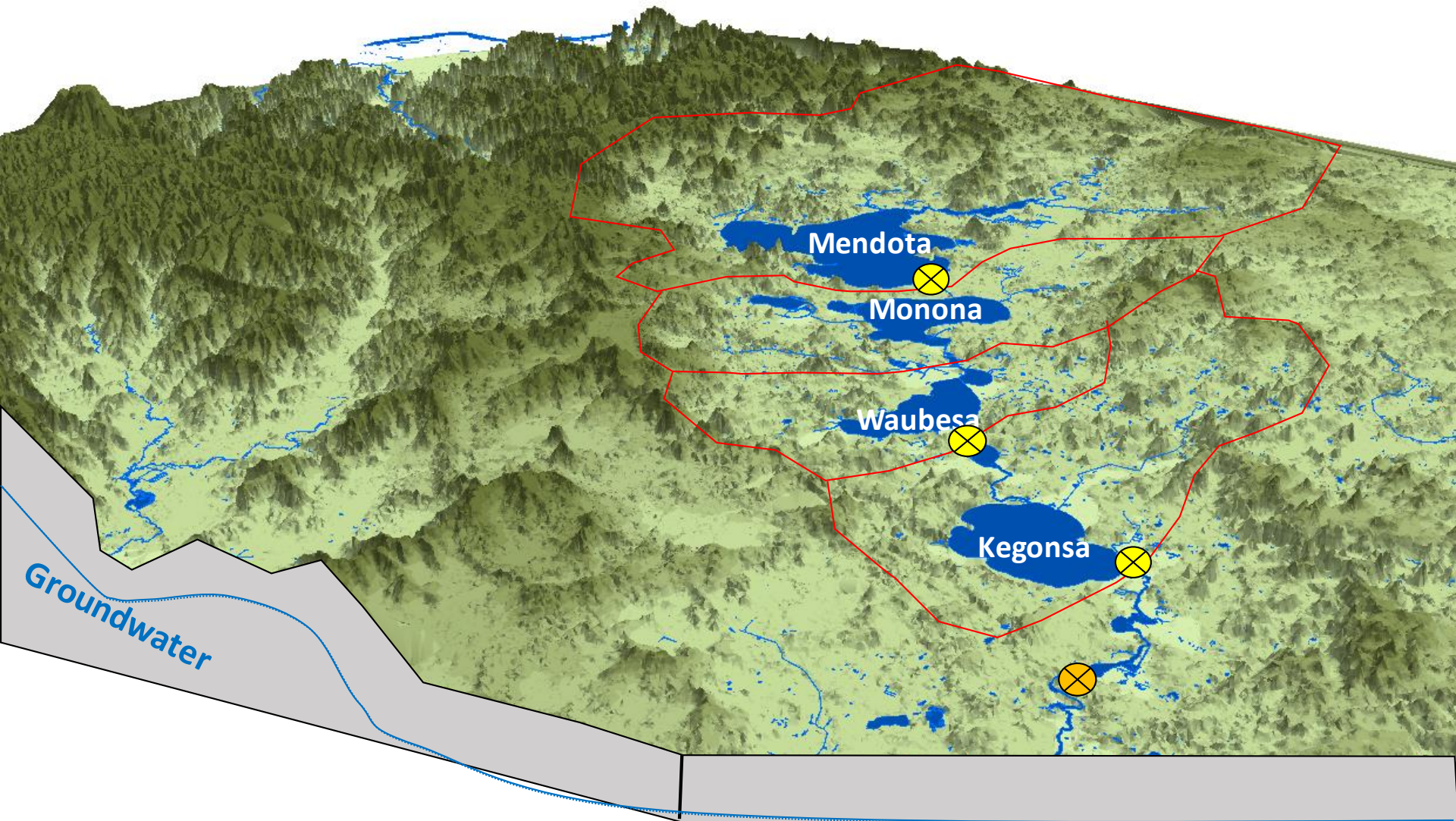


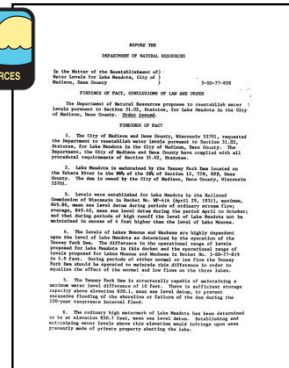
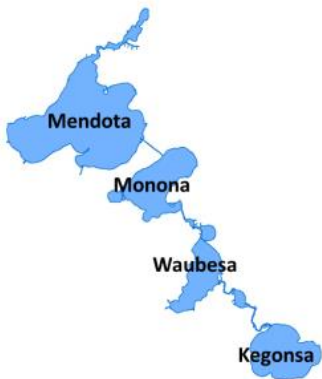
2020 Annual Status Review: Yahara Chain of Lakes Task Force Recommendations



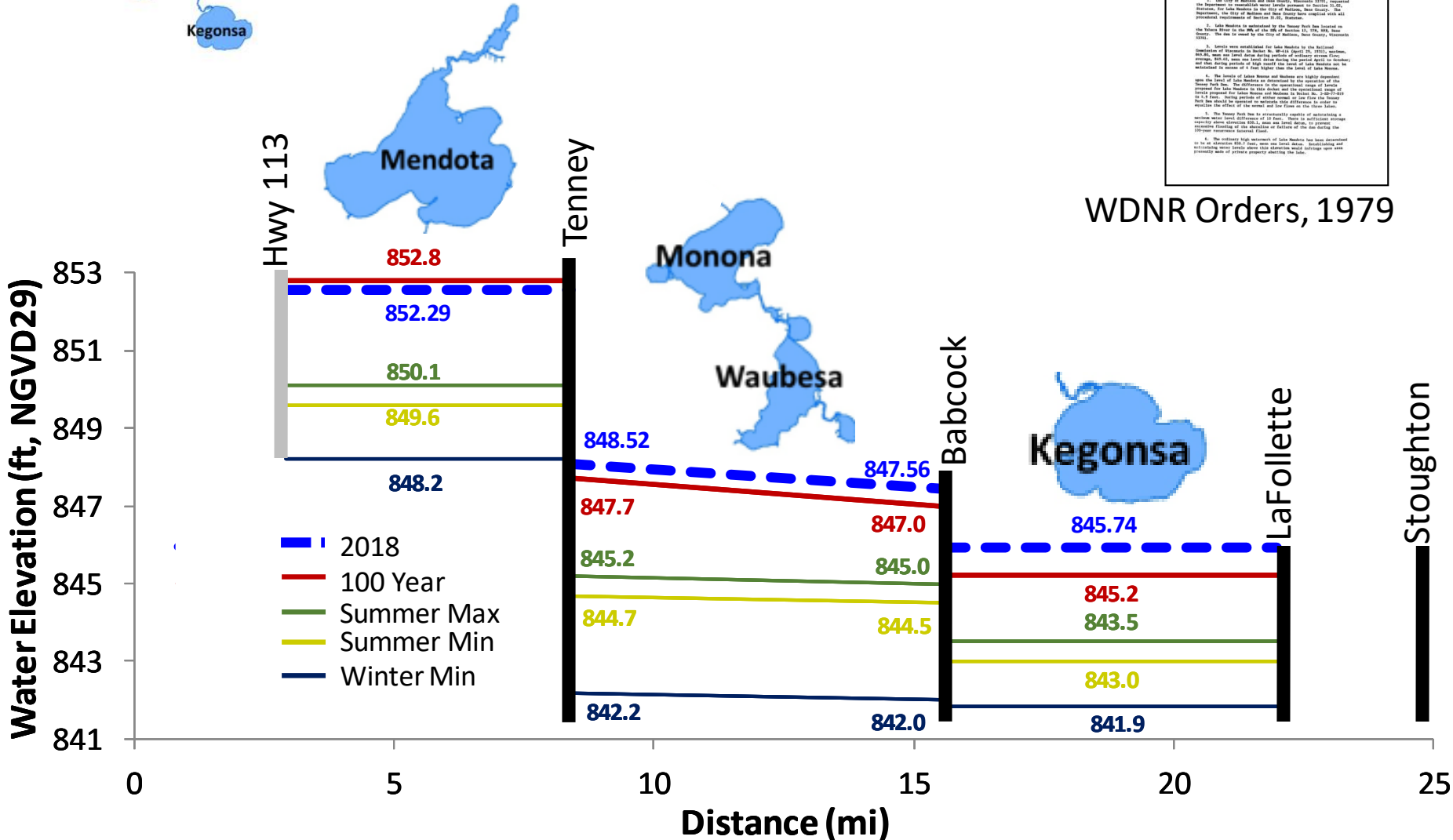
Yahara Lakes and Watershed



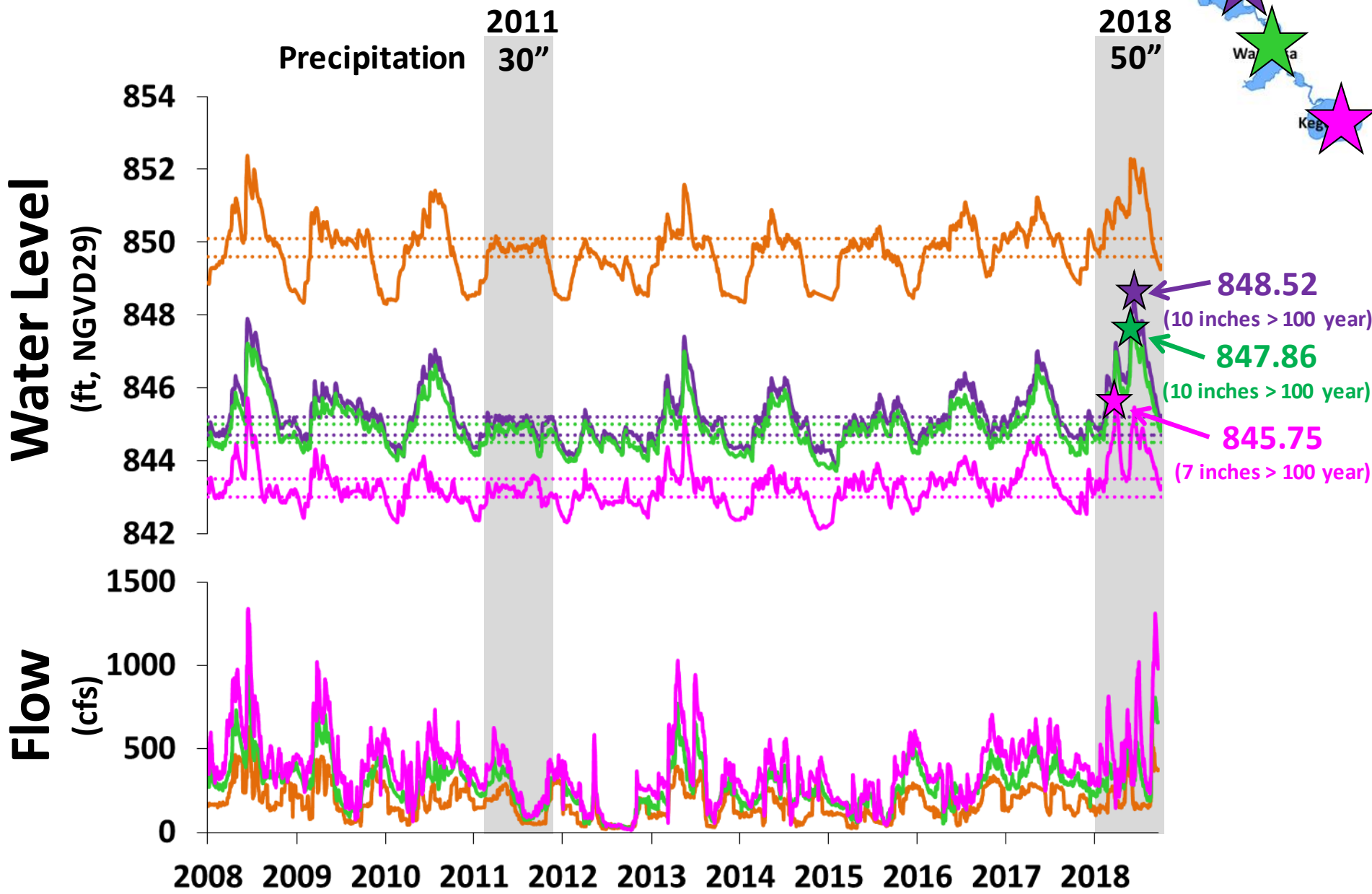
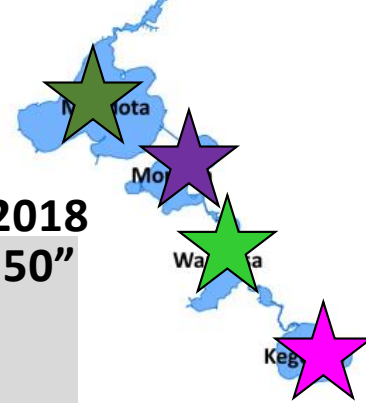
Lake Level Orders



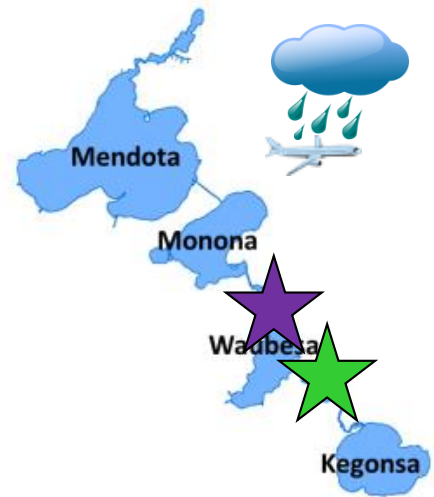
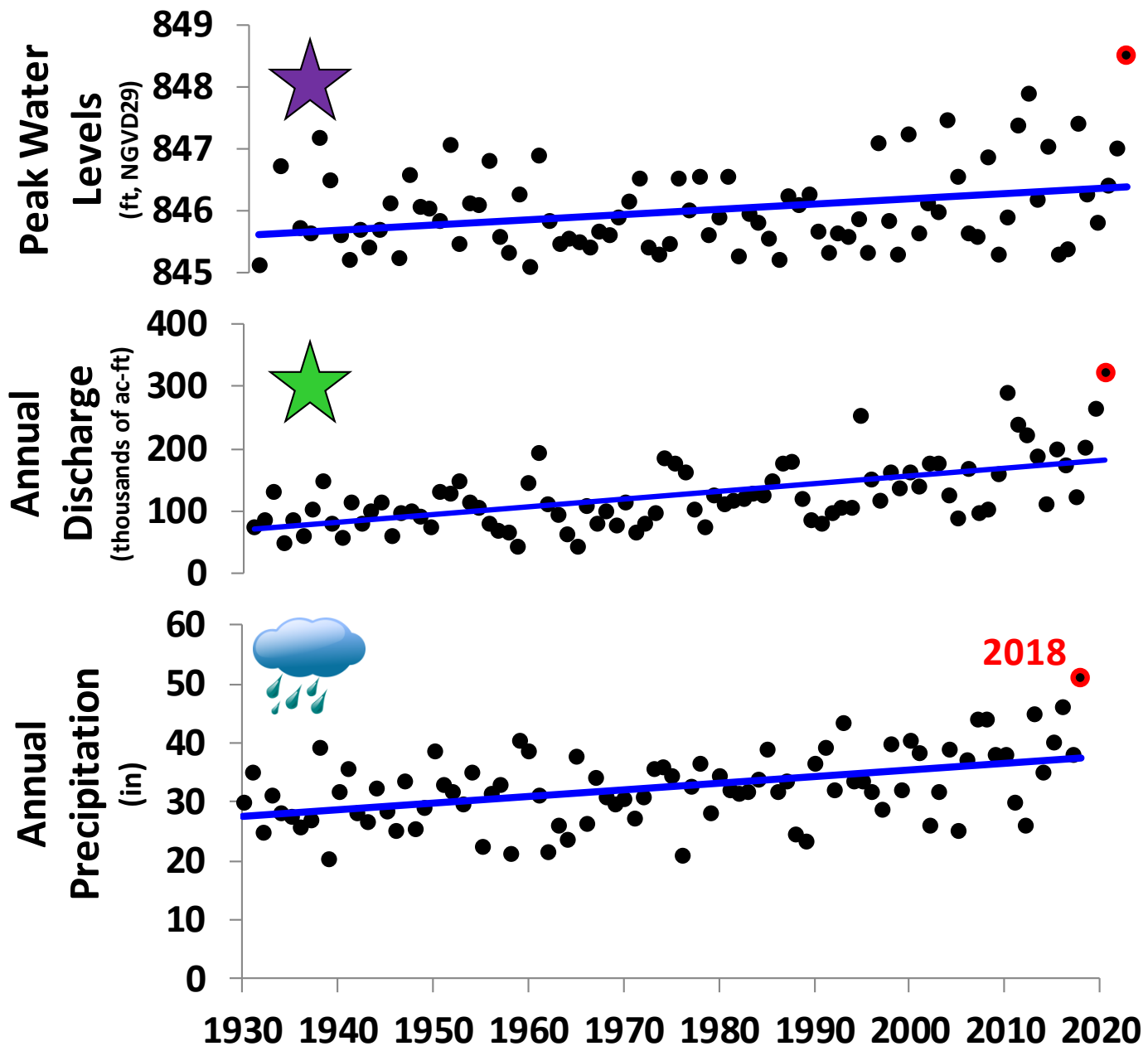
WDNR Orders, 1979



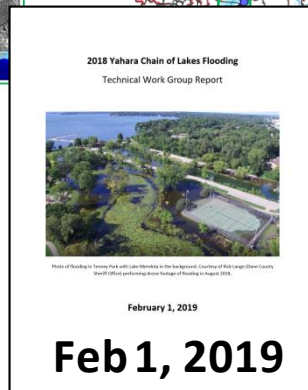
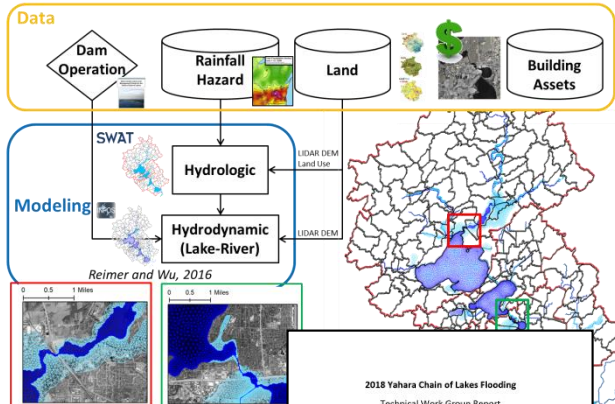
Recent Lake Levels and Flows



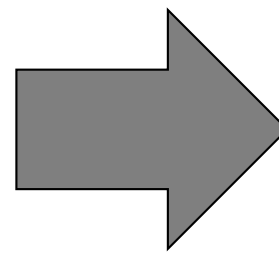
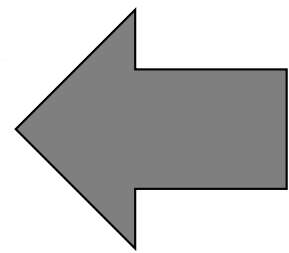
Long Term Records



Improve Flood Resiliency



Technical Work Group



Yahara Chain of Lakes - Lake Level Task Force Final Recommendation - March 18, 2019

The Yahara Chain of Lakes - Lake Level Task Force was established through County Board Resolution 227, 2018. The task force focuses on environmental public engagement including:

- Working with the County Board of Supervisors to align the task force process with the "Flagpole Down" initiative.
- Conducting open or public meetings of all meetings.
- Collaborating & coordinating with local, state, and federal resources.
- Encouraging public comment at all meetings.
- Providing public information opportunities throughout Dane County.
- Holding a public hearing.

The Task Force held meetings on 12/13/18, 2/13/19, and 2/18/19 to discuss adaptation and mitigation alternatives for the Yahara Chain of Lakes. The Task Force of all stakeholders, Technical Work Group Report. A public hearing was held on 3/13/19 to gather further input. The Task Force meeting and public input led to the following recommendations, which were reviewed and adopted on March 18, 2019.

TASK FORCE MEMBERSHIP

Supervisor Melissa Hill (D-Curt)	David Parker
Paul Pomeroy (D-Curt)	Ann Phillips
Mark Brummer	Supervisor Steve Papp
Supervisor Teresa Buntingham	Supervisor Sheila Duda
Supervisor Stephen Chaska	Eric Math
Supervisor Chuck Fritson	Traci Wells
Supervisor Nancy Viles	

PUBLIC ENGAGEMENT

Next steps

- County to conduct an annual status review of adopted task force recommendations as determined by County Executive, County Board Chair and County Board of Supervisors.
- Provide quarterly updates to the Joint Conservation Committee, Environment, Agriculture & Natural Resources Committee and the Lakes & Watersheds Commission on status of task force recommendations, current water needs, river-to-river status, riparian plant banding, riparian recommendations, current water needs, river-to-river status, riparian plant banding, riparian recommendations, current water needs, river-to-river status, riparian plant banding, riparian recommendations on the riparian status of their sites, and other relevant information pertaining to lake levels and flow for the Yahara Lakes.

Mar 18, 2019

Policy Task Force



Public Engagement

Provide quarterly updates to the Land Conservation Committee, Environment, Agriculture & Natural Resources Committee and the Lake & Watershed Commission on status of task force recommendations, current water levels, slow no wake status, aquatic plant harvesting, number of days per year each lake is within its prescribed range, status of coordination with Stoughton on the operation of their dam, and other relevant information pertaining to lake levels and flow for the Yahara Lakes.

Past Meetings:

- **December 2019**
- **May 2020**
- **September 2020**
- **December 2020**

Public Engagement

Develop a protocol to inform the public when significant operating or management changes are made to the Tenney Dam and other county-owned dams along with the reasoning behind the change(s).

Website



Lake Levels & Information

The Land & Water Resources Department is responsible for maintaining lake levels for the four major lakes in Dane County: Lake Mendota, Lake Monona, Lake Waubesa and Lake Kegonsa. Minimum and maximum lake levels were set by the Wisconsin Department of Natural Resources in 1979 and are listed below in the information tabs for each lake. For information on the 2018 flooding, please visit our [Flood Facts & Initiatives](#) webpage.

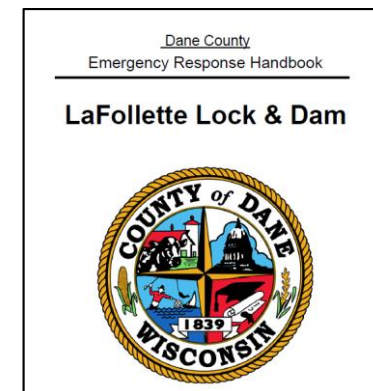
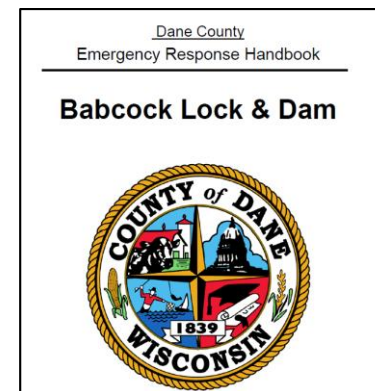
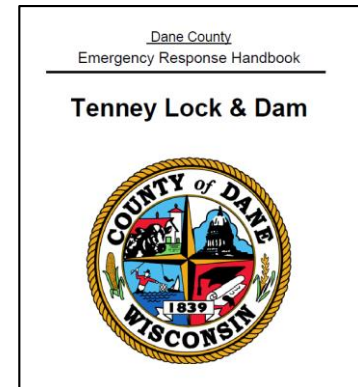
Notices

December 2, 2020 - Lake levels will continue to lower below summer minimum and transition towards winter operating levels. Babcock Dam (Lake Waubesa) and LaFollette Dam (Lake Kegonsa) remain completely open to lower lake levels. Both Babcock and LaFollette locks are open for navigation.

Buoys in the Yahara River and Lakes have been removed. Please use caution on the water due to removal of buoys that would normally mark rock hazards and navigation.

<https://lwrd.countyofdane.com/Lake-Levels>

Emergency Action Plans



Public Engagement

Continue to support a robust website with data and reports.



Lake Levels & Information

The Land & Water Resources Department is responsible for maintaining lake levels for the four major lakes in Dane County: Lake Mendota, Lake Monona, Lake Waubesa and Lake Kegonsa. Minimum and maximum lake levels were set by the Wisconsin Department of Natural Resources in 1979 and are listed below in the information tabs for each lake. For information on the 2018 flooding, please visit our [Facts & Initiatives](#) webpage.

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Lake Levels*

Lake	Date	Lake Level	Winter Min	Summer Max	1% Flood
Mendota	12/2/2020	849.34	848.20	N/A	852.8
Monona	12/2/2020	845.62	842.20	N/A	847.7
Waubesa	12/2/2020	845.26	842.00	N/A	847.0
Kegonsa	12/2/2020	843.48	841.85	N/A	845.2



[Chart Lake Levels](#) [Tabular Data](#)

<https://lwr.dane.countyofdane.com/Lake-Levels>

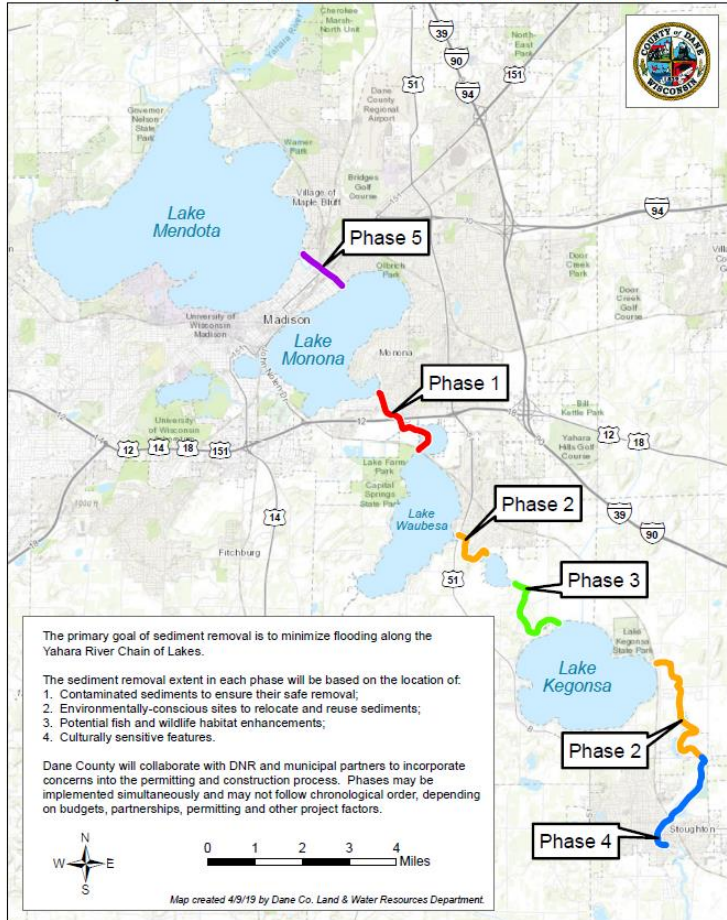
<http://infosyahara.org>

Sediment Removal

- In collaboration with the DNR and other units of government, Dane County should determine which locations are of highest priority and work to obtain permitting to dredge the Yahara River as needed from Lake Mendota to the Stoughton Dam, seeking to increase flow, maintain seasonal minimums and improve the health of the river whenever feasible.
- Develop a dredging plan that occurs in phases over several years based on multiple factors including impact on flow, permitting, and dredging logistics. The Yahara River is an important and valued resource that provides important spawning, migratory, and nursery habitat for a variety of fish and is home to a number of fish and other species on a more permanent basis and any dredging should recognize that dredging is an opportunity to improve the resource and not just a means of draining the lakes and that habitat improvements should be incorporated into plans. Downstream dredging will be prioritized where possible and within project control.
- Planning and implementation should focus on cooperation with the DNR regulators, fish biologists, and other staff to first identifying and dredging those segments of the river in which dredging would be most helpful in managing flow and would be the most beneficial or least harmful to the river itself.

Sediment Removal

Proposed Sediment Removal Sites on the Yahara River



Yahara River Sediment Removal Project

Multiphase Project to Reduce Flooding and Improve Water Flow

Currently, water comes into the Yahara Lakes faster than it goes out. Therefore, after repetitive and heavy rainfall events, the lake levels increase and can lead to flooding. The efficient movement of water through each lake is undermined by sediment build-up in the Yahara River. While sediment movement is a naturally occurring process, the accumulation of sediment in the Yahara River and Lakes is greatly increased by human activity, including urban development and winter sand operations.

Today, two inches of rain takes over two weeks to leave the Yahara Lakes system due to its sluggish nature. This project will remove sediment in the Yahara River in five phases with a goal to improve water flow so that the delivery of two inches of rain that normally takes two weeks to travel through the Yahara Lakes system will take half as long, or one week.



- Project Phases
- Schedule
- Construction Updates
- Videos
- News
- Contact

Project Phases

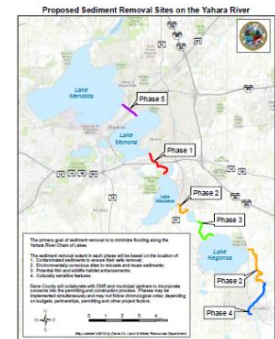
Dane County's sediment removal project in the Yahara Lakes system will take place in five phases, with each phase carried out as Dane County secures permitting - see [Phase Map](#) (PDF). The benefit to reduce flooding for all lakes is realized when sediment accumulation has been removed along the Yahara chain, thus it is critical that the phases are planned as timely as possible.

Several factors were considered for a five phase plan including:

- Readily available sediment and bathymetry data for developing engineering plans
- Presence of contaminated sediment that would impact permitting timelines
- Proximity of dewatering locations to the river
- Existence of culturally sensitive features

Phase 1

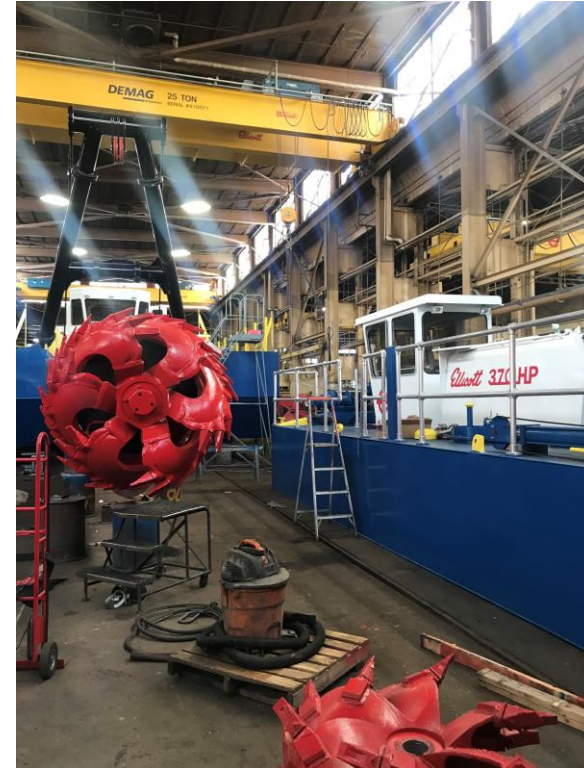
The first phase, between Lakes Monona and Waubesa, is expected to be completed in 2020. The project will involve removal of approximately 40,000 cubic yards of sediment which equates to over 3,000 dump truck loads of sediment. The sediment will be removed hydraulically by suctioning the sediment from the river bottom and transferring through a pipeline to a dewatering basin. The sediment will be separated from the water at the dewatering basin and reused for other projects such as roadways.



<https://lwr.dane.gov/yahara-river-sediment-removal>

Sediment Removal

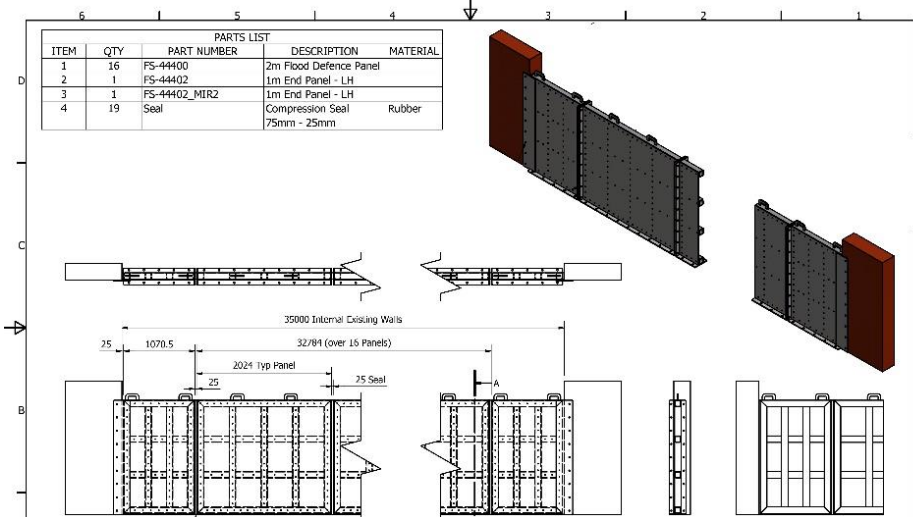
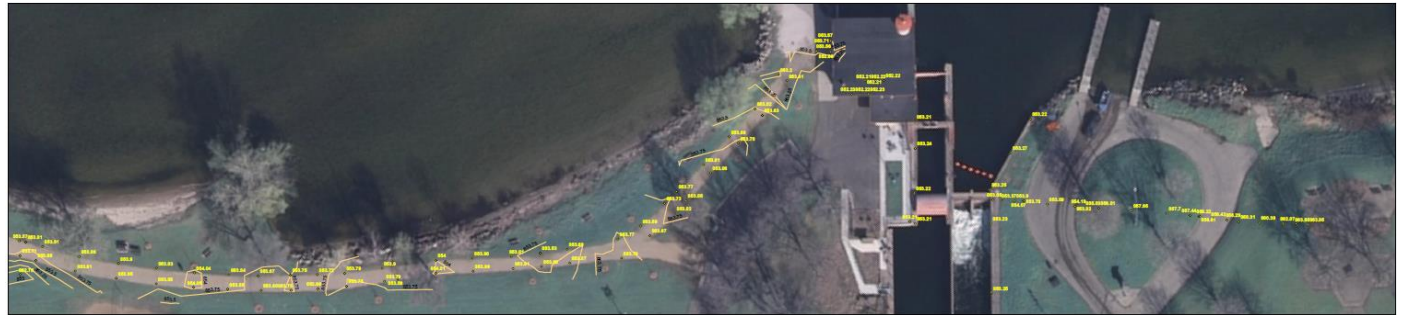
- Establish and fund an ongoing maintenance dredging schedule as necessary to maintain flow capacity in collaboration with the DNR and other units of government.



Dam Management

- Ensure the integrity of Tenney Dam and embankment through improvements that make it capable of holding water to the 100-year water level (1% annual chance of flooding) on Lake Mendota.

Embankment Survey



Tenney Boat House Barrier Wall

FEMA 102 Manual

FEMA P-936

FEMA Technical Bulletin 3-93

Dam Management

- Implement of water level/flow monitoring at the Lafollette Dam.

INFOS
Integrated Nowcast/Forecast Operation System
for Yahara Lakes

Home | About INFOS

OBSERVATIONS

- Surface Water
- Weather
- Rainfall
- Groundwater
- Beaches
- Water Levels

MODELS

- Nowcast
- Hydrologic
- Hydraulic
- Hydrodynamic
- Forecast
- Weather
- Water Level &

Lake Kegonsa Outlet at Lafollette Dam, Stoughton, WI

*** GAGE IS CURRENTLY BEING CALIBRATED ***

LOCATION:
Latitude: 42°58'10", Longitude: 89°13'22", upstream of Lafollette Dam, Stoughton

GAGE:
Pressure Sensor Water Level and side-looking acoustic velocity meter. Datum of gage is 841.10 ft above sea level (NGVD 1929)

LAKE INFO

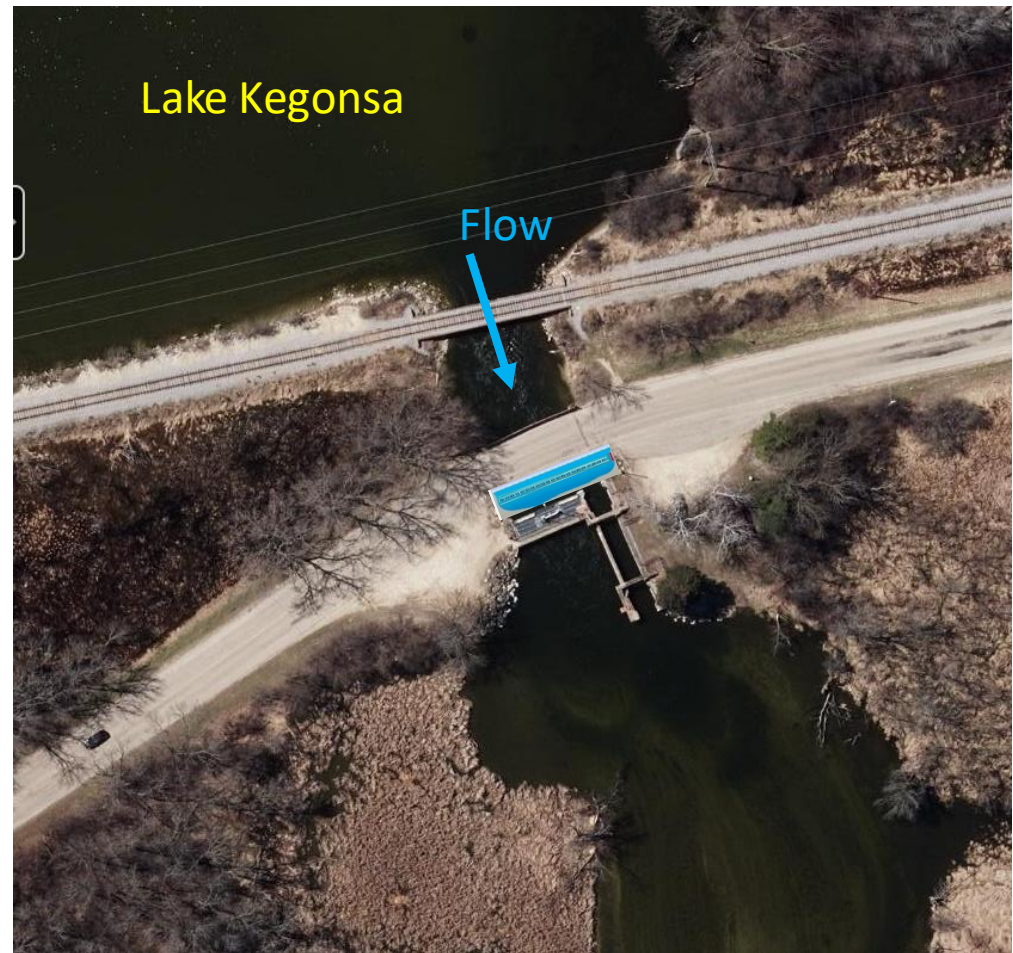
Lake Mendota
Surface Area: 1,983 ha
Max Depth: 23.3 m
Mean Depth: 12.7 m

Lake Monona
Surface Area: 3,709 ha
Max Depth: 22.6 m
Mean Depth: 6.3 m

Lake Waubesa
Surface Area: 343 ha
Max Depth: 11.6 m
Mean Depth: 4.7 m

Lake Kegonsa
Surface Area: 1,299 ha
Max Depth: 9.9 m
Mean Depth: 3.1 m

Partnership



Aquatic Plant Harvesting

- Dane County should continue early, vigilant and ecologically-sound mechanical aquatic plant harvesting in compliance with DNR permits to ensure that water flows through the Yahara Chain of Lakes.
- Incorporate aquatic plant harvesting south of the LaFollette Dam into the aquatic plant management plan and DNR permit, rather than relying on an emergency permit.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

Permit for Mechanical Harvesting of Aquatic Plants

Dane County Land and Water Conservation Department is hereby granted under Section 23.24, Wisconsin Statutes and Administrative Code NR 109, a permit to conduct mechanical harvesting of aquatic plants in the Yahara Chain of Lakes, Lake Waubesa and portions of the Yahara River, Dane County, subject to the following conditions. This permit is issued for a one-summer term and will expire on October 31, 2019.

PERMIT CONDITIONS

1. The Department waives the option of supervising the operation prior to beginning harvesting. The Lake Management Coordinator or staff may schedule onsite supervision of harvesting during the operating season.
2. Mechanical harvesting will only be allowed in the areas specified in the permit application. **The harvester path is required to adhere to the 20' channel width throughout the length of the river and especially the meanders to protect fishery resources.** A copy of the permit and maps shall be maintained onboard the harvester(s) at all times harvesting operations are conducted. Cutting and removal of submersed vegetation is not required to occur only in locations that are 3 feet or more deep.
3. To the greatest extent possible, all aquatic plants cut must be removed immediately from the water. Disposal of the harvested aquatic plants must be located in the areas specified in the permit application and must be in accordance with any applicable county and local regulations.
4. **All mechanical harvesting records must be maintained and made available to the department upon request. Annual reports summarizing harvesting activities shall be given to the Department by November 1 each year.** The annual report shall include a map showing the areas harvested, the total acres harvested and the total amount of plant material removed from the body of water.

FINDINGS OF FACT (Facts which were considered in making this decision.)

1. Dane County Land and Water Conservation Department has filed an application for a permit to conduct a mechanical harvesting operation in the Yahara River, Dane County. The specific areas and dimensions to be harvested are in accordance with the map included in this permit.
2. The Department has determined the proposed mechanical harvesting will allow for reduced flooding from river constriction caused by dense plant growth.
3. The Department has determined that there will be no significant adverse impacts resulting from the permitted mechanical harvesting of the permitted waters.
4. The total harvesting area totals 13.58 acres as shown on the maps.
5. The Department has determined that the proposed harvested area is not in a department designated sensitive area.



Lake Levels

Dane County will continue to implement any tools that may be available to lower lake levels to DNR designated seasonal minimum levels as soon as possible and work to maintain lakes at that level. This directive will be implemented where possible and to the extent that managing any given lake will not create flooding on other lakes or other unintended consequences.

Updates:

- **Technical Group has convened**
- **Next meeting will discuss additional analysis and include other expertise (such as fishery and biology)**

Lake Level Management Guide Short Term

Update the Lake Level Management Guide for the Yahara Chain of Lakes.

**Dane County Lake Level
Management Guide for the
Yahara Chain of Lakes**



<https://lwr.d.countyofdane.com/documents/pdfs/Plans--Studies--Reports/Plans/Lake-Level-Management-Guide-2019-Amendment-Final.pdf>

Stormwater and Infiltration

Short Term

Chapter 14 Ordinance Amendment:

- Requirements for closed watersheds
- Runoff rate control for 200 year storm event
- Show flood elevation and lowest opening on plan.
- Redevelopment: first half inch of runoff to green infrastructure

Stormwater and Infiltration

Long Term

- Volume banking program for exempt sites and redevelopment projects
- Collection of cost data for providing volume reductions
- Incorporation of stormwater volume reductions in county projects and land purchases