

Lake Winnebago Regulation Meeting

USACE Detroit District

October 9, 2014



Agenda

- **Basin Overview**
- **Major Stakeholders**
- **Maintenance and Repair Work**
- **Weather Conditions**
- **2013-2014 Water Level Explanation**
- **2014-2015 Water Level Strategy**
- **Open Discussion/Questions**



Lake Winnebago Controls

Little Lake Butte Des Morts

Menasha Dam
6 Tainter Gates

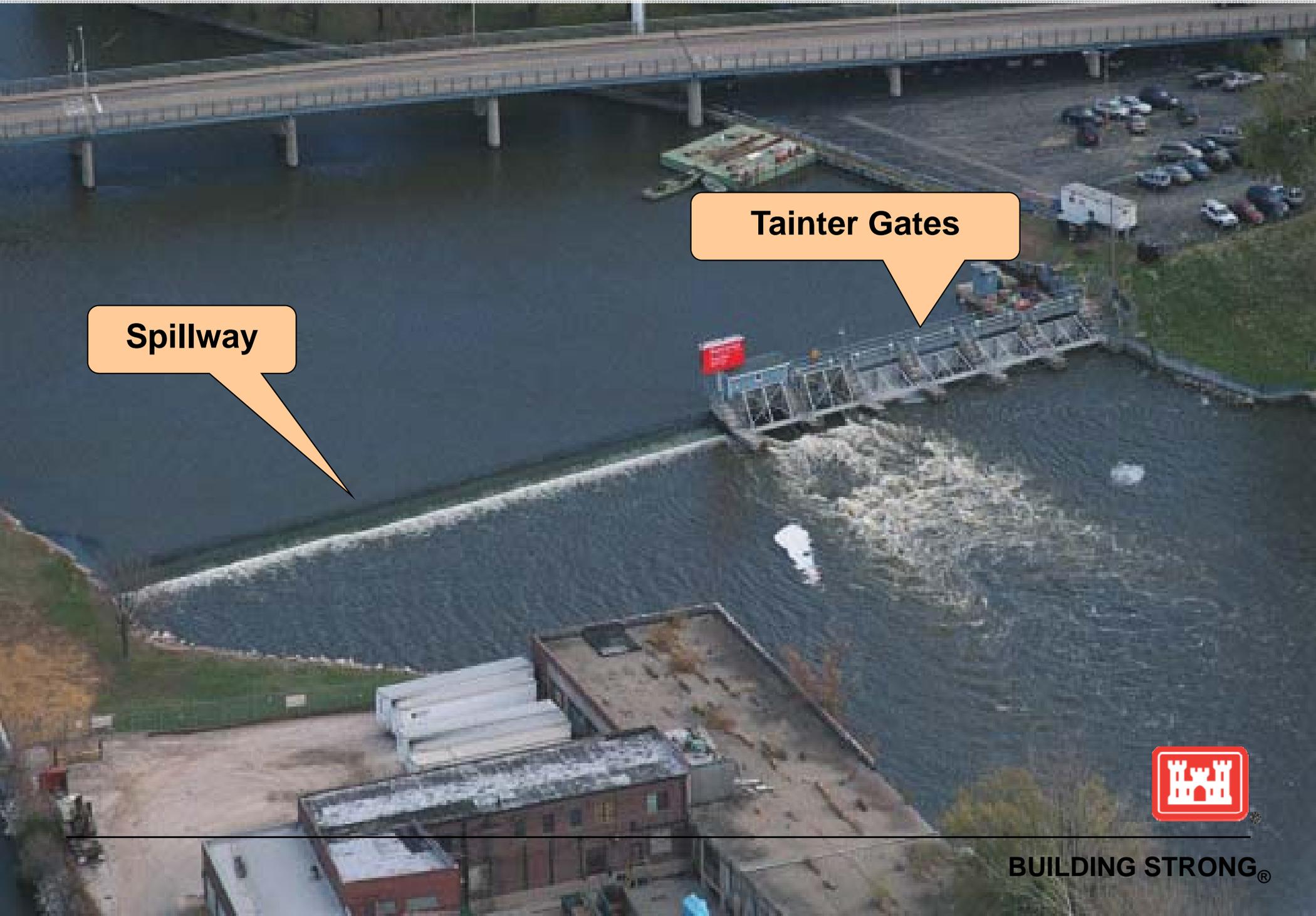
Neenah Dam
9 Needle Gates
5 Tainter Gates

Lake Winnebago



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Menasha Dam

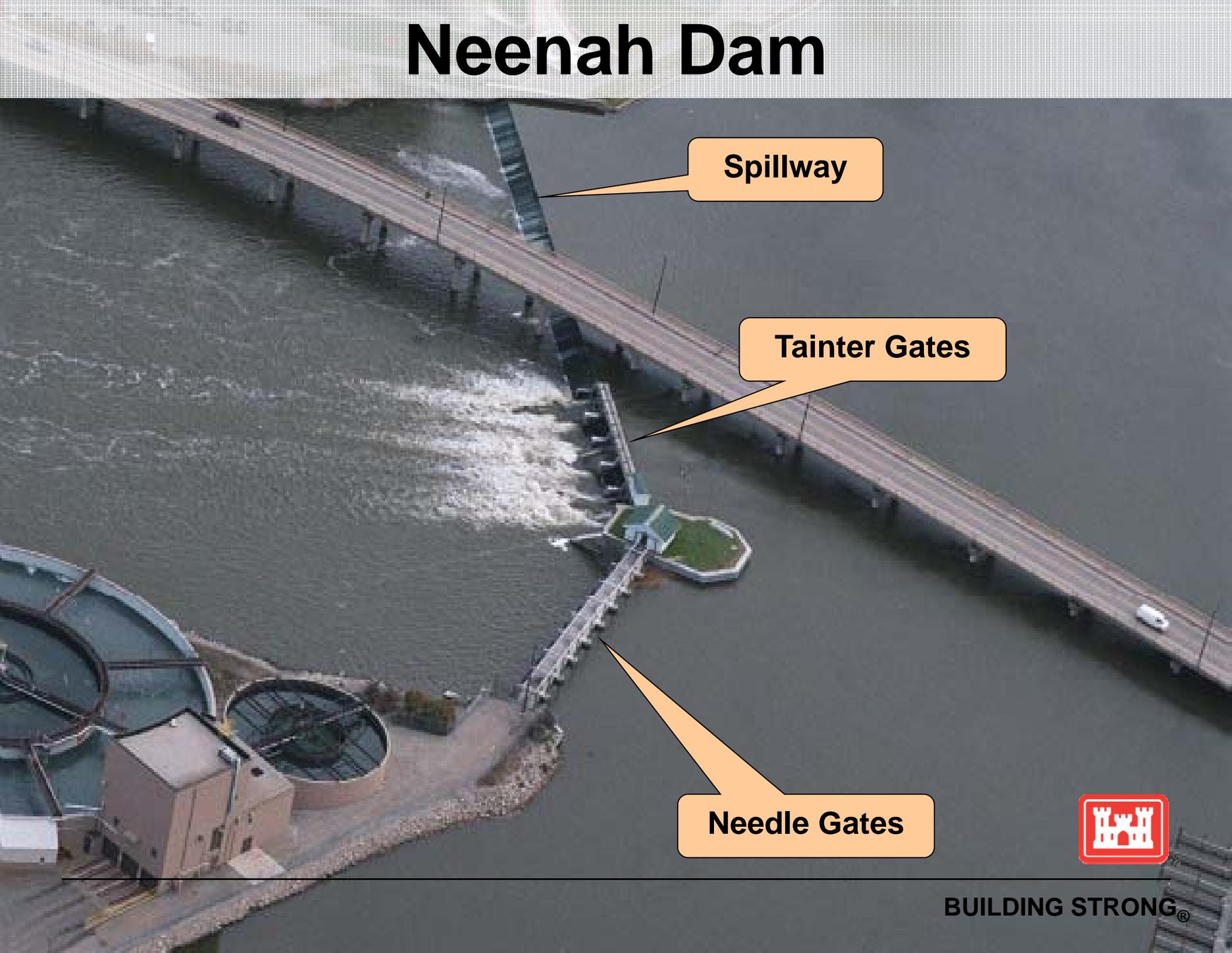


Spillway

Tainter Gates



Neenah Dam



Spillway

Tainter Gates

Needle Gates



Major Stakeholders

Neenah Pool



Menasha Pool



- Neenah Water Treatment Plant
- Neenah-Menasha Wastewater Treatment Plant
- Kimberly-Clark Neenah Paper Division
- WDOT
- Menasha Water Treatment Plant
- Menasha Utilities
- SCA Tissue North America
- Sonoco U.S. Paper Mills, Inc.
- Property Owners

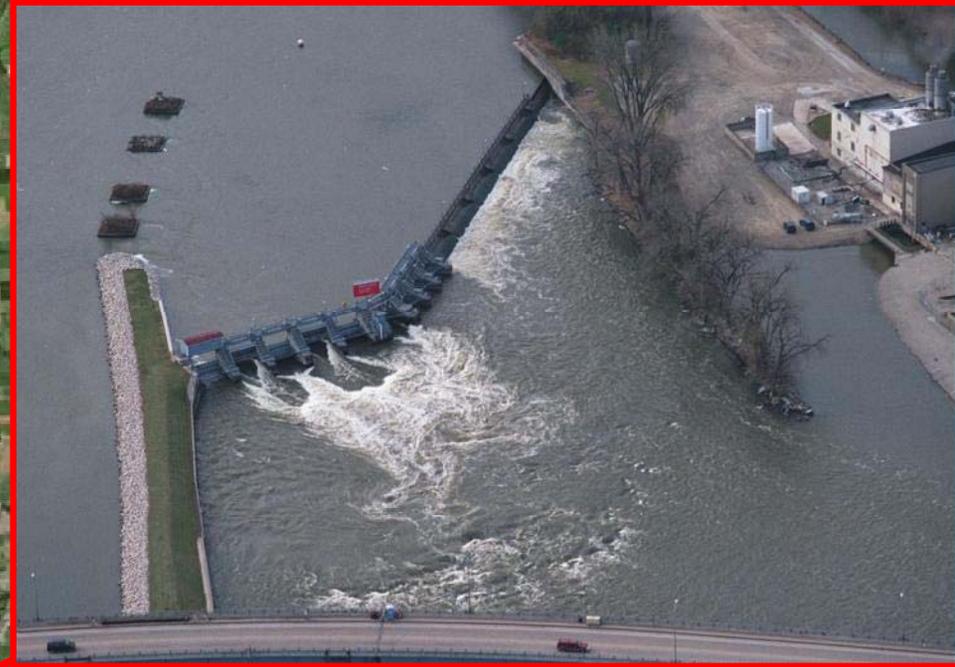
- City of Oshkosh
- George A. Whiting Paper Co.
- Environmental Impacts
- Hunting and Fishing
- Property Owner Impacts
- Recreational Boating
 - Neenah Boat and Dock Club
 - Neenah Nodaway Yacht Club
 - South Side Ice Yacht Club
 - Fond du Lac Yacht Club

Major Stakeholders of the Fox River

Upper Appleton Pool



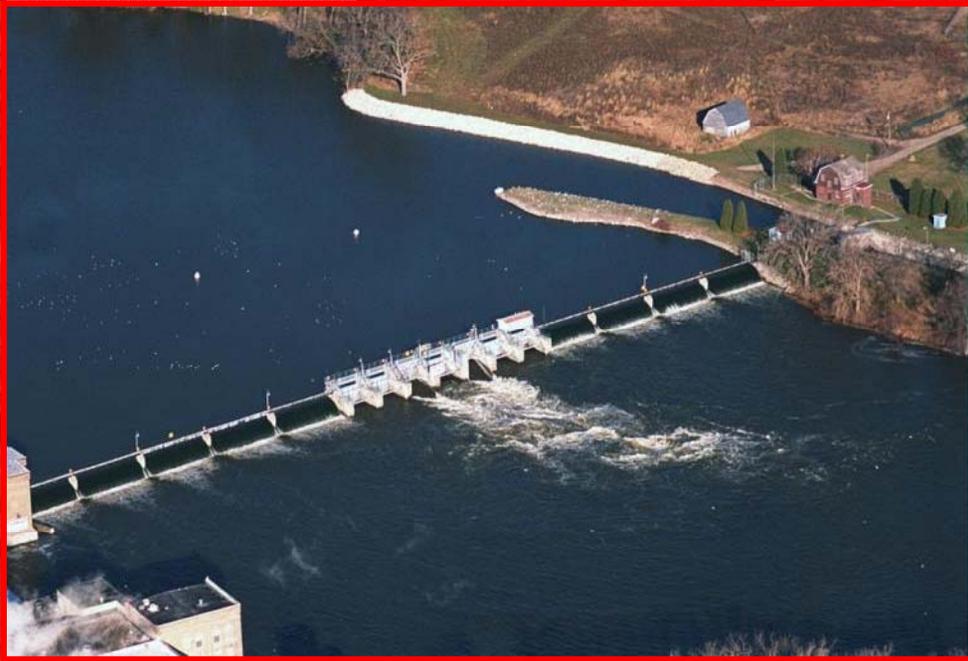
Lower Appleton Pool



- Property Owners
- Little Lake Butte des Morts
- We Energies
- WDOT
- Neenah Paper
- North American Hydro
- Kaukauna Utilities
- Badger State Games
- Recreational Boating
- Appleton Yacht Club

Major Stakeholders of the Fox River

Cedars Pool



- Appleton Wastewater Treatment Plant
- Kaukauna Utilities
- Property Owners

Major Stakeholders of the Fox River

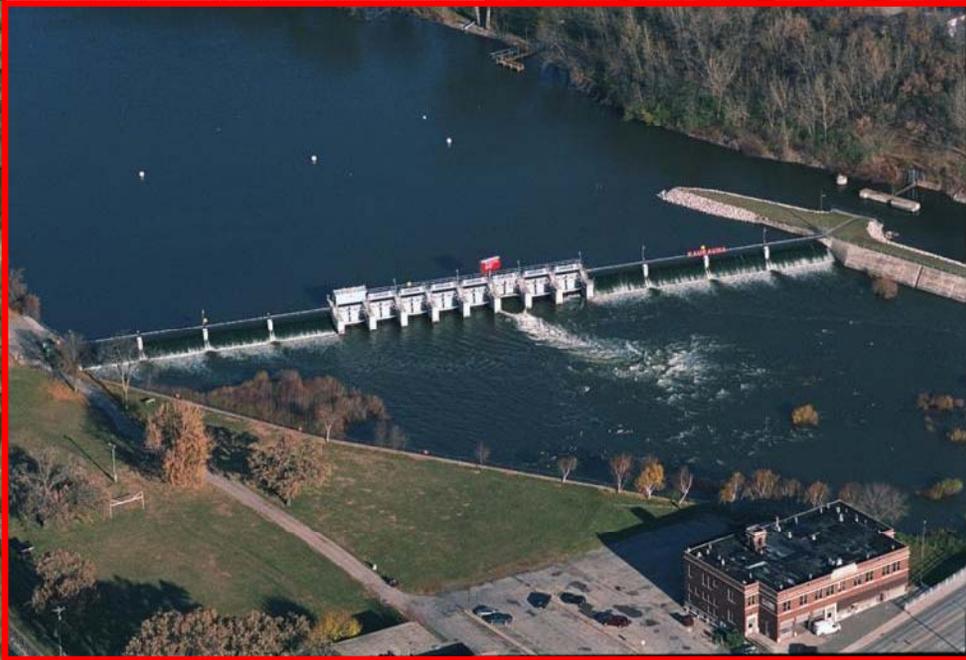
Little Chute Pool



- Kaukauna Utilities
- Circle Acres Park
- Village of Little Chute
- Property Owners

Major Stakeholders of the Fox River

Kaukauna Pool



- Heart of the Valley Metropolitan Sewerage Commission
- Expera Specialty Solutions
- Kaukauna Utilities
 - Kayaking Interests
 - Walleye Spawning
- Property Owners

Walkway Replacement at the Kaukauna Dam

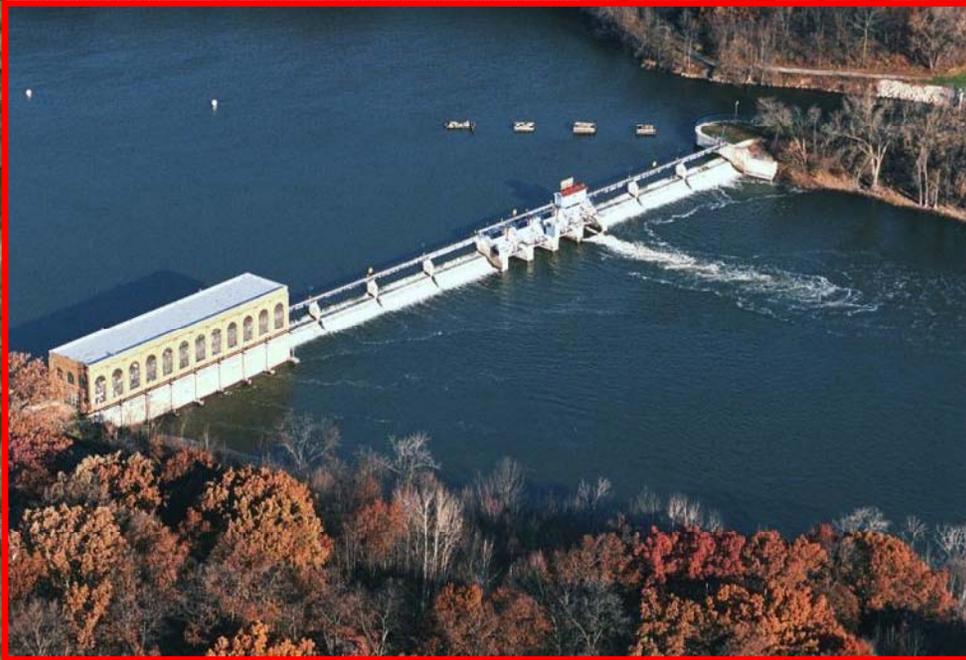


- Work to commence this fall



Major Stakeholders of the Fox River

Rapide Croche Pool



- Kaukauna Utilities
- Expera Specialty Solutions
- Property Owners

Major Stakeholders of the Fox River

Little Kaukauna Pool



- Wrightstown Wastewater Treatment Plant
- WDOT
- Bass Spawning (USFWS)
- Duck Hunting
- Recreational Boating
- Water Board Warriors
- Property Owners

©2010 Google

Image © 2012 TerraMetrics

44°21'18.81" N 88°13'48.61" W elev 0 ft

Eye alt 27.20 mi

Imagery Date: 7/24/2011

Wrightstown Causeway



- New bridge piers will be constructed
- Work through 2016



Major Stakeholders of the Fox River

De Pere Pool

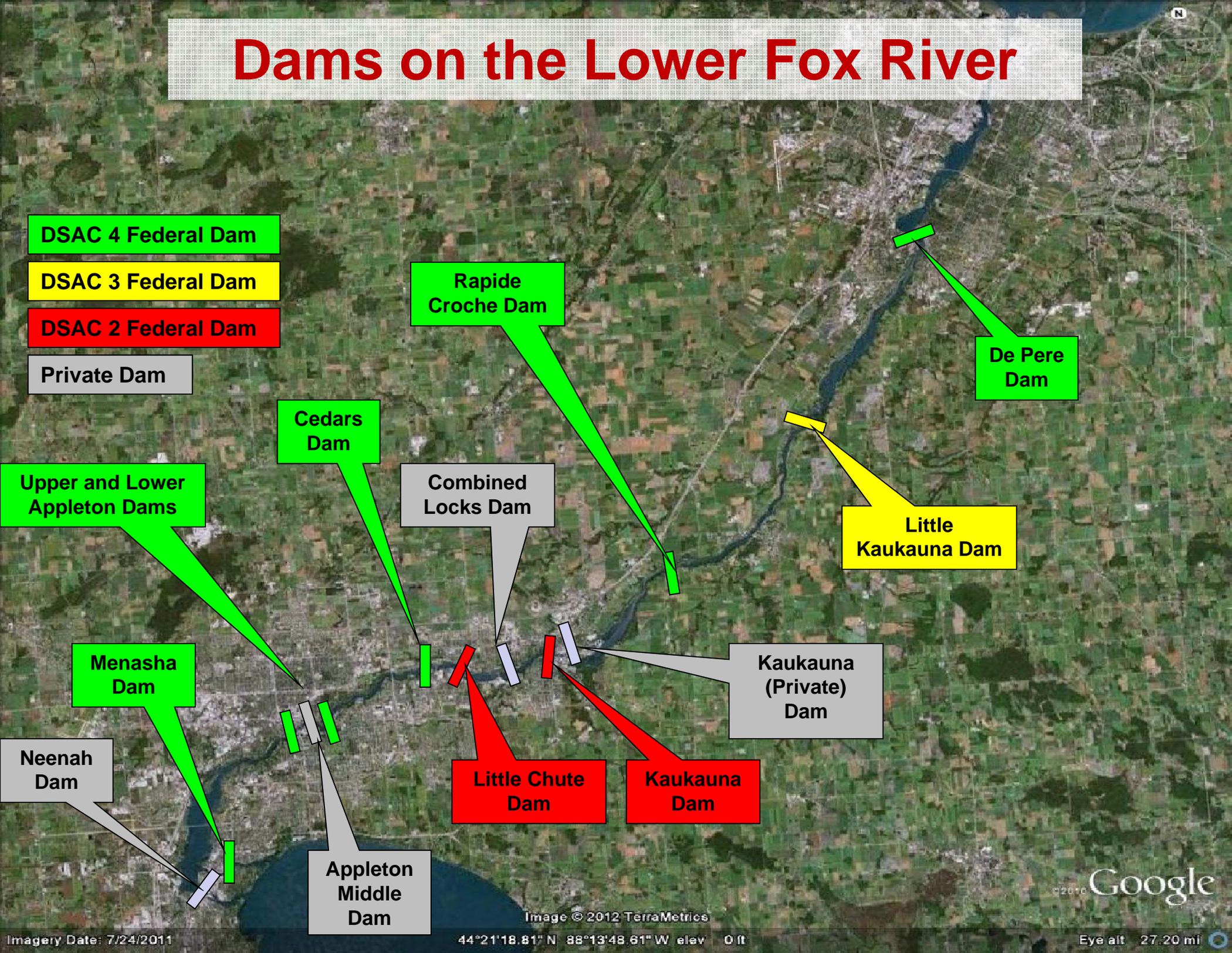


- Sturgeon Spawning
 - USFWS
- Expera Specialty Solutions
- Recreational Boating
- Property Owners
- Shanak Foundry and Machine
- City of De Pere

Sturgeon Spawn near De Pere



Dams on the Lower Fox River



DSAC 4 Federal Dam

DSAC 3 Federal Dam

DSAC 2 Federal Dam

Private Dam

Rapide Croche Dam

De Pere Dam

Cedars Dam

Combined Locks Dam

Little Kaukauna Dam

Upper and Lower Appleton Dams

Menasha Dam

Kaukauna (Private) Dam

Neenah Dam

Little Chute Dam

Kaukauna Dam

Appleton Middle Dam

Image © 2012 TerraMetrics

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Locks on the Lower Fox River

Closed

Restoration Completed

Rapide Croche Boat Lift

De Pere Lock

Cedars Lock

Combined Locks Lock

Little Kaukauna Lock

Appleton Locks (4)

Menasha Lock

Kaukauna Locks
1 completed/ not in operation
4 under construction

Little Chute Lock

Winter Conditions at the Dams



Maintenance and Repair Work

Kaukauna Utilities Hydropower Improvements



New Plant Online November 2013



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Lower Fox River Partnering Meeting

October 3, 2014

- Industry, Government, Municipality involvement
 - First responder exercises at dams
 - Year in review
 - Discussion of high flows in March, April



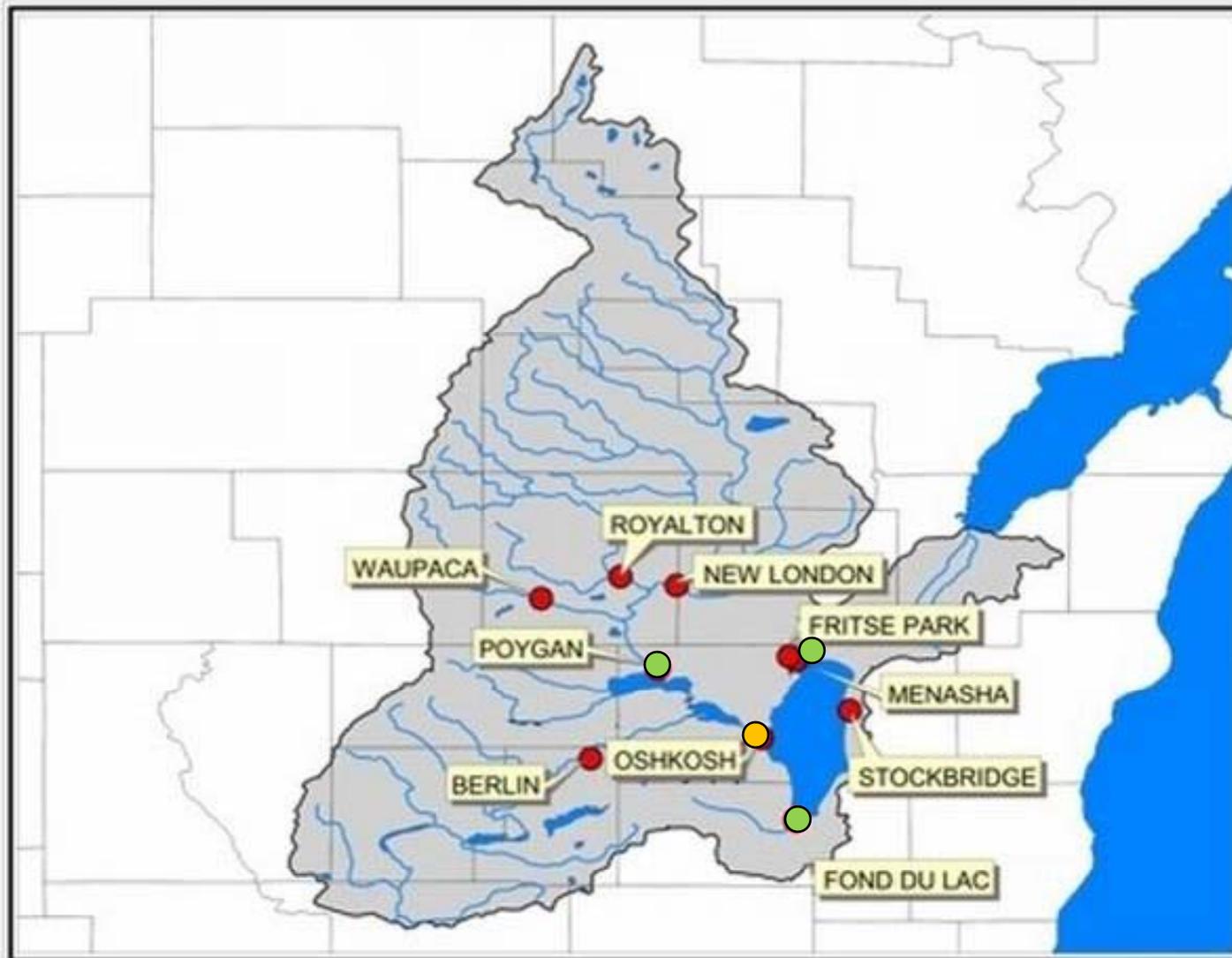
2013-2014 Basin Conditions



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Gage Maintenance and Verification

Data Collection Sites



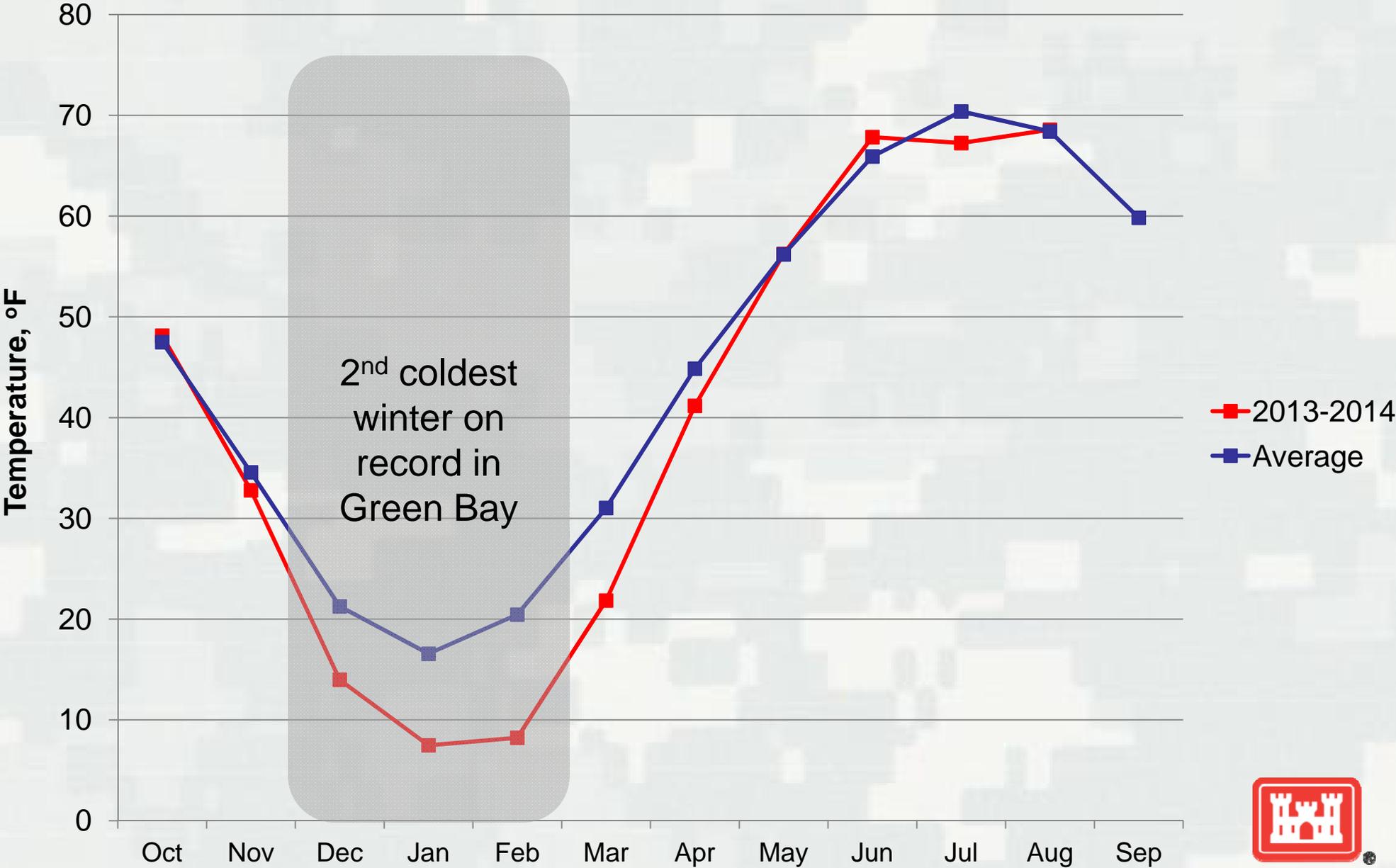
- Water level and precipitation
- Water level, precipitation and water temperature
- Water level, precipitation, water temperature and weather data

20 0 20 40 Miles

Scale



Fox-Wolf Basin Air Temperatures

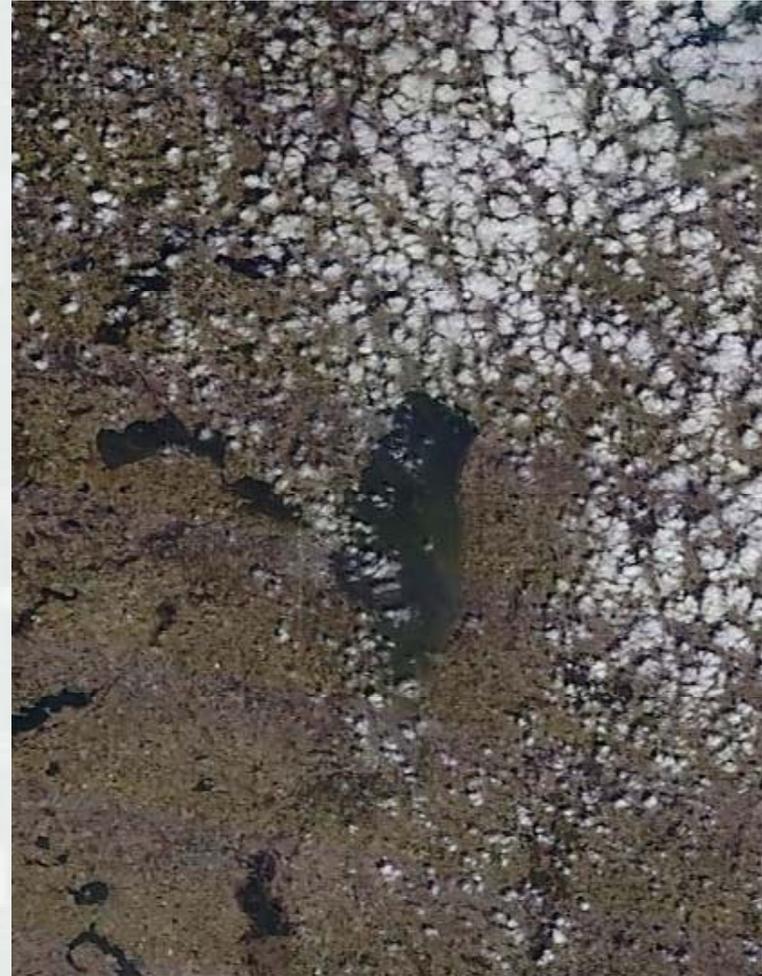


Lake Winnebago Ice

Ice Cover
December 6, 2013



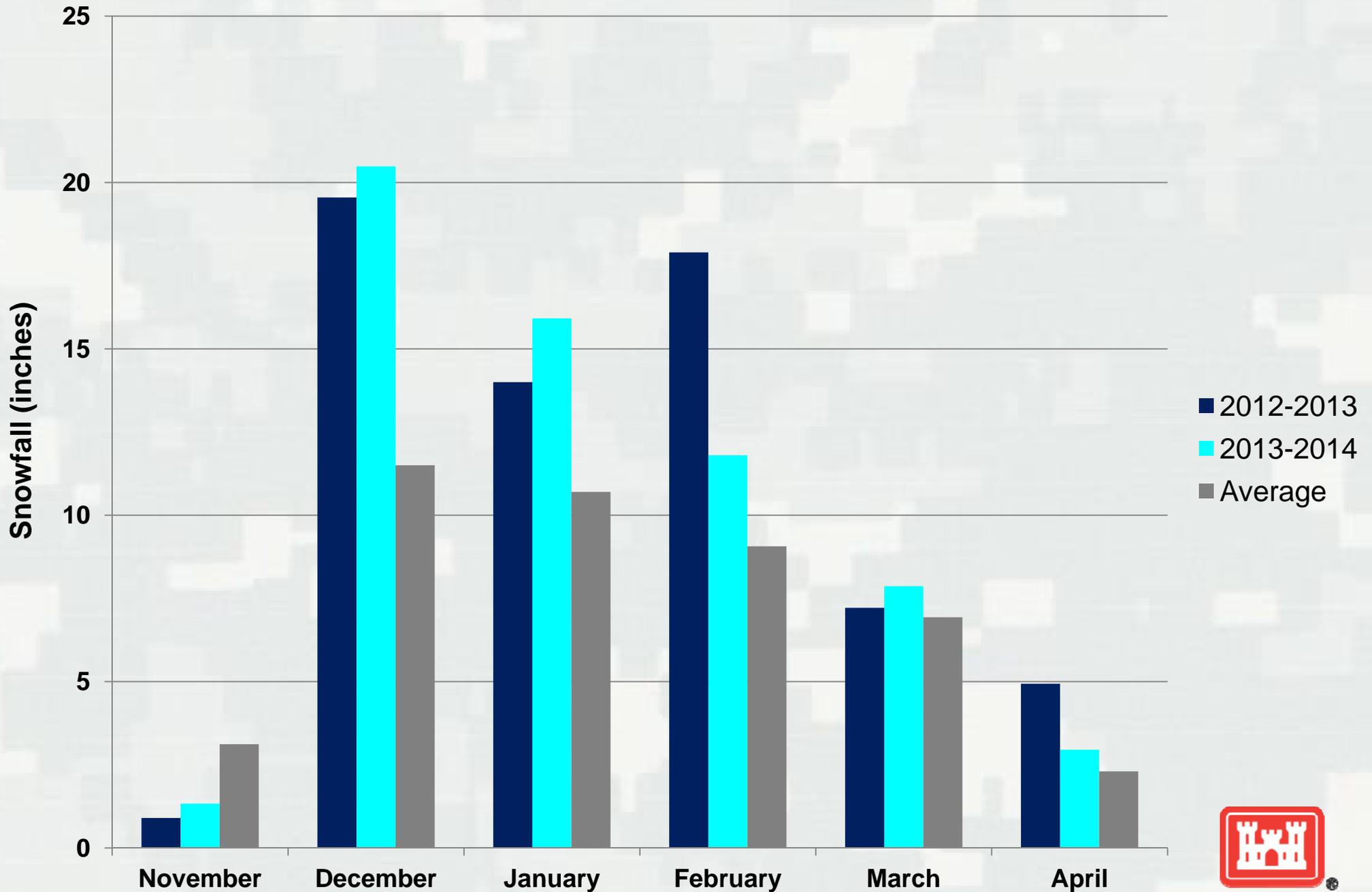
Ice Out
April 22, 2014



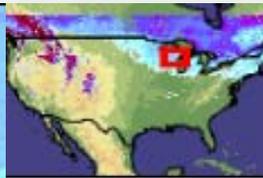
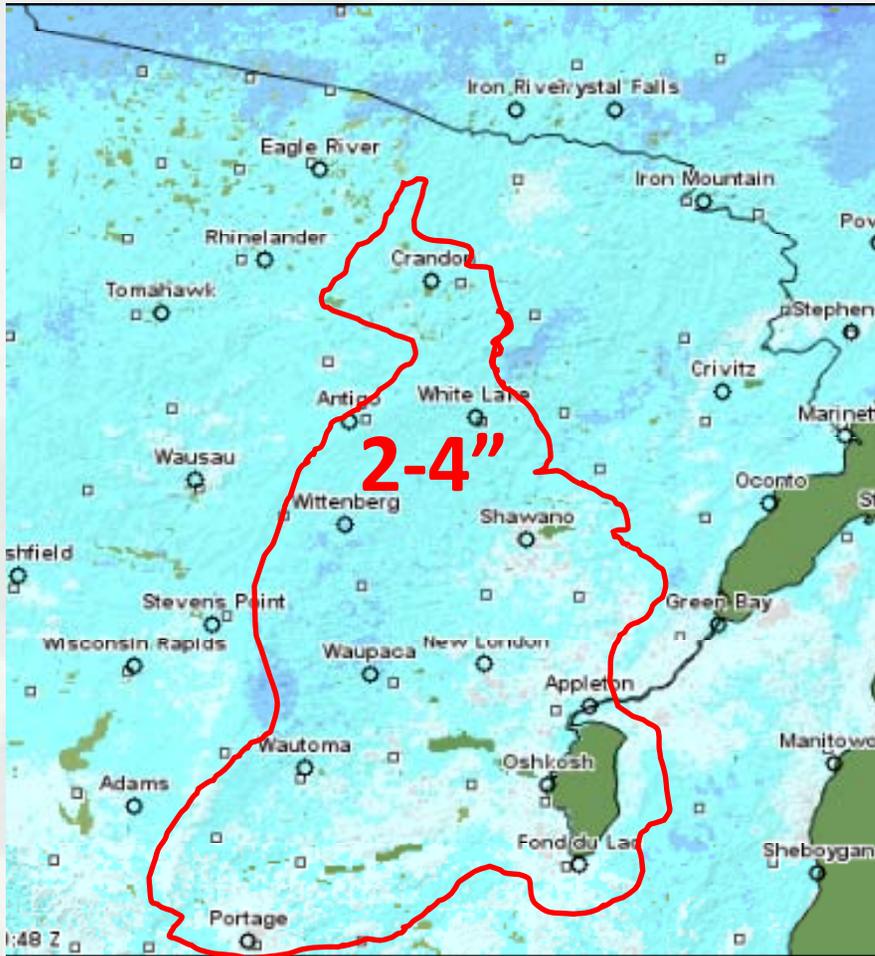
2014 had the longest sustained ice cover and thickest ice depths (36"+) in recent years.



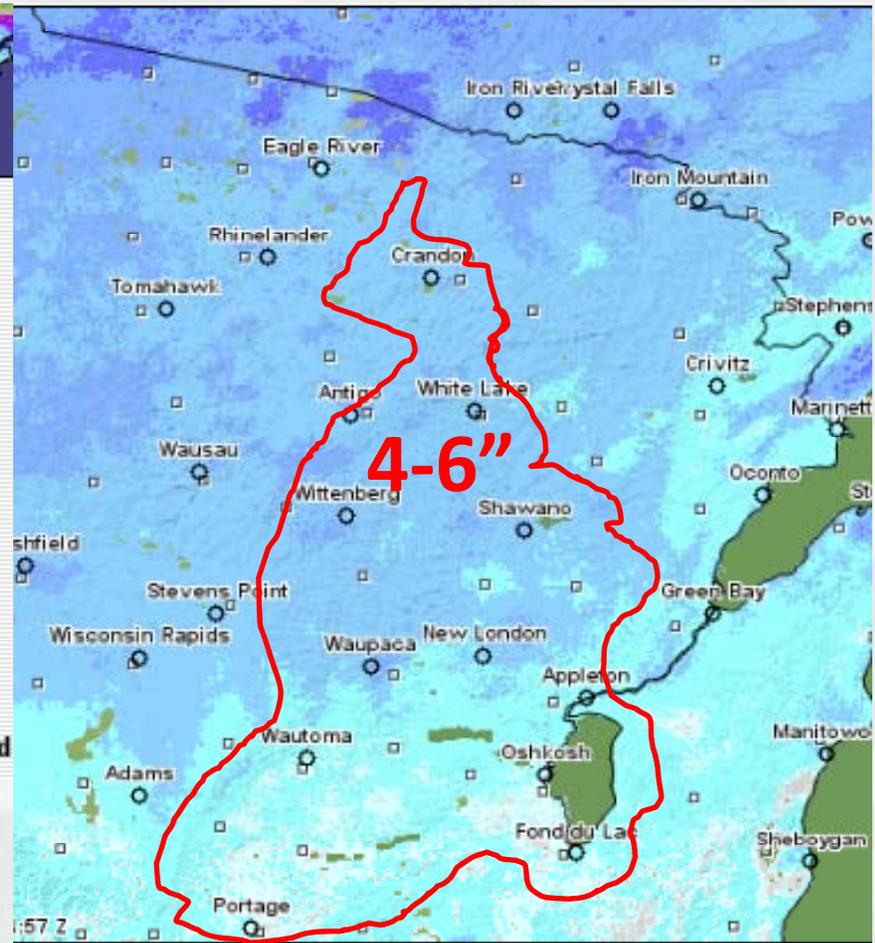
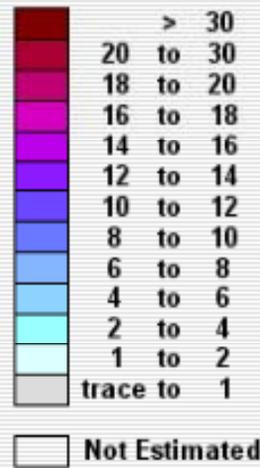
Lake Winnebago Basin Snowfall



2013 vs 2014 Snow Water Equivalent (SWE)



Inches of water equivalent



March 10, 2013 SWE

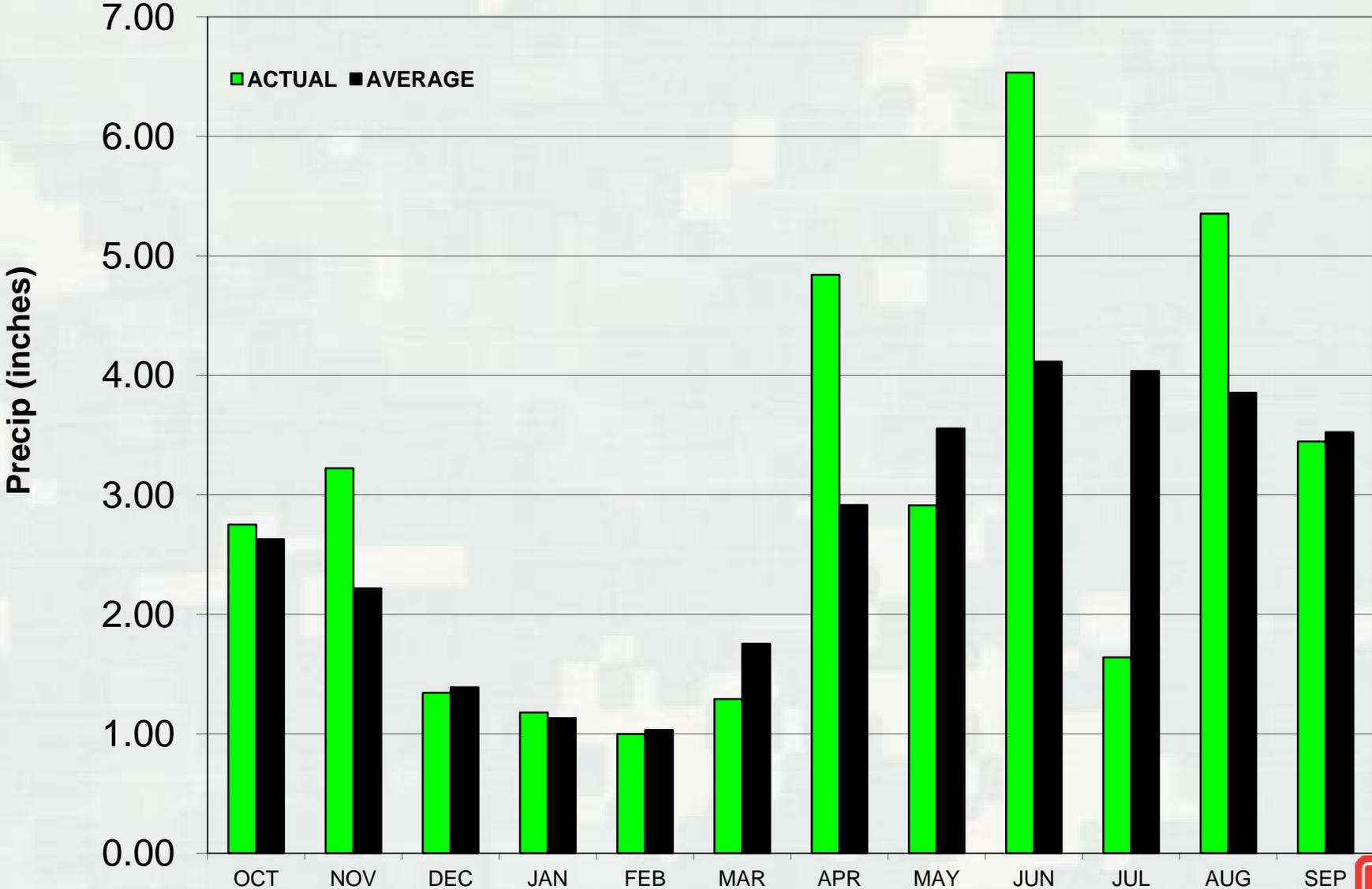
March 10, 2014 SWE

This year, there was **DOUBLE** the amount of water in the snowpack compared to last year.

Water in the snowpack would amount to 11 feet of water on the lake

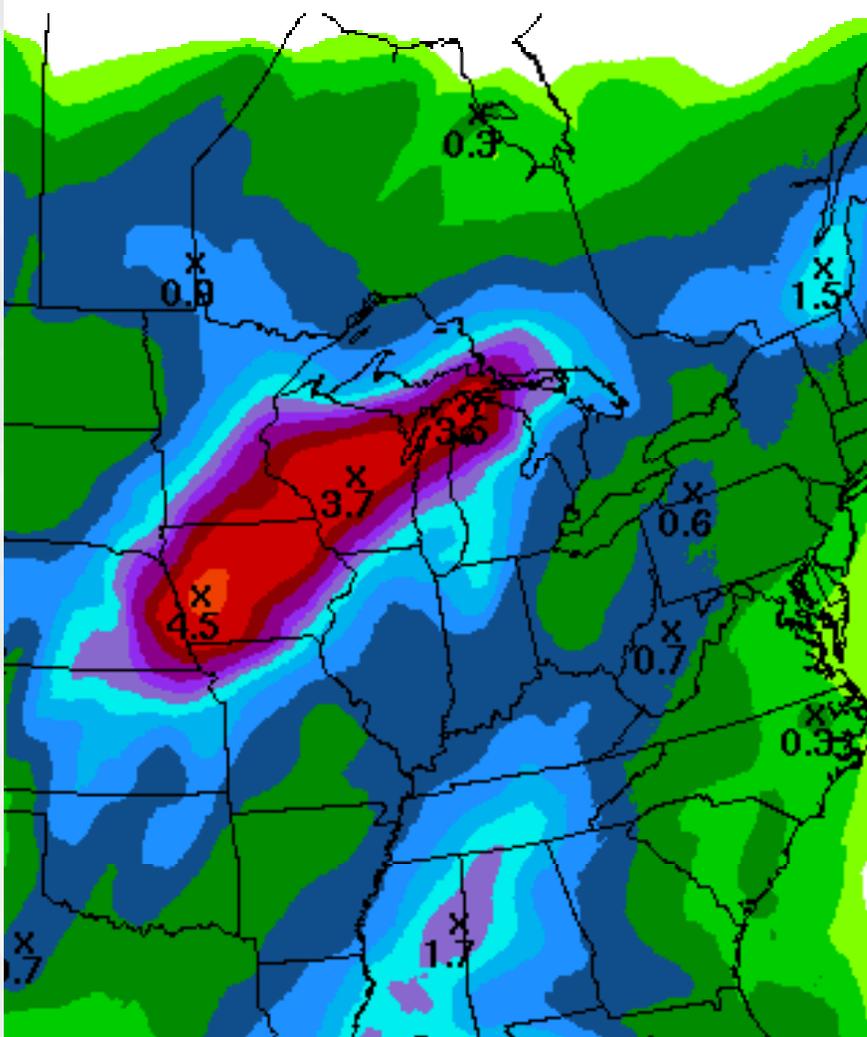


2013-2014 Lake Winnebago Basin-Wide Precipitation

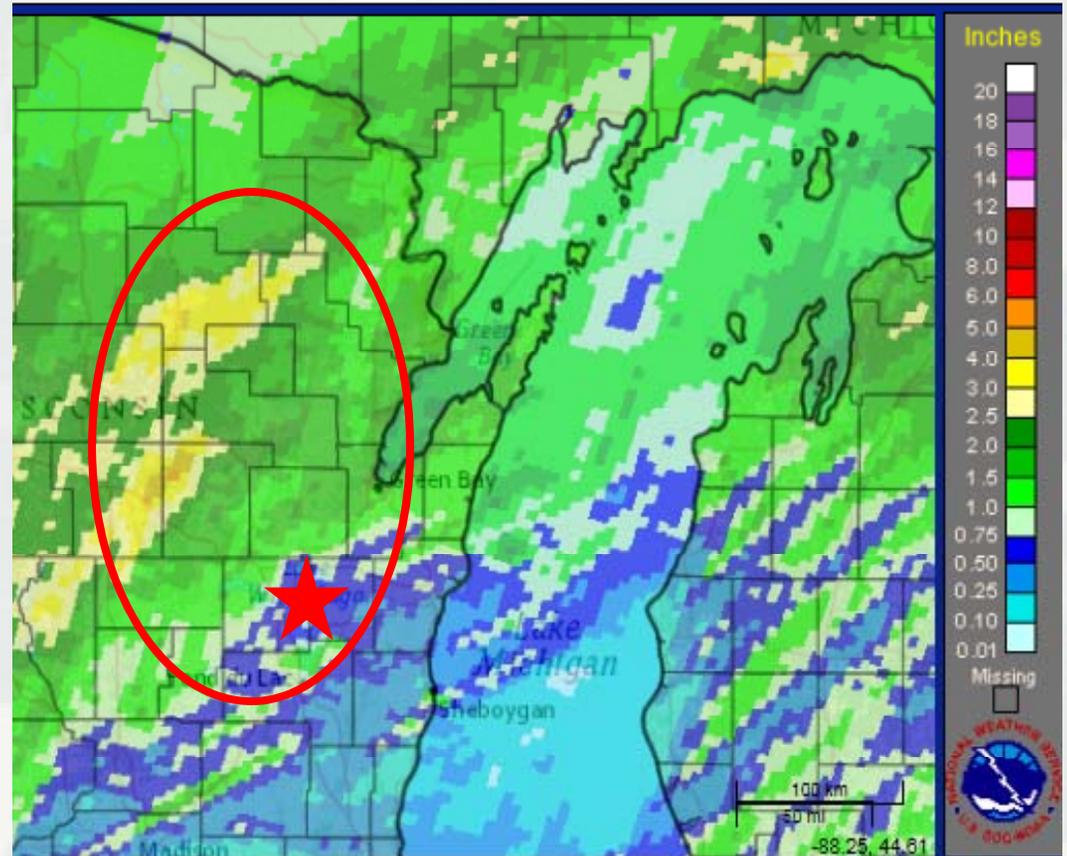


Labor Day Weekend

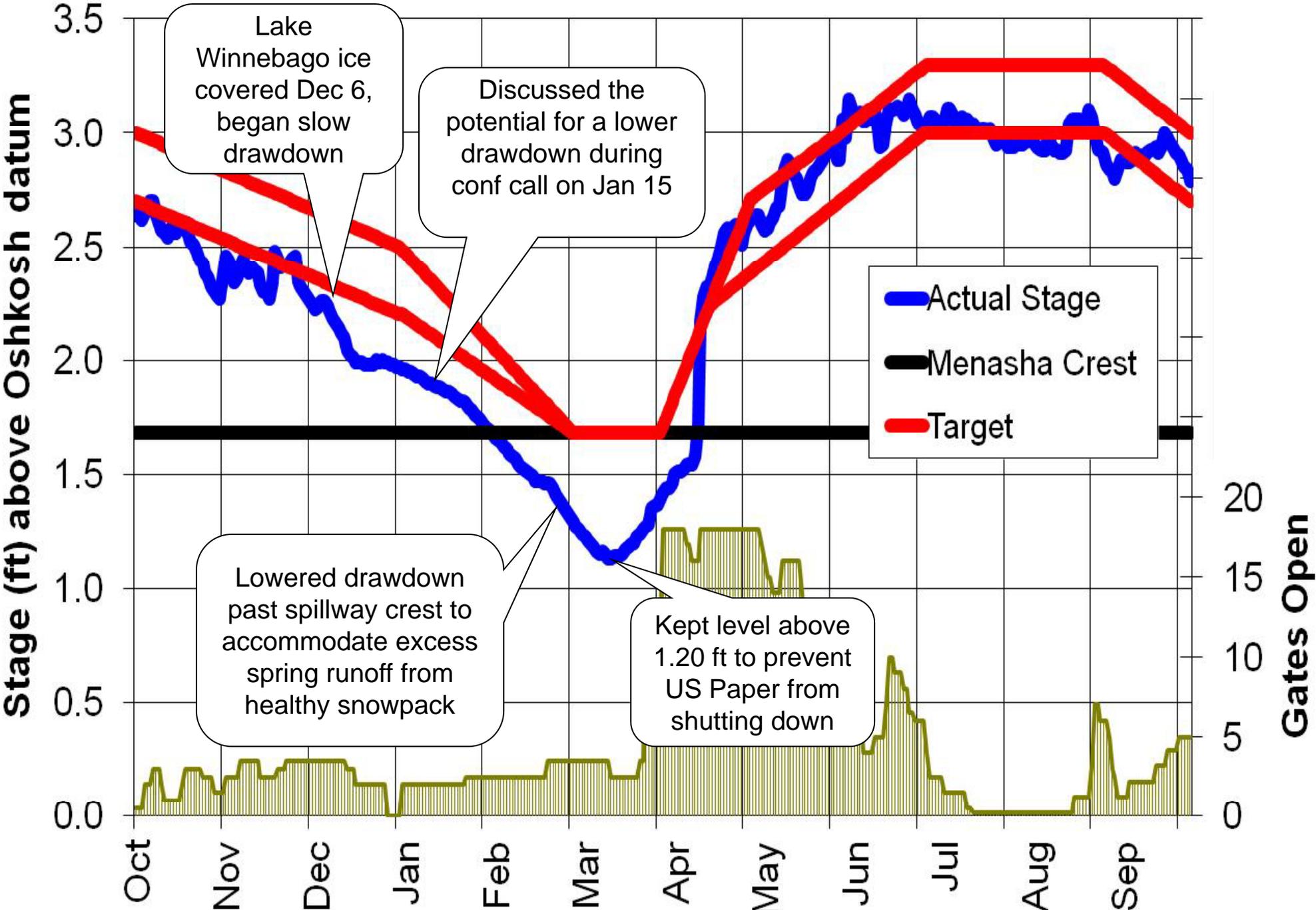
Forecasted Rain
Aug 28- Sep 2



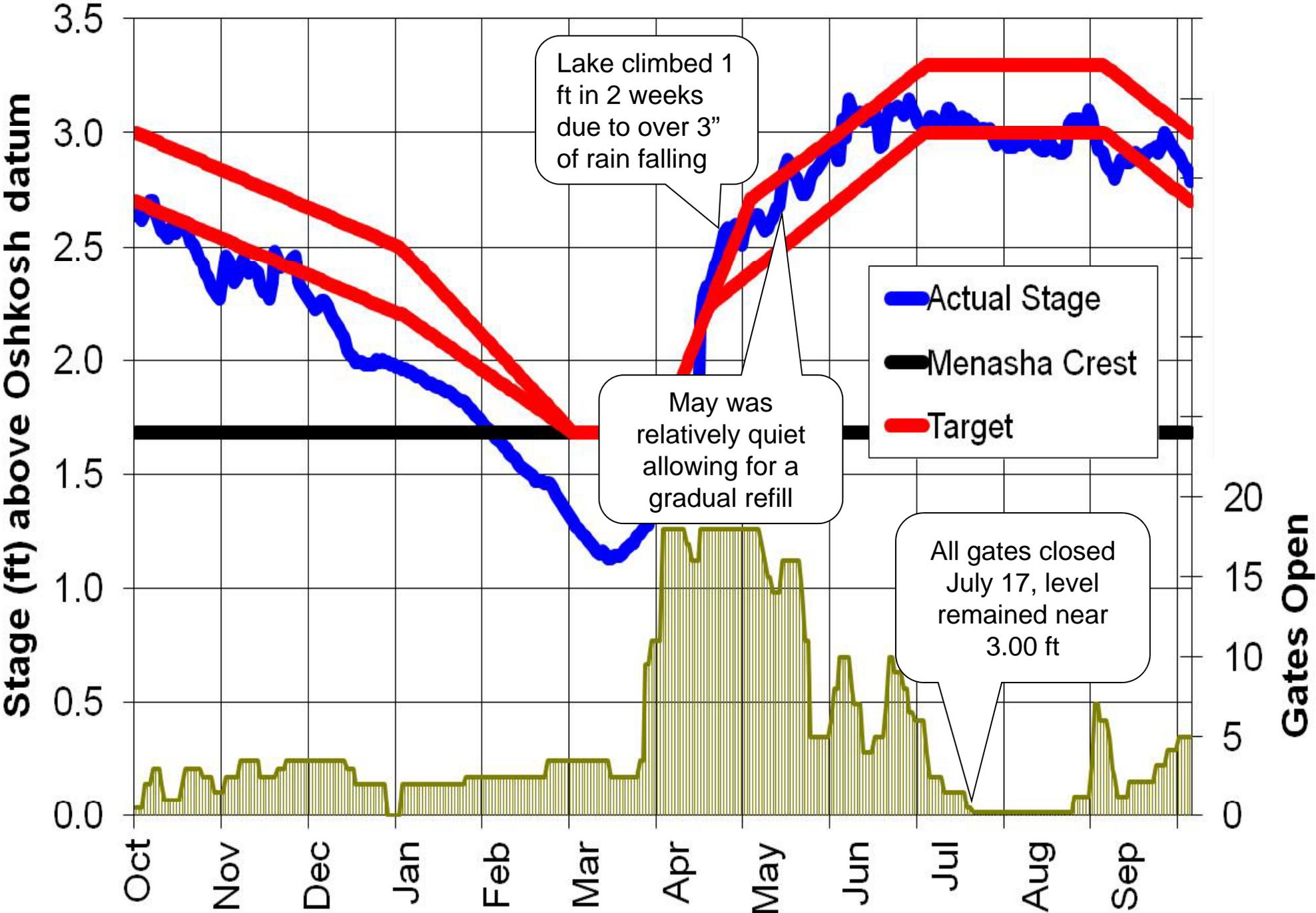
Recorded Rain
Aug 28- Sep 2



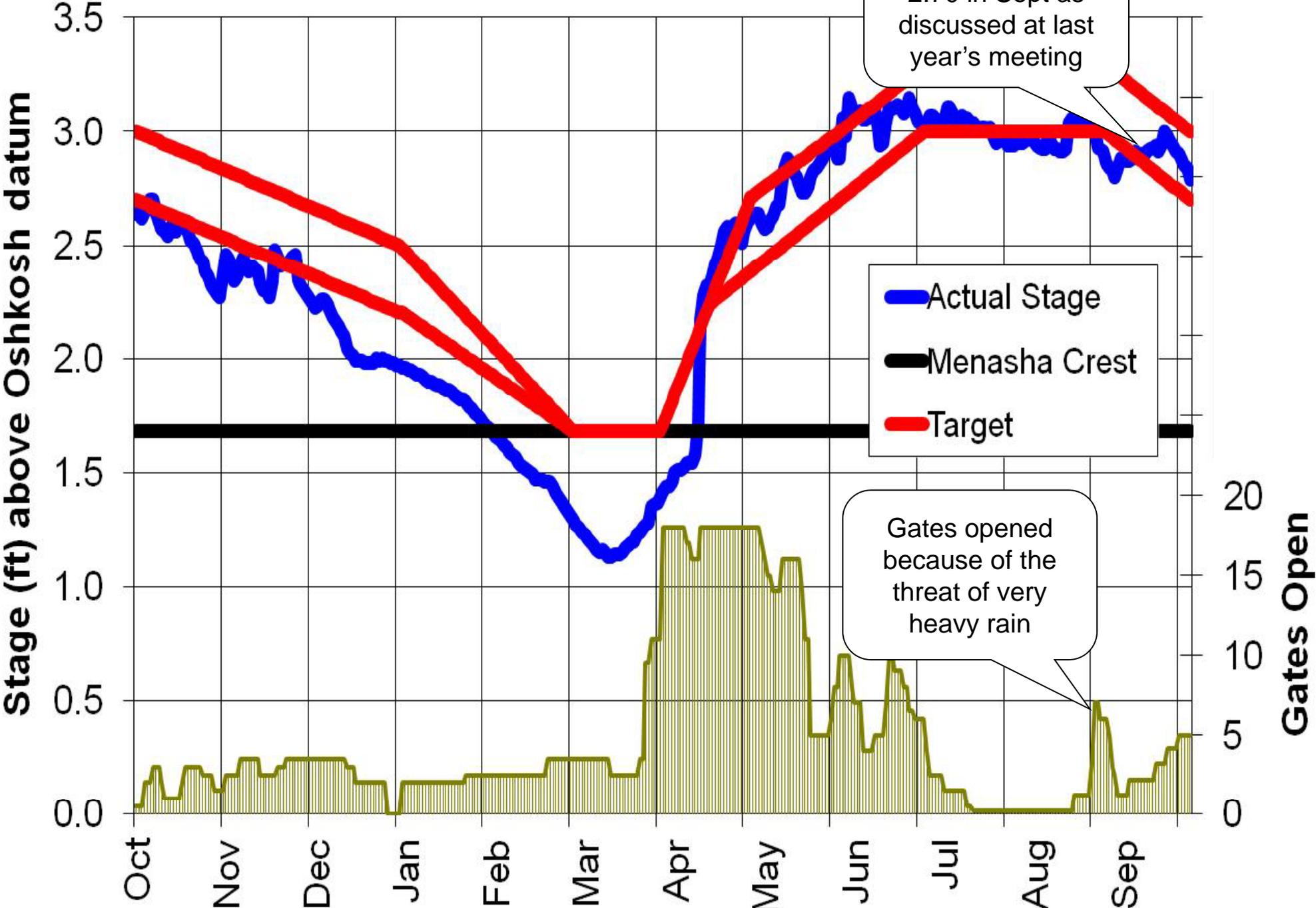
2013-2014 Stage with # of Open Gates



2013-2014 Stage with # of Open Gates



2013-2014 Stage with # of Open Gates

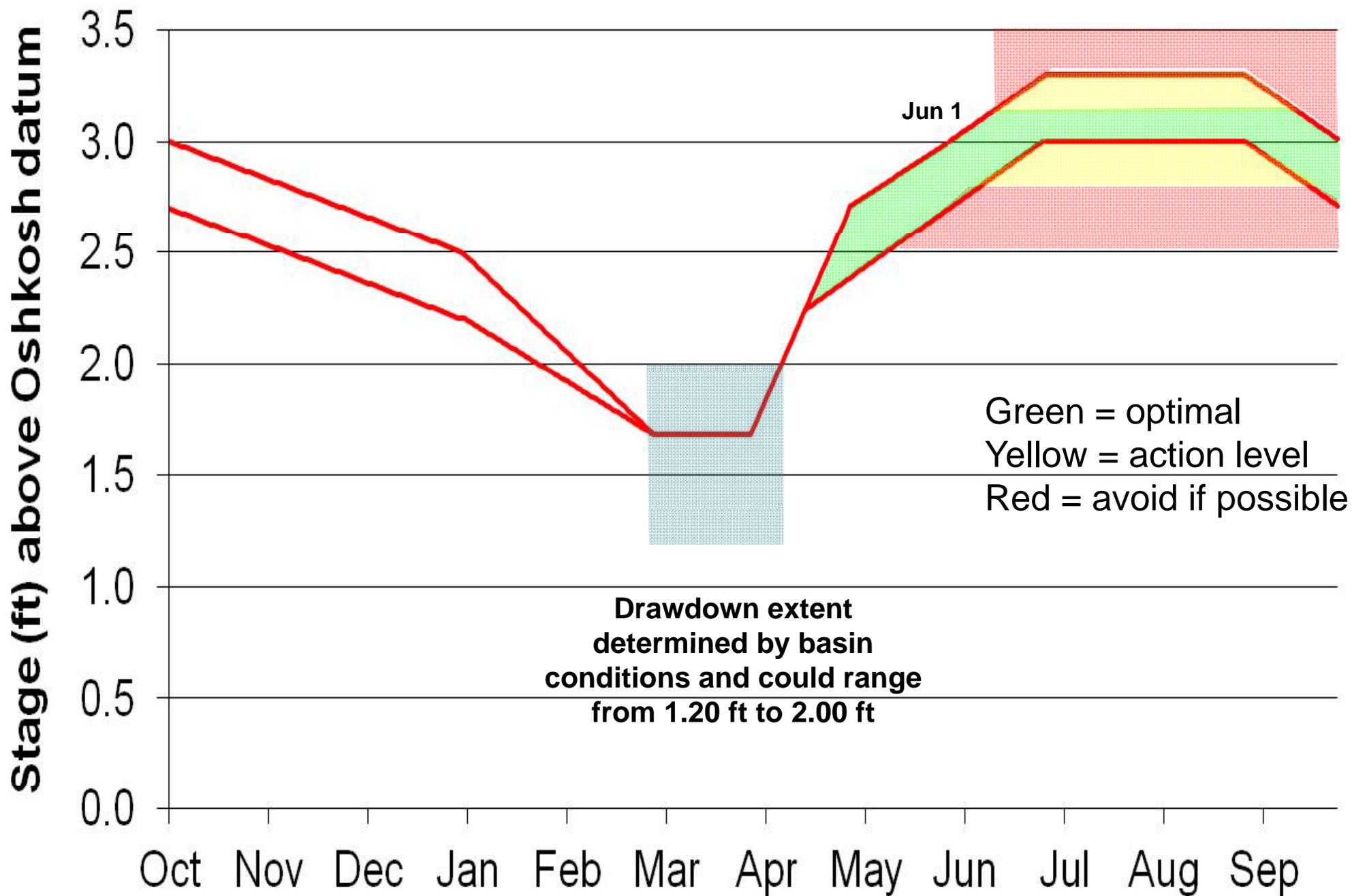


Current Conditions

| Lake Winnebago | |
|----------------|---------------------|
| Level | 2.54 ft |
| Next Target | 2.20 ft , Jan 1 |
| Gate Setting | 0 Menasha, 3 Neenah |
| Inflows | 3,300 cfs |
| Outflows | 3,500 cfs |



Proposed 2014-2015 Target Water Levels





DETROIT DISTRICT



US Army Corps of Engineers

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Lake Winnebago

Important Notices

- [Click here for the Lake Winnebago Current Conditions Update.](#)
- [Click here for the 2013 Lake Winnebago Regulation Meeting notice.](#)
- [Click here for the 2012 Lake Winnebago regulation meeting presentation.](#)
- [Click here for the 2012 Lake Winnebago regulation meeting minutes.](#)
- [Click here for the Revised Lake Winnebago Facts Book.](#)

Lake Winnebago Levels and Flows

Levels and Flows

| | |
|---|---|
| Today's Hourly Data | Yesterday's Hourly Data |
| This Month's Daily Data | Last Months Daily Data |

Historical Data

| | |
|---|--|
| Water Levels for the Last 2 Months - Graph or Table | River Stages for the Last 2 Days |
| 30 Day Graphical Summary of Levels and Flows | |

Lower Fox River Pool Elevations

QUESTIONS?



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