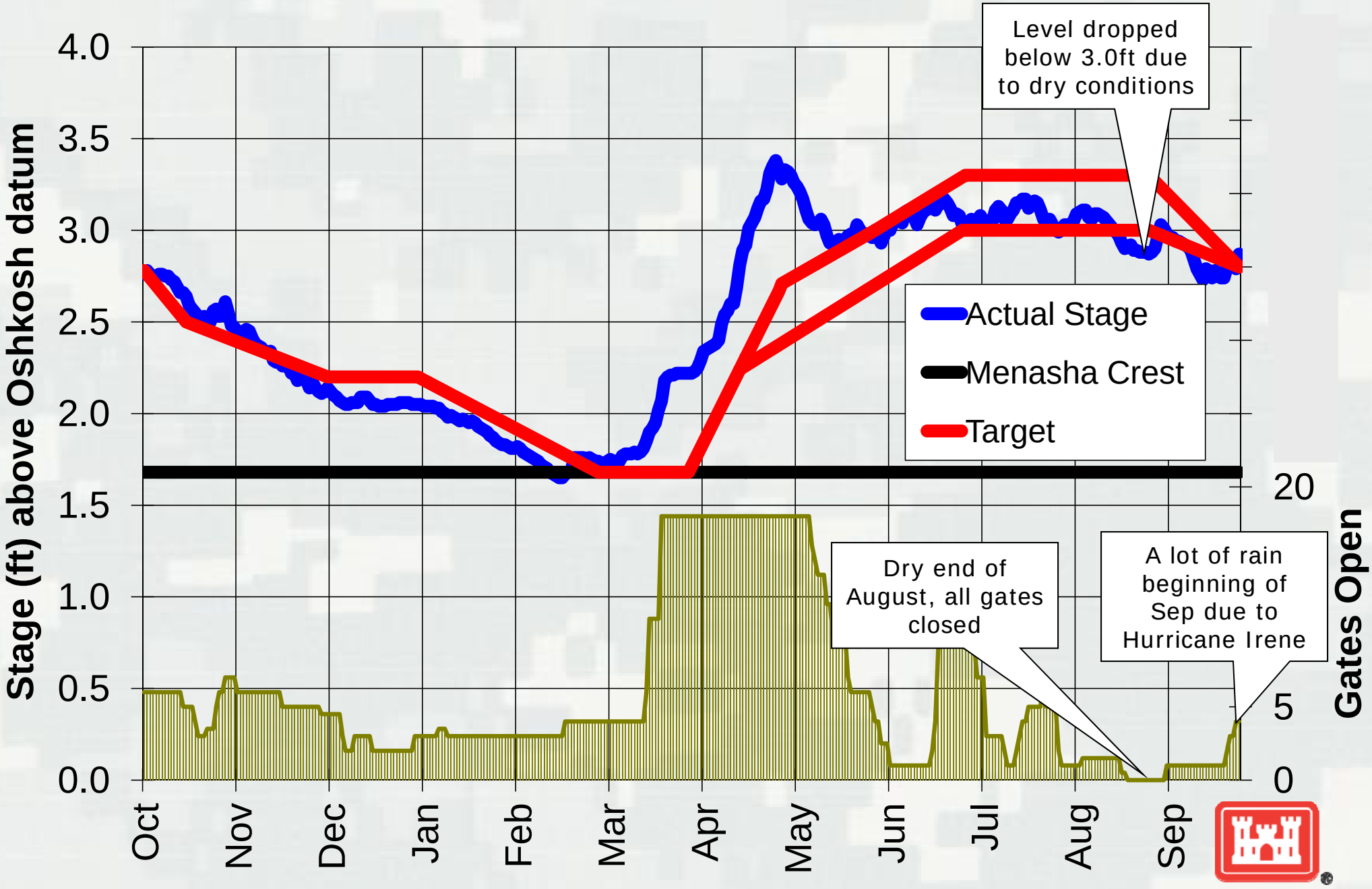

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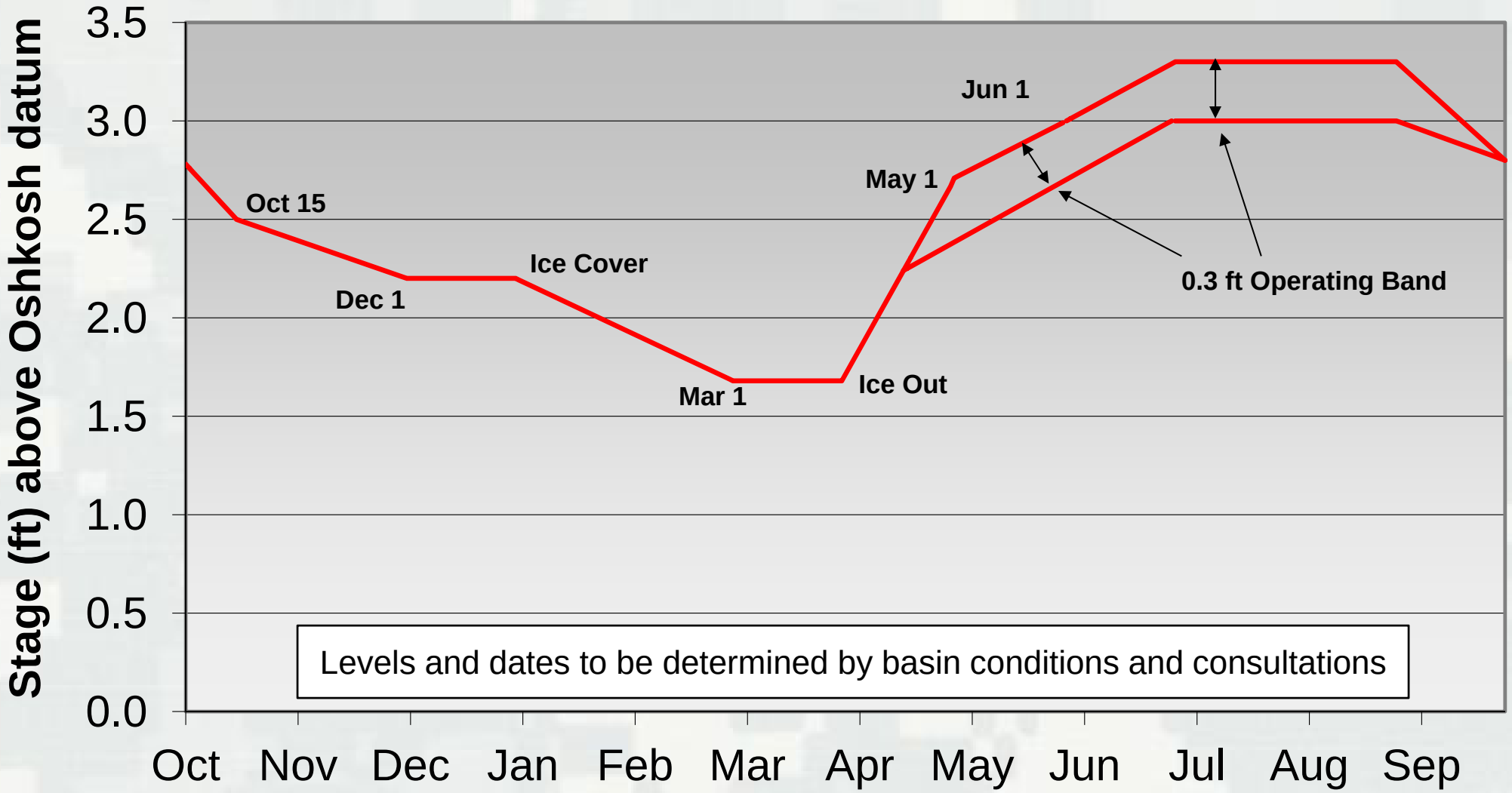
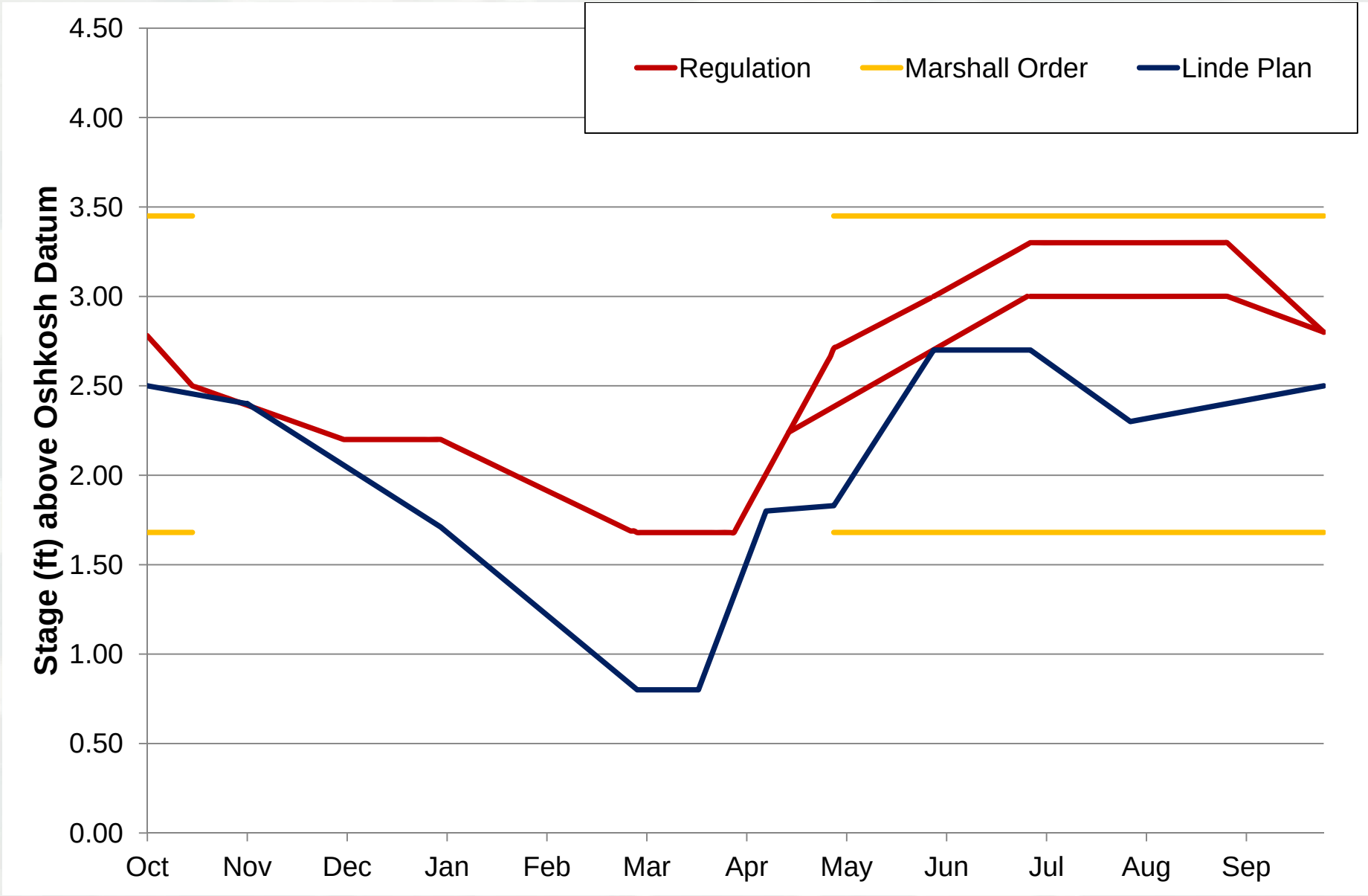
Proposed 2011-2012 Target Water Levels



Winnebago Target Water Level



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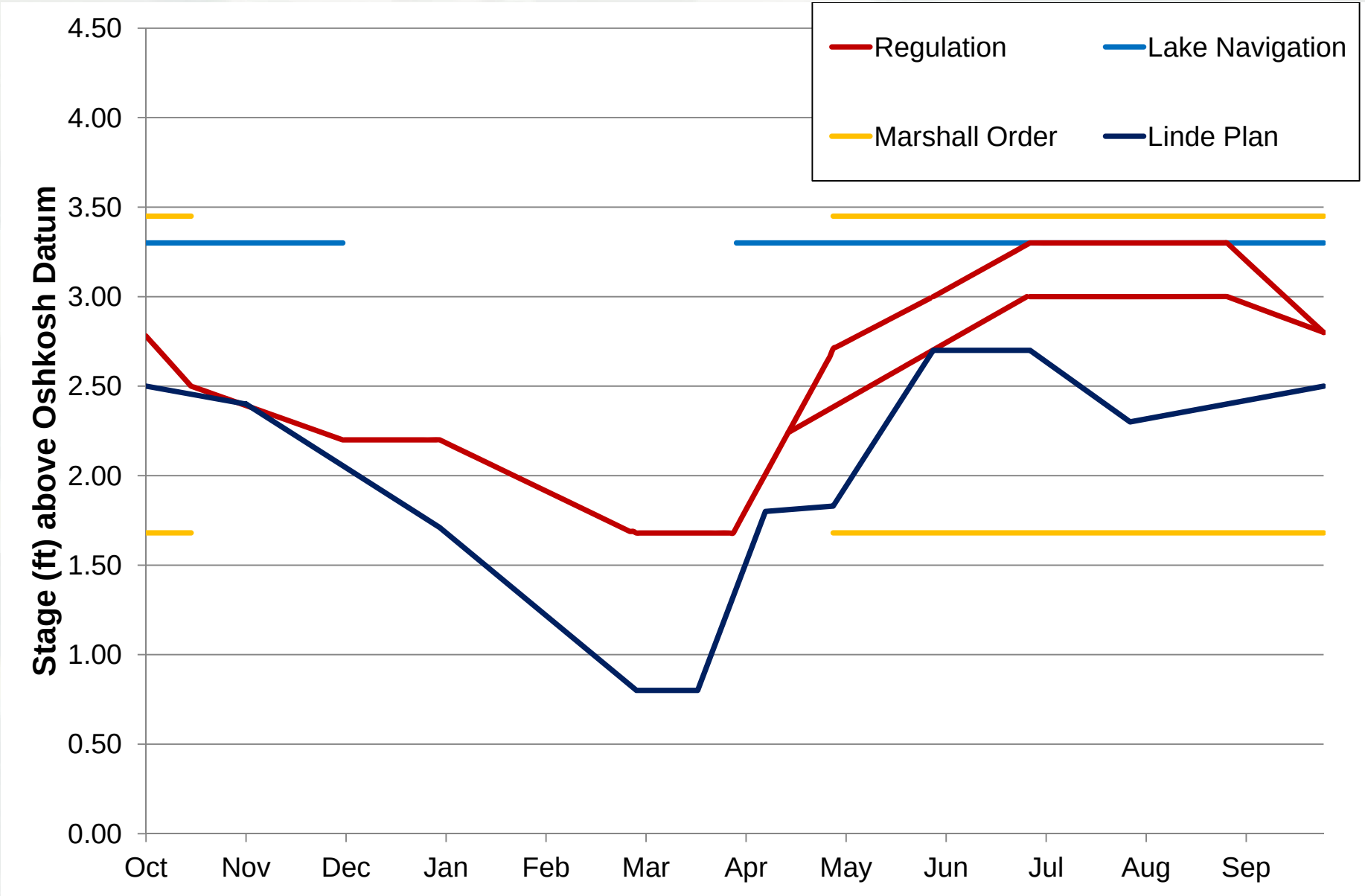

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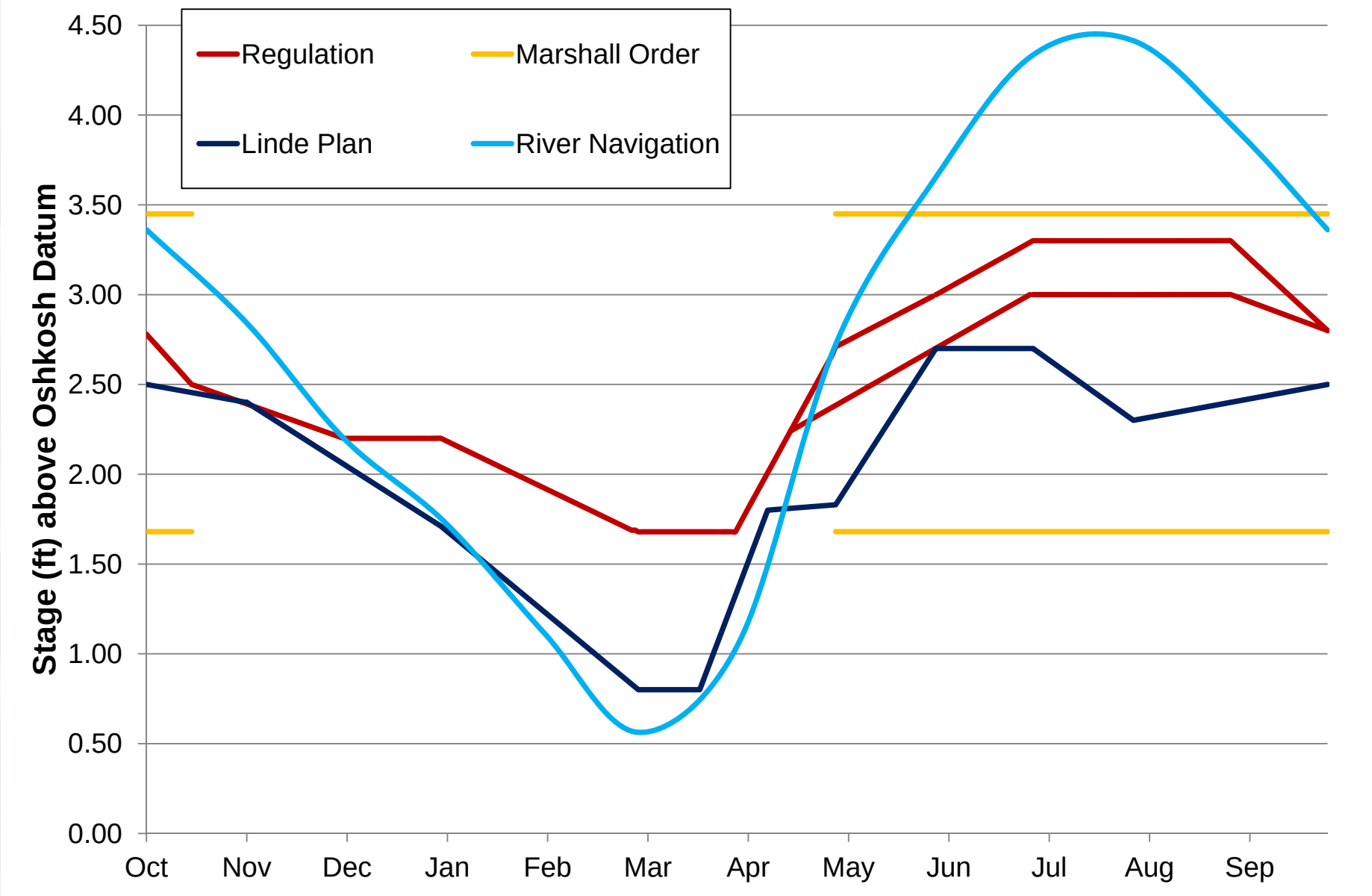

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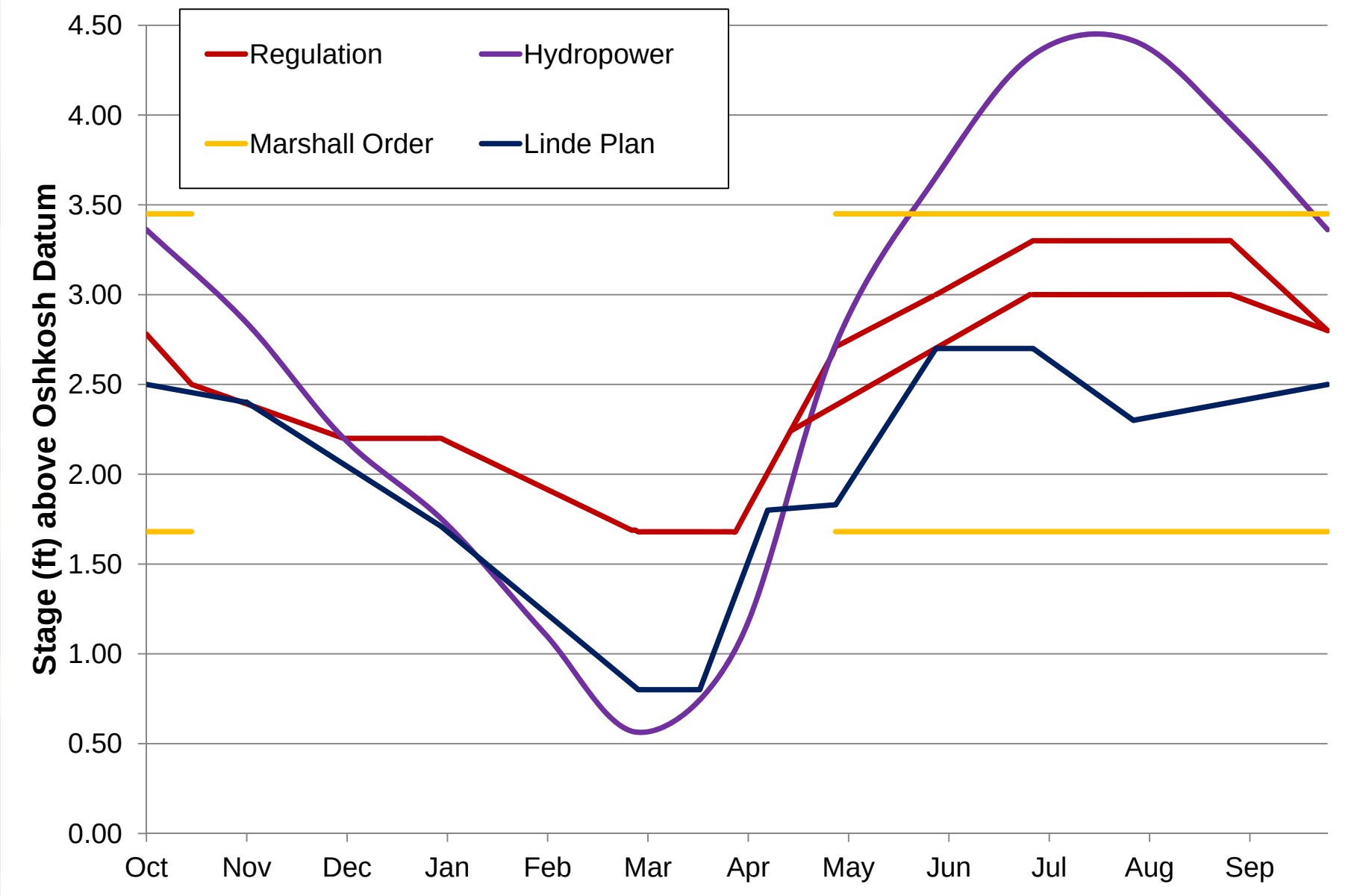

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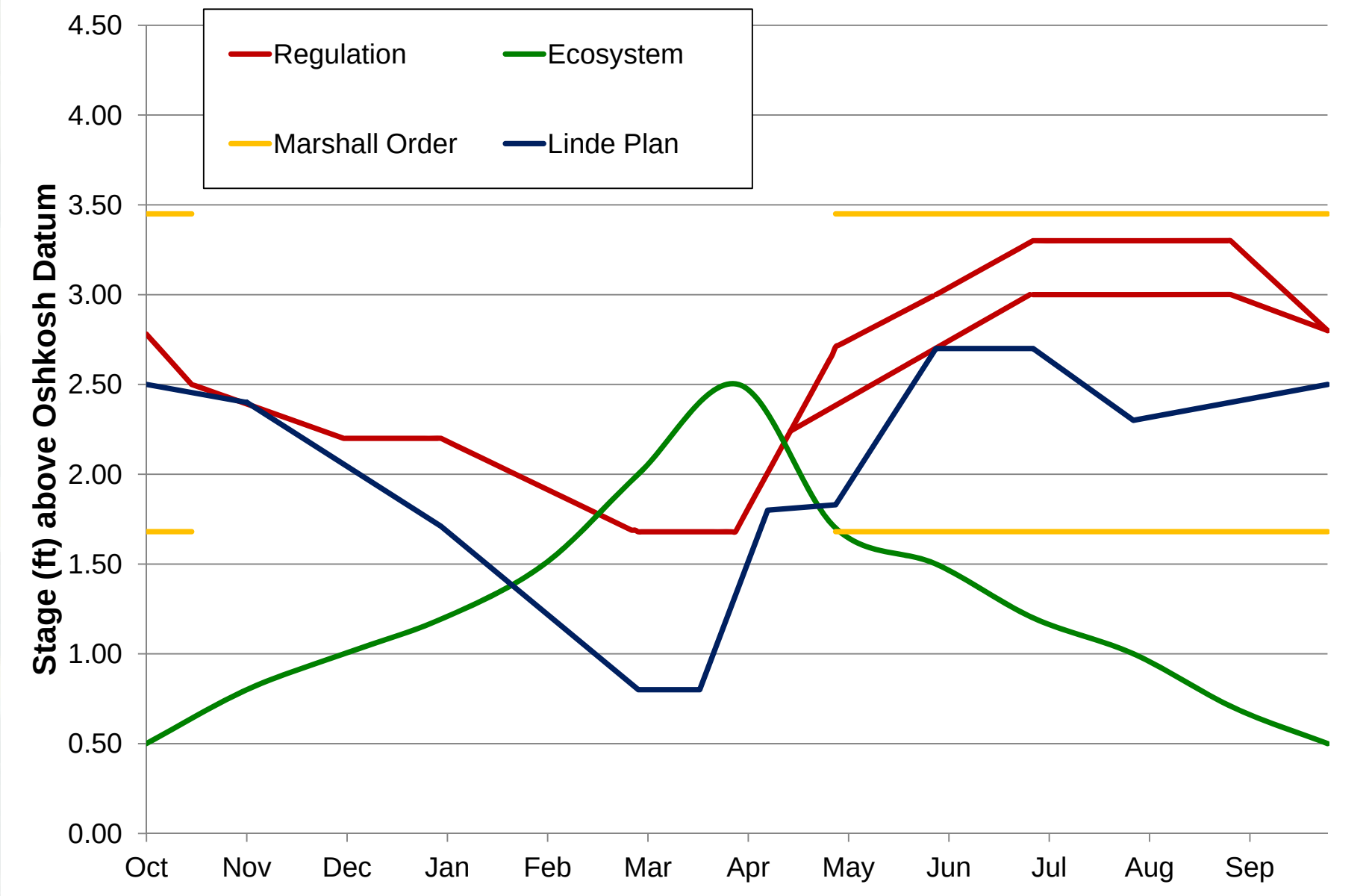

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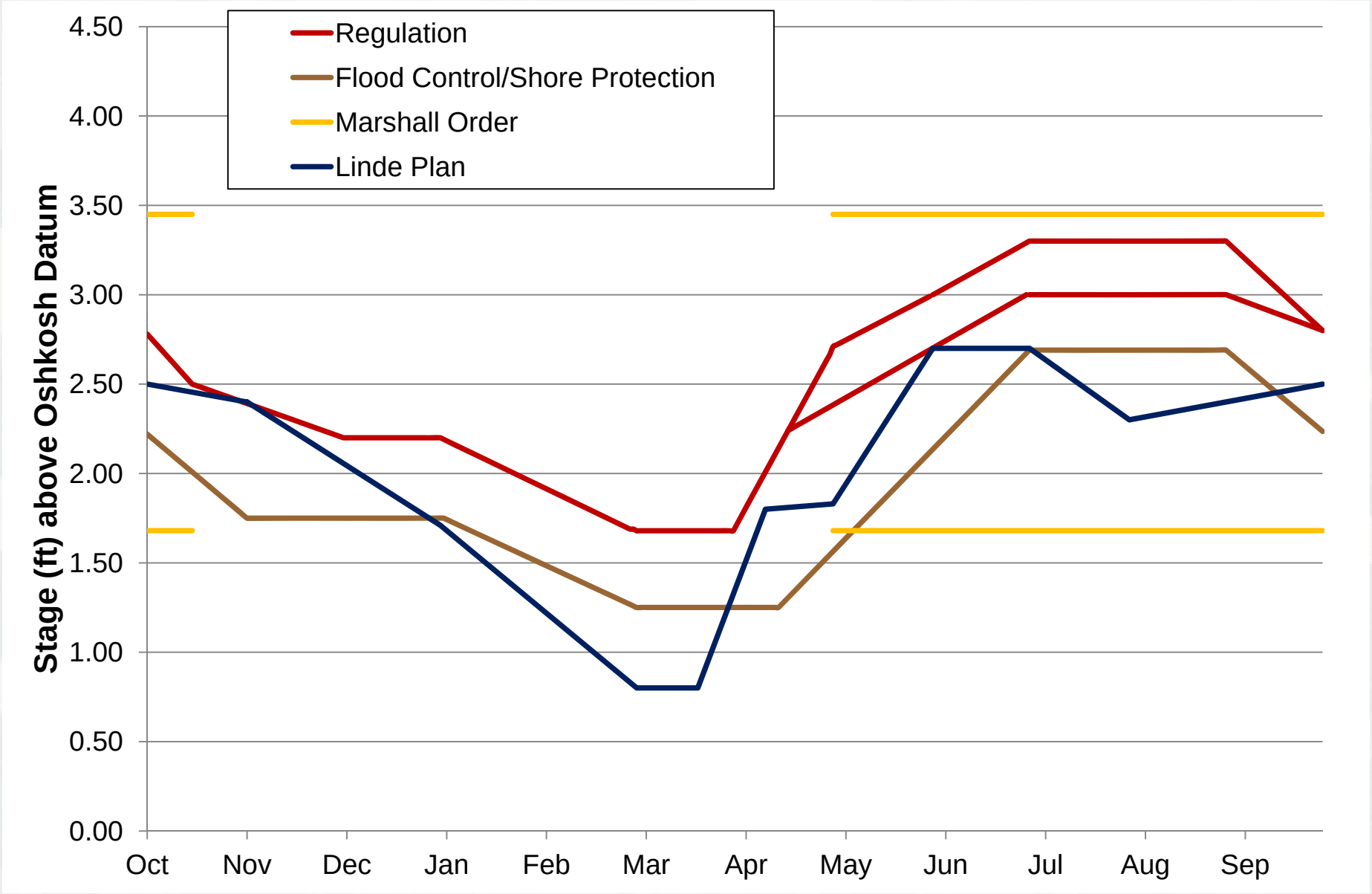

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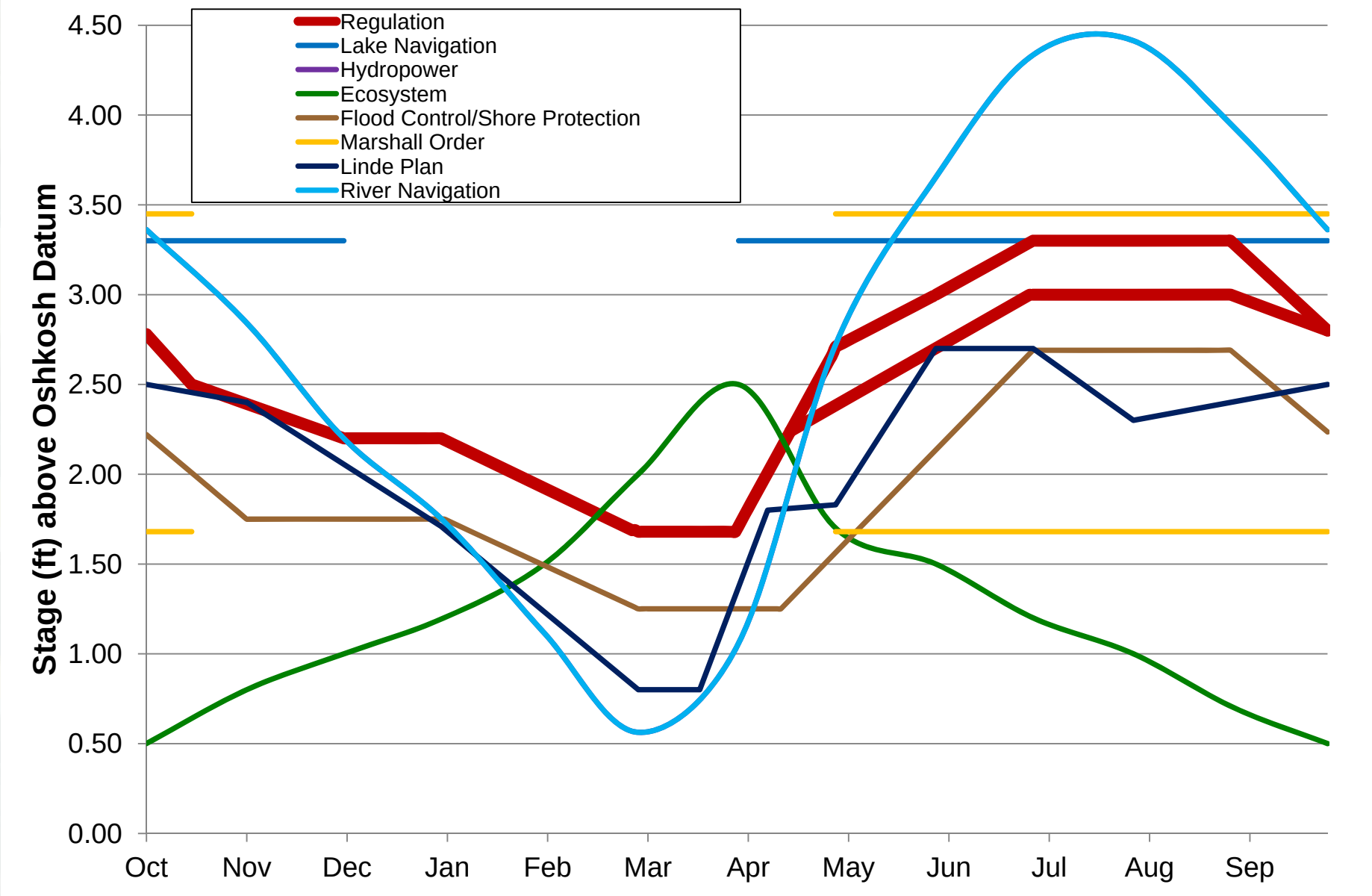
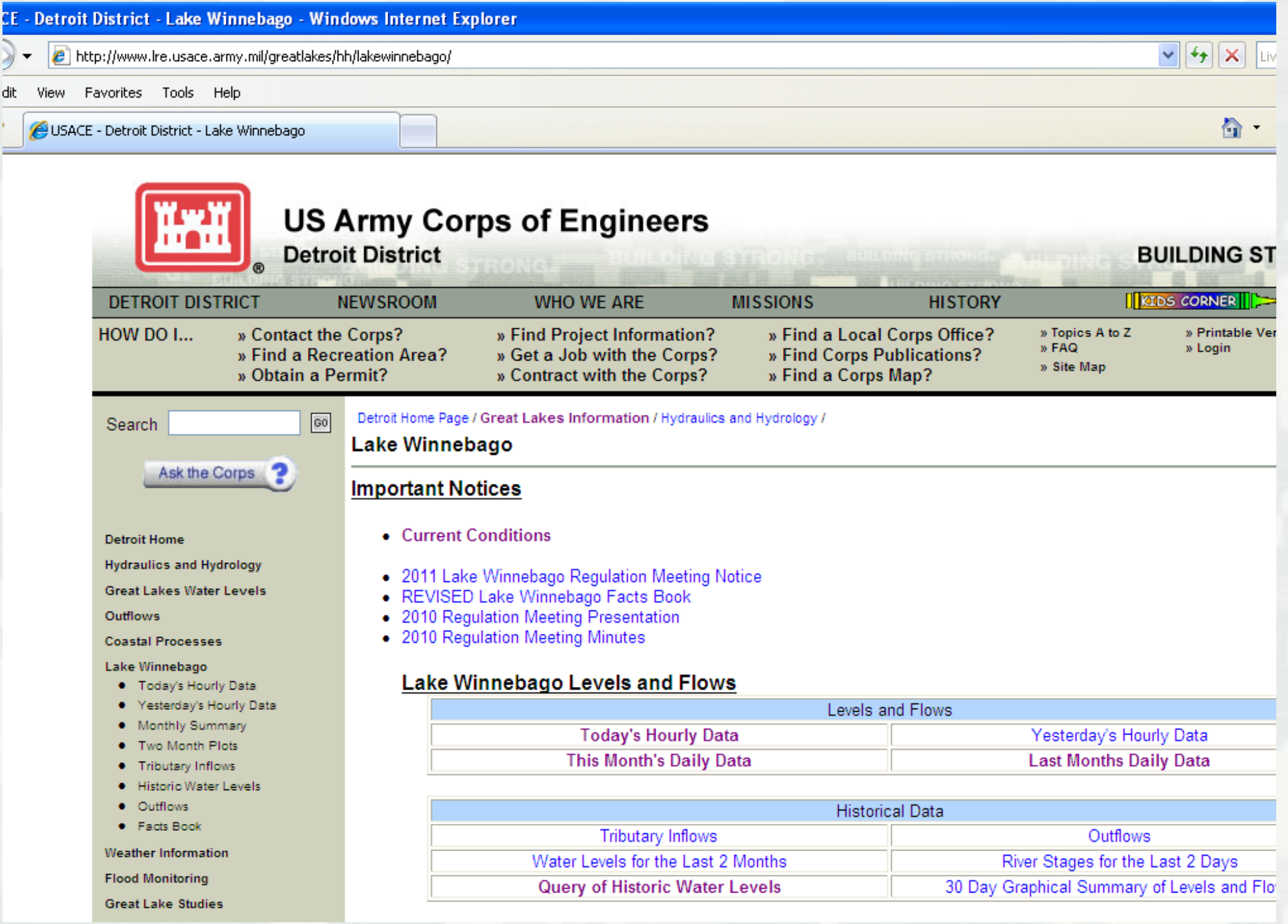
http://www.lre.usace.army.mil/greatlakes/hh/lakewinnebago/