

From: Gmail2
To: [Flooding, Yahara](#)
Subject: Re: County Lake Levels Task Force
Date: Friday, March 01, 2019 7:49:06 PM

Thank you Joy for all your expertise.

On Mar 1, 2019, at 4:51 PM, Flooding, Yahara <YaharaFlooding@countyofdane.com> wrote:

From: Joy Zedler [REDACTED]
Sent: Friday, February 22, 2019 12:22 PM
To: Flooding, Yahara
Cc: PAMELA A PORTER
Subject: County Lake Levels Task Force

Attached are two comments for the Lake Levels Task Force:

The "WWlakeEdgeBoundary" seeks to correct an assumption that I perceived at the 2/18 Task Force meeting. It seemed that the Lake Level Report authors did not realize that Waubesa Wetlands extend into Lake Waubesa well beyond the edge of emergent vegetation. In fact, the lower limit of the wetlands is about -20 ft.

On 2/18, I described the pipeline construction route as a "destruction route." The "WWpipelineDestruction" comment summarizes a Wisconsin field study that explains my perspective.

I hope to testify further at the 3/5 public hearing. It would help to know time limits and ability to use slides for this hearing.

Thank you for listening to the watershed-approach as an alternative to scenario 6 in the report.

Joy Zedler

<WWlakeEdge Boundary.pdf>

<WWpipelineDestruction.pdf>

From: Susan Marcquenski
To: [Flooding, Yahara](#)
Subject: comments for the Lake Levels Task Force
Date: Sunday, March 03, 2019 1:36:27 PM
Attachments: Marcquenski pdf comments to the Lake Levels Task Force 3 March 2019.pdf

Hello Dane County and thank you for the opportunity to offer comments to the Lake Levels Task Force related to reducing flood risk and increasing resiliency to flooding in Dane County.

I have attached my comments as a pdf file. Please let me know if you have any questions.

Best wishes to all,

Sue Marcquenski

[REDACTED]

[REDACTED]

3 March 2019

Recommendations to the Yahara Chain of Lakes-Lake Levels Task Force Regarding Flood Prevention

Susan Marcquenski

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The issue of flood prevention in Dane County is complex; achievable solutions require biological, ecological and societal approaches as well as engineering.

The efforts of the Technical Work Group are much appreciated for offering choices for mitigating flooding. However, I feel the basis of solely using data from 2018 to run the INFOS model has biased the scale of the mitigation choices offered by the Technical Working Group. Not all rain events will occur as they did in 2018. If conditions for the model could be set as if the Yahara system was at summer minimums, for example, it would be interesting to see how the model results differ from 2018 conditions.

By choosing to apply the INFOS model using Yahara system conditions of 2018 (wherein lake levels had widely exceeded the summer maxima by the onset of the August and September storms), it is no surprise that extreme measures such as full dredging in combination with active pumping (400 cfs!) were needed to provide significant improvement in reducing the number of days lake levels were at flood stage. Even with this combination, lake levels calculated by the model did not return to the summer min/max range; there were still appreciable numbers of days when lake levels were 1.5 to 2 feet above the summer range. If another large rain event had occurred during this period, the risk of flooding would still have been high.

In my opinion, the core issues to resolve are that during extreme events, too much water enters the Yahara Watershed in a small window of time and under present conditions, cannot exit the system in the same timeframe. Solutions that will reduce the risk of flooding and increase resiliency to flooding need to address both issues. If there are ways to reduce sudden water inputs such as increasing infiltration, redirecting stormwater runoff for later release or otherwise preventing excessive amounts of water from entering the system during extreme events, downstream actions to aid or boost the exit of water may not need to be as "big" or dramatic (less engineered, less costly, less complex).

The Yahara River watershed includes Dane County, neighboring Counties, the City of Madison and smaller municipalities and townships. No single entity can resolve the issue of flood prevention, nor should it be asked to do so. Solutions must be sought by coalition, collaboration, unanimity and discussion at the same table.

There is great potential for innovative and integrated solutions for flood prevention in Dane County. These solutions could be adopted and modified by other flood prone areas around the globe as they too, grapple with the effects of increasingly extreme and variable weather events. A cornucopia of expertise exists within Wisconsin at all levels- Federal, State, County, municipal, universities, non-profits such as the Nature Conservancy and others which can and should contribute to strategies that will achieve flood prevention.

An inclusive approach that utilizes this expertise will take time to reach the point of full implementation. It may take 30 years or more. Working together to establish short term (1-10 years) and long term (11-30 years) strategies will help organize the work, facilitate budgeting and work planning for projects, and their assessment.

I am convinced an up-front investment in time will result in breathtaking solutions that reduce the risk of flooding and increase resiliency to flooding in Dane County and beyond.

What should be done? In the short term, the following may be done based on current capabilities, infrastructure and legal sideboards. These suggestions are not listed in any order of priority.

1. Increase Water Storage Capacity in all the Yahara Lakes

a. Achieve and maintain summer minimum water levels specific to each Lake.

As mentioned during the presentations to the Task Force, the water volume equivalent of one surface inch of Lake Mendota is three inches of lake depth in Lake Monona. Although the County has chosen to manage water levels in the lakes at three inches above the summer minimum (splitting the difference of the six-inch range), existing lake level Orders allow lake level to be dropped three inches from this point and still comply with the Orders. If Lake Mendota was dropped even three inches, and a heavy rain occurred, that capacity “spares” Lake Monona nine inches of lake depth. In addition, downstream lakes would benefit – less water would have entered the system downstream of Lake Mendota.

b. Start the process to open the WDNR Lake-Level Orders

Request WDNR to open, review and revise Lake-Level Orders for all the Yahara Lakes and the Yahara River. The Orders were established in 1979, 40 years ago, based on knowledge and data available at the time. Our knowledge of the system is still not 100%, but collective knowledge from State, County, University and Non-Profit organizations over the past 40 years has certainly increased and should be reviewed and analyzed by WDNR with assistance from experts. More is known about the frequency and impact of extreme weather events, ecological importance of nearshore habitats and adjacent wetlands, current status of game and non-game species of fish, societal behaviors and other aspects that were considered in the 1979 Order.

2. Optimize Flow Rate and Velocity from the Tenney Dam to the Stoughton Dam

a. Continue aquatic plant harvesting to reduce friction

The use of aquatic plant harvesting to increase water flow rate and velocity was identified by the Peer Review of the Dane County Lake Level Management Guide for the Yahara Chain of Lakes (2 July 2012) as the main tool available to the County for maintaining high flows and lower lake levels. Aquatic plant harvesting should continue in a strategic manner to increase water velocity at key locations where bottlenecks are known to occur. New information from 2018 indicates the importance of aquatic plant harvest below the La Follette dam which dramatically increased water flow in late July. Continuous monitoring of water velocity in these key locations should be done, if not already doing so. These data could inform and help prioritize work assignments for harvesting, optimizing time and effort before situations become critical and compete for attention/action.

b. Use targeted dredging to remove “humps” of accumulated sediments in the Yahara River

A systematic review of how the current Yahara River bed sediment depths differ from “natural” or ideal depths should be done to identify locations where sediment deposition is excessive and slows the flow rate and velocity. Dredging these areas to restore base channel depths is essential to keep water moving. If current knowledge has identified some of these locations, dredging could be started sooner, pending the WDNR permitting process. Monitor the water velocity at these locations before and after dredging to learn more about water hydraulics in these specific situations which may be useful in the future.

c. Investigate the potential for modifying Babcock and La Follette dams

It is my understanding that the Babcock and La Follette dams were constructed with the main goal of holding upstream water in times of low flow inputs. It seems that times are changing and now there is a different critical purpose for the dams- passing more water faster. It was mentioned at the Task Force meetings that the more “head” a system has, the faster the water will exit (bathtub analogy). Can the dams be modified in their construction to be multi-purpose? Holding upstream water in times of low flow, but passing more water, faster, during times of higher flow inputs? If it was possible to safely lower the dam height by some calculated amount prior to a predicted extreme rain event, would the

“head” created by lowering the dam height allow water to move through faster, without increasing lake levels to the point of flooding? As storm waters start to abate, the dam heights could be adjusted accordingly. Perhaps this is too simplistic, but the idea of having the dams modified for multiple purpose functions should be considered.

3. Reduce water inputs into the Yahara River Watershed

a. Recommendations of the Stormwater Advisory Committee of the Dane County Lakes and Watershed Commission and the Capital Area Regional Planning Commission 2017

Adopt, implement and enforce these recommendations.

b. Minimize the amount of impervious surfaces

At present, 62% of the land on the Isthmus proper is considered impervious per a city study, map attached. This is an amazing statistic and must be a significant source of stormwater runoff that directly enters the Yahara River in extreme rain events.

Dane County, in partnership with the City of Madison, other Counties, municipalities and townships in the Yahara River Watershed could offer incentives to residents and businesses to minimize the amount of impervious surfaces on their properties. This could be in the form of cost sharing materials (bricks for driveways instead of cement, for example) or one-time tax credits for each square foot of impervious surface reclaimed as pervious.

c. Increase water storage capacity by residents and businesses

Stormwater runoff from areas of dense population as well as agriculture contribute to the risk of flooding during extreme rain events. Dane County, in partnership with the City of Madison, other Counties, municipalities and townships in the Yahara River Watershed, could offer information and incentives to residents and businesses (including farming) to increase onsite water storage on their properties using rain gardens, cisterns, wetland preservation, restoration and creation or other methods. Everyone can do something.

Longer-term Steps to Sustained Flood Prevention

1. Take first steps to identify key partners for developing coordinated and unified long-term policies and regulations that reduce flood risk and increase resiliency to flooding

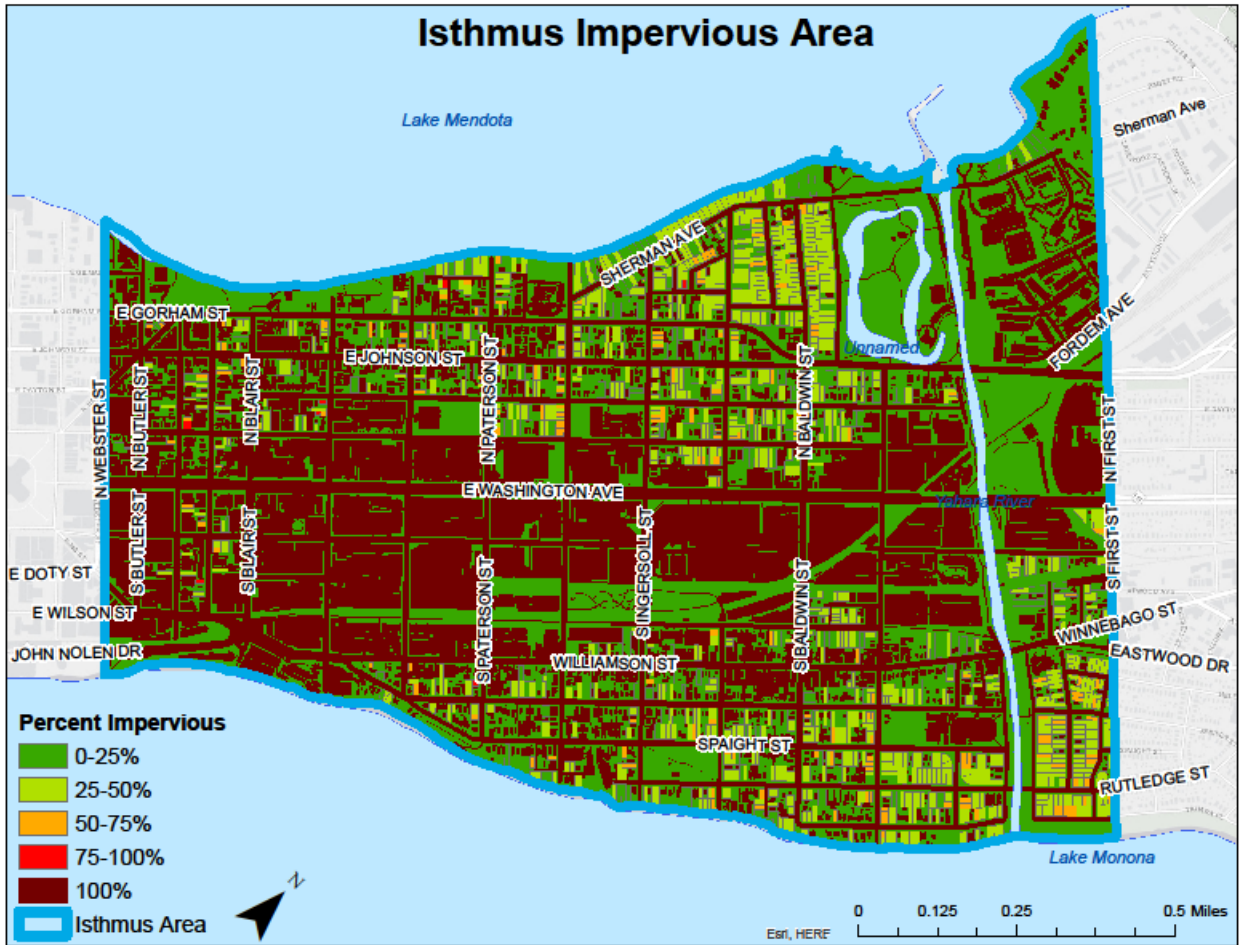
Efforts to develop long-term, integrated and sustained solutions for flood prevention success must include a diversity of partnerships, both for the cumulative knowledge they represent as well as shared financial considerations. The County can lead this effort by inviting others to the table- this may include administrators and staff from other Counties, cities, smaller municipalities, townships, State agencies, non-profit organizations, businesses, academic experts on all aspects (biology, ecology, sociology, etc.) as well as engineering. Strive for an integrated, multi-faceted approach.

2. Develop outreach materials and demonstration projects that inform on flood prevention actions

It may turn out that long-term strategies for flood prevention that have the greatest potential may not be the easiest to implement or be accepted by those affected. Developing helpful, unbiased, science-based information for affected groups and opportunities for face to face engagement will be critical for the success of long-term solutions that reduce the risks of flooding. We all can share the pain (as Dr Wu stated at one of the Task Force meetings).

I appreciate that Dane County opened this process to the public and that I was able to contribute my thoughts and ideas. Best wishes as you go Forward.

Isthmus Impervious Area



From: Patty Prime
To: [Flooding, Yahara](#)
Subject: Comments to Yahara Chain of Lakes - Lake Levels Task Force
Date: Sunday, March 03, 2019 7:39:55 PM

My name is Patty Prime


I am unable to attend the March 5 meeting. My comments are as follows:

1. Policy Timelines. Dane County should adopt a long-term watershed-wide approach to managing the Yahara Chain of Lakes and make chain-of-lakes-specific policies that are targeted for implementation and assessment within 1 year, 3 years, 5 years, 10 years, 20 years and 30 years.
2. Oversight. The Dane County Lakes and Watersheds Commission should collaborate with the Dane County Board's Environment, Agriculture and Natural Resources Committee to oversee and assess the effectiveness of County policies for short- and long-term flood risk reduction and improved resiliency throughout the Yahara Chain of Lakes watershed.
3. Dredging. With the cooperation of local governments, Dane County should dredge soon and as needed into the future the Yahara River from Lake Monona to the Stoughton Dam.

With the cooperation of the City of Madison, dredge soon and as needed into the future the Yahara River from Lake Mendota to Lake Monona.

All such dredging should be limited to restoring the natural depth of these channels.

4. Lake Levels. Dane County in consultation with the City of Madison and other municipalities in the Yahara Chain of Lakes should promptly petition the Wisconsin Department of Natural Resources to initiate the official process to review and revise its Lake Levels Orders for the Yahara Chain of Lakes with the intent of reducing lake levels incrementally over the next 30 years to achieve increased storage capacity, reduce flood risk and increase watershed resiliency to flooding. This reduction also will enhance habitats for fish, wildlife, terrestrial and aquatic plants within the Yahara Chain of Lakes.

Recognizing that such a review of Lake Level Orders will take time, until the DNR modifies its Lake Level orders for the Yahara Chain of Lakes, and in keeping with Dane County Board Resolution 227-2018 now in force, Dane County should suspend the target ranges for lake levels established by the Dane County Lake Level Management Guide for the Yahara Chain of Lakes and instead continue the Res-227-2018 directive that:

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

5. Isthmus Stormwater Diversion. Dane County in partnership with residents of Madison's Isthmus neighborhoods should request that the City of Madison take immediate steps in 2019 to reduce stormwater drain backups and to assess alternatives for redirecting stormwater outflows elsewhere to slow the entry of

stormwater into the Yahara Chain of Lakes.

6. Dane County & City of Madison Stormwater Regulation. Dane County should adopt, implement and enforce the policy recommendations of the 2017 Joint Stormwater Technical Advisory Committee.

Dane County in partnership with residents of Madison's Isthmus neighborhoods should request that the City of Madison adopt, implement and enforce immediately within its boundaries the same stormwater policy recommendations.

Dane County should act jointly with county municipalities to seek exemption from state stormwater control legislation (Act 243) that prohibits flood-prone areas such as the Yahara Lakes Watershed from adopting stricter stormwater regulations which would increase water infiltration and reduce downstream flooding and property damage.

7. Wetlands. Dane County should promote and include significant wetlands restoration and preservation throughout the Yahara Lakes Watershed in annual work-planning by the County and other state, local and non-profit partners.

8. Aquatic Plant Harvesting. Dane County should continue early, vigilant and ecologically-sound aquatic plant harvesting to ensure that water flows through the Yahara Chain of Lakes have optimal velocity throughout the ice-free season.

Patty Prime

From: Carl Ham
To: [Flooding, Yahara](#)
Subject: Flood Prevention Recommendations
Date: Sunday, March 03, 2019 7:50:08 PM

Lake Levels Task Force:

I am a Dane County resident who is concerned about potential flooding. The excessive rain event we had August 2018 gave us a glimpse of how costly a flood can be. More floods would greatly reduce property values in large parts of Dane County. Major changes are needed to prevent future flooding disasters.

The Wisconsin Department of Natural Resources (WDNR) document which mandates the current lake levels, enacted in January 1979, is now 40 years old. It was enacted prior to much of the climate change problems which are now affecting Dane County. This antiquated document needs to be replaced.

I support a multi-faceted approach to reduce the dangers of flooding in Madison and the rest of Dane County. First and foremost the lake levels set in the WDNR document are too high. I support ALL the recommendations submitted by the Isthmus Flood Prevention Coalition. Those include:

1. Policy Timelines - establishing targets for timelines out to 30 years
2. Oversight - of Dane Counties flood risk reduction efforts
3. Lake Level - reductions
4. Dredging - to restore natural depth of the Yahara River
5. Stormwater Diversion
6. County Wide Stormwater Regulation
7. Wetlands - restoration and preservation
8. Harvesting - plants from the Yahara River

Additionally, I support significantly reducing lake levels. Lake Mendota is about 5 feet higher than its historical level. The level should be lowered to approximate the historical level in order to reduce flooding danger and to improve the health of the lake.

Bridges that impede flow in the Yahara River should eventually be replaced with ones which do not impede flow.

Dane County should make every attempt to reduce potential flooding disasters. Failure to do so will result in more costly flooding and significant property devaluation.

Sincerely,

Carl Ham, State of Wisconsin Professional Geologist #1176-13


From: Tom Felhofer
To: [Flooding, Yahara](#)
Subject: Yahara Flooding - Public Comment
Date: Sunday, March 03, 2019 10:15:50 PM

Tom Felhofer


1. On page 23, the histogram for Lake Mendota (flood storage) shows fewer days at 30 inches than what occurred for 2018. A meaningful projection would be: start Lake Mendota's lake level 12 inches below where it began 2018, replicate the 2018 monthly rainfall, replicate the Mendota monthly lake levels for 2018 and then project how many days of flooding occurred on the other lakes.
2. The number of days in the upper right hand corner of the histograms is meaningless. Flooding is what matters. Days of flooding matter. I suggest re-calibrating the histograms to 12 inch increments and count days 24 inches (or the committee's decision on what's flooding) and above as significant days.
3. I'm glad they were thinking out of the box, but some of the scenarios should have just received an honorable mention. Remove all the dams from the Yahara Lakes, really?
4. Certainly the best solution will be a multi-faceted approach. Maintaining a lower lake level for Mendota prior to March should be part of the solution.

Thank you for reading my comments.

Your comments below must include a name and address in order to be reviewed by the task force. Comments may be posted online and available as open records.

Name:

Address:

Comments:

From: Bob Brown
To: [Flooding, Yahara](#)
Subject: Lake Level
Date: Monday, March 04, 2019 1:15:40 PM

For Your Consideration

Lake Property Owner on the North West shore of Lake Mendota near Gov Nelson State Park.

I do not feel Lowering the Lake level of Mendota 1' is a practical option.

It would cause a slew of problems for boaters. The channel to the Marinas would be so low that many boats would not be able to navigate it safely if at all. The boat ramps on lake Mendota would also suffer problems. Property owners would have to extend their docks and in many cases track systems for boat houses. Add to that the some areas of the lake would no longer be deep enough to navigate.

Lowering the level 6" would be a more practical option for lake users.

Also the real problem is Flow through the lake chains. Dredging the channels and rivers/streams connecting the lakes to handle a increased flow when necessary is the optional solution to the flooding issues.

I will also add that the rains experienced in August of 2018 were exceptional and not normal. We were already at a high lake level and then got a extreme Weather Event. The outflow of the Lakes was the issue.

Thank You

Sincerely

Robert Brown 

From: Bob Brown
To: [Flooding, Yahara](#)
Subject: Full address update - Lake Levels
Date: Monday, March 04, 2019 1:22:40 PM

For Your Consideration

Lake Property Owner on the North West shore of Lake Mendota near Gov Nelson State Park.

I do not feel Lowering the Lake level of Mendota 1' is a practical option.

It would cause a slew of problems for boaters. The channel to the Marinas would be so low that many boats would not be able to navigate it safely if at all. The boat ramps on lake Mendota would also suffer problems. Property owners would have to extend their docks and in many cases track systems for boat houses. Add to that the some areas of the lake would no longer be deep enough to navigate.

Lowering the level 6" would be a more practical option for lake users.

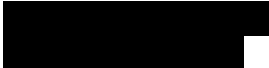
Also the real problem is Flow through the lake chains. Dredging the channels and rivers/streams connecting the lakes to handle a increased flow when necessary is the optional solution to the flooding issues.

I will also add that the rains experienced in August of 2018 were exceptional and not normal. We were already at a high lake level and then got a extreme Weather Event. The outflow of the Lakes was the issue.

Thank You

Sincerely

Robert Brown



From: Jamie Campbell
To: [Flooding, Yahara](#)
Subject: Lower Mendota 1 foot
Date: Monday, March 04, 2019 1:29:51 PM

Based on the reports that I've read, I'm in favor of lowering the level of Lake Mendota by one foot gradually as conditions allow. Doing this in conjunction with improved downstream flow rates (from weed harvesting and dredging) will allow Lake Mendota to be used as a buffer to temporarily store water during large rain events. This stored water can then be released gradually to reduce flooding that might otherwise occur.

Thank you

Jamie Campbell

[Redacted]

[Redacted]

From: [Erickson, Chuck](#)
To: [Flooding, Yahara](#)
Subject: Fw: Monona Bay Residents Flood Mitigation Letter
Date: Tuesday, March 05, 2019 6:26:11 AM
Attachments: Flood Mitigation Sign on Letter.pdf

Hello,

Please see the attached letter submitted by my neighborhood, residents living on Lake Monona Bay. It was sent to me by:

Mary Berryman Agard

[REDACTED]

Thanks,
Chuck

From: Mary Berryman Agard [REDACTED]
Sent: Monday, March 4, 2019 10:44 PM
To: Erickson, Chuck
Subject: Monona Bay Residents Flood Mitigation Letter

To: Members of the Lakes Levels Task Force, the Lakes and Watershed Commission, and the Environment, Agriculture, and Natural Resources Committee

From: Residents Living on Lake Monona Bay

Re: Yahara Chain of Lakes Flood Prevention

Date: March 3, 2019

We appreciate the efforts of the Technical Work Group; the [2018 Yahara Chain of Lakes Flooding Technical Work Group Report](#) provides useful information in guiding our long-term thinking.

This letter outlines the position of the undersigned residents of Lake Monona Bay with regard to flood prevention and mitigation. Last summer, many of us experienced flooding in our homes and yards; lived with mosquito infested, stinking standing water along our streets and sidewalks; were blocked by impassable streets; could not park our cars in our driveways or near our homes; and had diminished access to recreational uses of the bay. We take decisions about flood prevention and mitigation very seriously because for us, it's personal.



Because we understand that lowering Lake Mendota's water level alone would increase the water level in Lake Monona Bay, we urge continued efforts to manage the full Yahara chain of lakes at the lowest feasible levels.

We know that we must create ways for water to be moved through the Yahara chain of lakes more swiftly so we are actually able to lower lake levels. The Technical Work Group's report indicates that dredging the Yahara River system would create the capacity to reduce lake levels approximately one foot. That would be a good, but not independently sufficient, start.

We are grateful that the County has committed to expanding its weed harvesting program. We applaud the County's interest in testing the effectiveness of using conveyance barges to make weed harvesting even more efficient.

As residents of Lake Monona Bay, our immediate priorities are to

1. Dramatically increase the flow rate in the Yahara River system by both dredging and increased weed harvesting;
2. Continuously manage the Yahara chain of lakes at the lowest achievable levels; and
3. Reinforce the Tenney Park dam, insuring its competence to withstand major rain events and raising its retention height, thereby increasing Lake Mendota's capacity as an emergency reservoir for extraordinary rain events.

This third priority is beneficial because it can help equalize the levels of Lakes Mendota and Monona, preventing the disequivalent, greater flooding risk currently faced by Lake Monona shoreline neighborhoods.

Our long-term priority is investigation of the pipeline and pumping solution. We understand this solution, because of easements, permits, costs, and technical complexity, will take years to assess and implement. Still, it is a critical component

because as valuable as dredging, weed harvesting, and dam improvements are, when taken together they still do not fully protect against flooding in the kind of situation we experienced in 2018.

Lastly, we urge the city and county to continue aggressive exploration and implementation of on-land mitigation efforts in all related policy areas including land use planning, development regulations, agricultural management, park land uses and management, sewer and runoff management, incentive programs driving increased private investment in best water resource management, and public education.

Thank you for considering our shared opinion.

Sincerely,

Mary Berryman Agard
Steven Agard
[Redacted]

Mark W. Blank
Rodney Schreiner
[Redacted]

Rita Bloomfield
[Redacted]

Louis Cassini
Shirley Cassini
[Redacted]

Robin Douthitt
Brian Gould
[Redacted]

Nina J. Emerson
Brendan J. O'Donnell
[Redacted]

Chuck Erickson
[Redacted]

Jean Taylor Erickson
[Redacted]

Margaret Fagerholm
[Redacted]

Sharon Fallon
[Redacted]

Lynn Felhofer
[Redacted]

Steve Gilbertson
[Redacted]

Nicole Holbrook
Blake Holbrook
[Redacted]

Ted Keyes
[Redacted]

Tyler Leeper
[Redacted]

Monica Macaulay
Joe Salmons
[Redacted]

Ed Malin
[Redacted]

Jared Pelski
Jodi Pelski
[Redacted]

Chad Ruppel
Kelly Ruppel
[Redacted]

Peter Taglia
[Redacted]

Tom Wilson
Colleen Borchard
[Redacted]

Theodora Zehner
[Redacted]

From: Tom Wilson
To: [Flooding, Yahara](#)
Cc: Tom Wilson; Dean Grosskopf; Kevin and Leslie Even - Waunakee
Eileen Kelly; Jessica Frey; Ripp, David forward; Kiefer, Timothy; Reimer, John; Hicklin, Laura; Pam Porter;
topfwells
Subject: Yahara Flooding - Public Comment
Date: Tuesday, March 05, 2019 8:06:00 AM

Your comments below must include a name and address in order to be reviewed by the task force. Comments may be posted online and available as open records.

Name: Thomas Wilson for the Town of Westport

Address: Town of Westport Hall, 5387 Mary Lake Road, Waunakee, WI 53597

Comments: See below....

Dear Task Force Members,

Thank you to the Task Force for their work and communication on this important item, and also to the members of the Technical Committee who looked at scenarios and offered such wonderful insight and potential recommendations. I appreciate the opportunity to comment on items the Task Force could recommend to the County committees and Board, and do so on behalf of the Town of Westport Board of Supervisors. I apologize that I am not able to make the meeting Tuesday night due to a family commitment, and that I have been unable to attend your Monday meetings due to our Town Board and Town Plan Commission schedules. I truly appreciate your having the audio and video of these meetings posted. I suspect there will be some Westport presence at your meeting tonight, however.

Westport is located on the north shore of Lake Mendota and includes Dorn Creek, Six Mile Creek, the Yahara River, and Lake Cherokee/Cherokee Marsh. These waterways are vital to the Town. Our main street is essentially the Yahara River from just above the STH 113 Bridge to the outlet past Mazanet Marina. In that stretch are four marinas, restaurants with important water access, boat sale and repair facilities, condominium and single family homes, and the only gas sales on Lake Mendota. Additionally along the north shore are many residences with lake access, parks with lake access (including Governor Nelson State Park), and landings and water trails. In the area are important fisheries, smaller tributaries where fish spawn, and areas that provide other wonderful recreational opportunities for all State residents. The northern part of the watershed is of the utmost importance to Town residents, taxpayers, and Town government. Westport instituted one of the strictest stormwater maintenance standards, if not the strictest, in the State many years ago, requiring new commercial construction and new residential developments to maintain a 0 runoff in 100 year storm standard. We have worked with the City of Middleton, the Village of Waunakee, and Dane County to make sure that standard is met. Our Town officials have served on, notably, YLAG I and II, the Dane County Lakes and Watershed Commission, the Yahara WINS Executive Board, the Madison Metropolitan Sewerage District Commission, the Cherokee-Yahara River

Estuary Steering Committee, and participated in the many meetings with Dane County Emergency Management over the years during our flooding disasters and preparing emergency preparedness plans. It is with this background that I make these comments for the Westport Board.

We feel the lake levels that have been set over the years have served us well, but that with increased storm events, work must be done to maintain them as close as possible to the current orders. Dane County staff for the recent many years has really done a wonderful and almost magical job at this. There are so many interests involved, yet the shuffling of water and maintenance has been as well done as anyone could expect, frankly. The studies you have reviewed have shown that the level of Lake Mendota is necessary for keeping water out of the lower more flashy lakes, and for creating the push needed (“head” is the term my old physics teacher Town Board Chair John Van Dinter used to say) to enable more water to be moved downstream faster. We feel that with many issues involved continuing to discuss changing those levels, the time it would take to do so, the many interests as opposed to just flooding that are involved, and the effect such a maneuver would have on so many of our residents, visitors and businesses, we would suggest the Task Force move on from that topic, please.

I also note there has been some ideas raised that lowering Mendota would also be an advantage to the Cherokee Marsh. As with considering only flooding, there are many issues involved in the level of Mendota besides just Cherokee Marsh, and steps to preserve Cherokee Marsh has been reviewed many times. In fact there is a County committee currently working on alternatives for grant applications to take steps to aid in preserving Cherokee Marsh. Many on that committee are also on your Technical Advisory group. Lowering Mendota is not a panacea for preserving the Marsh, but keeping steady levels and preventing flooding on the upper Yahara certainly would assist greatly in any effort.

The studies you have been presented seem to indicate that two actions would be best undertaken or at least studied by the County. First, what can be done all across the Rock River Watershed to decrease the inflow from higher level storms, and second, what can be done to best move water out of the watershed faster to allow for necessary flow and consistent lake levels. We ask that the Task Force take steps to move these ideas forward.

1. ***Recommend steps to increase stormwater detention, retention and infiltration.***

With increasing storm severity, and with increased impervious surface in the watershed, based on the recommendations of the Technical Committee, it seems that steps can be taken to decrease flow into the Yahara system without damaging the lakes from not enough water, even in droughts. There may be some limitations in State law on this, but perhaps corporation counsel could be authorized to check for ways to push these limits, or perhaps steps could be taken to change State law due to the County’s different situation than other parts of the State. There are current

initiatives as well for land purchases or stormwater structures creations with funds available from Yahara WINS, Dane County, and potentially other local governments and private groups looking to keep our waterways in better shape. Those options should be pursued first. Retrofitting current stormwater structures or systems should also become a priority and it seems that there could be funds available for that as well. Westport will do what it can to assist in pursuing these options.

2. Recommend steps to increase flow out of the system. Additionally it seems that the Technical Committee recommends taking steps such as vigorous vegetation harvesting, widening outflow constrictions, and dredging to increase flows out of the system. We would ask that the Task Force recommend those practices as well. Although there seems to be larger issues with creating a pumping system, at least doing some engineering on that option may also make some sense. In all of these we would want to give deference to the local governments in the southern part of the Yahara system as to locations and concerns raised, especially environmental concerns with the Waubesa Wetlands and the native fishing weir. But it seems as if this would be a great opportunity to increase flow which would make it easier to maintain more consistent levels on our lakes within the current orders.

Another item to pursue that may help some communities is to aid in the purchase of a particular type of flood prevention technique Westport has used in high water situations: Water Inflatable Property Protection devices. These are essentially large elongated water bags of tough material that can be filled with the flood waters and provide a fairly water tight barrier to keep flood waters back. They come in different heights and lengths. Westport purchased several of these during past floods and have used them effectively along Reynolds Avenue and for one of our sanitary sewer lift stations. There are only a couple of companies that make these, but exploring their use in conjunction with pumps could save labor costs and time, and may prove to be another effective way to keep flood waters at bay as opposed to sand bags. When we are done with these we simply empty them and roll them up with a skid steer. There is no waste to deal with like with sand and bags. I just wanted to mention this as an option for some communities that are seeing constant flooding. I would be happy to have our engineer or other staff give further comment on this should the Task Force want some information.

Summarizing, we feel that the current lake levels work appropriately and would not want the Task Force to recommend an option to look at lowering Lake Mendota. This will not assist in flood prevention and will probably have the opposite effect according to the Technical Advisory Group. We highly recommend that the Task Force forward options for decreasing the inflow and increasing the outflow from the system. Steps to increase stormwater detention, retention and infiltration throughout the system, and steps such as dredging or aggressive weed harvesting in the lower part of the waterway, in combination, would allow the County to maintain consistent lake levels and prevent the increased chances of flooding

we are seeing. Please forward these types of recommendations.

Thank you for your consideration.

Very Truly Yours,

Tom

Thomas G. Wilson
Attorney/Administrator/Clerk-Treasurer
Town of Westport (Dane County, WI)
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From: Tom Wilson
To: [Flooding, Yahara](#)
Subject: Yahara Flooding - Public Comment
Date: Tuesday, March 05, 2019 8:10:19 AM

Your comments below must include a name and address in order to be reviewed by the task force. Comments may be posted online and available as open records.

Name: Tom Wilson

Address: 2509 Dublin Way, Waunakee, WI 53597

Comments: Please follow the science when it comes to your recommendations to the next levels at the County. The experts on the Technical Advisory Group and their documents show that the level of Lake Mendota works as currently set by orders of the DNR, especially since there are several other interests besides flooding which come into play and should be considered. Working to get water out of the system through dredging and aggressive weed harvesting should be pursued as soon as possible. And keeping water out of the system by programs that increase stormwater detention, retention and infiltration are needed quickly as well. So a combination recommendation of working to keep stormwater out of the system and working to get water out of the system faster will alleviate flooding issues and allow for more consistency in lake levels, which is a great outcome.

Thank you for this opportunity and your work, and to the Technical Advisory Group as well.

Tom Wilson

From: [Erickson, Chuck](#)
To: [Flooding, Yahara](#)
Subject: Fw: Monona Bay Residents Flood Mitigation Letter - CORRECTED ADDRESS
Date: Tuesday, March 05, 2019 8:32:22 AM
Attachments: Flood Mitigation Sign on Letter.pdf

Hello,

Please see the attached revised / corrected letter, an address of one of the neighbors who signed this letter was incorrect and has now been updated. Everything else is the same.

Thanks,

Chuck

From: Mary Berryman Agard [REDACTED]
Sent: Tuesday, March 5, 2019 8:23 AM
To: Erickson, Chuck
Subject: Re: Monona Bay Residents Flood Mitigation Letter

Here is the replacement with your address corrected.

> On Mar 4, 2019, at 11:08 PM, Erickson, Chuck <Erickson.chuck@countyofdane.com> wrote:

>

>>

To: Members of the Lakes Levels Task Force, the Lakes and Watershed Commission, and the Environment, Agriculture, and Natural Resources Committee

From: Residents Living on Lake Monona Bay

Re: Yahara Chain of Lakes Flood Prevention

Date: March 3, 2019

We appreciate the efforts of the Technical Work Group; the [2018 Yahara Chain of Lakes Flooding Technical Work Group Report](#) provides useful information in guiding our long-term thinking.

This letter outlines the position of the undersigned residents of Lake Monona Bay with regard to flood prevention and mitigation. Last summer, many of us experienced flooding in our homes and yards; lived with mosquito infested, stinking standing water along our streets and sidewalks; were blocked by impassable streets; could not park our cars in our driveways or near our homes; and had diminished access to recreational uses of the bay. We take decisions about flood prevention and mitigation very seriously because for us, it's personal.



Because we understand that lowering Lake Mendota's water level alone would increase the water level in Lake Monona Bay, we urge continued efforts to manage the full Yahara chain of lakes at the lowest feasible levels.

We know that we must create ways for water to be moved through the Yahara chain of lakes more swiftly so we are actually able to lower lake levels. The Technical Work Group's report indicates that dredging the Yahara River system would create the capacity to reduce lake levels approximately one foot. That would be a good, but not independently sufficient, start.

We are grateful that the County has committed to expanding its weed harvesting program. We applaud the County's interest in testing the effectiveness of using conveyance barges to make weed harvesting even more efficient.

As residents of Lake Monona Bay, our immediate priorities are to

1. Dramatically increase the flow rate in the Yahara River system by both dredging and increased weed harvesting;
2. Continuously manage the Yahara chain of lakes at the lowest achievable levels; and
3. Reinforce the Tenney Park dam, insuring its competence to withstand major rain events and raising its retention height, thereby increasing Lake Mendota's capacity as an emergency reservoir for extraordinary rain events.

This third priority is beneficial because it can help equalize the levels of Lakes Mendota and Monona, preventing the disequivalent, greater flooding risk currently faced by Lake Monona shoreline neighborhoods.

Our long-term priority is investigation of the pipeline and pumping solution. We understand this solution, because of easements, permits, costs, and technical complexity, will take years to assess and implement. Still, it is a critical component

because as valuable as dredging, weed harvesting, and dam improvements are, when taken together they still do not fully protect against flooding in the kind of situation we experienced in 2018.

Lastly, we urge the city and county to continue aggressive exploration and implementation of on-land mitigation efforts in all related policy areas including land use planning, development regulations, agricultural management, park land uses and management, sewer and runoff management, incentive programs driving increased private investment in best water resource management, and public education.

Thank you for considering our shared opinion.

Sincerely,

Mary Berryman Agard
Steven Agard

Mark W. Blank
Rodney Schreiner

Rita Bloomfield

Louis Cassini
Shirley Cassini

Robin Douthitt
Brian Gould

Nina J. Emerson
Brendan J. O'Donnell

Chuck Erickson

Jean Taylor Erickson

Margaret Fagerholm

Sharon Fallon

Lynn Felhofer

Steve Gilbertson

Nicole Holbrook
Blake Holbrook

Ted Keyes

Tyler Leeper

Monica Macaulay
Joe Salmons

Ed Malin

Jared Pelski
Jodi Pelski

Chad Ruppel
Kelly Ruppel

Peter Taglia

Tom Wilson
Colleen Borchard

Theodora Zehner

From: Si Widstrand
To: [Flooding, Yahara](#)
Subject: Public Comment for March 5 Meeting
Date: Tuesday, March 05, 2019 12:34:40 PM

First, I'd like to thank the task force for their work, and especially commend all the staff from many agencies for their work during and since the flood.

I've been following lake levels and flooding since I was the Madison Parks Supervisor for Cherokee Marsh in the 1970s. I followed all the work of YLAG-2 and this Task Force. I now live near West Towne in the Pheasant Branch watershed. These are my observations and recommendations.

I'm pleased to see the focus on flow to maximize drainage rather than only focusing on lake levels. Better flow management was one of the top recommendations from YLAG-2. And it was a big shortcoming of the 1979 orders that they did not address flow management to best achieve the lake level orders. I do think that County staff did an excellent job of managing in a crisis last year, but we need more ways to avoid such emergencies.

I also note that we were lucky that the August 2018 storm wasn't 15 miles further east, and that the following storms missed us. We need to consider the possibility of larger storms in our watershed.

NEXT STEPS FOR 2019

The pipe solution looks great, and you should continue to investigate it. But cost and permitting look like huge challenges, so we will need other short term solutions.

Two other solutions show promise for benefitting all the lakes with lower peaks and fewer feet-days of flooding: Dredging, and Lower Mendota 1' for Storage. I suggest that the following steps be taken in 2019:

- 1- After Mendota rises naturally to the summer minimum, hold it there as the target for for 2019. Consider establishing lower levels in future years.
- 2- The lower lakes could start at their minimums, but should be managed in the midpoint to maximum range when necessary to increase flow out of Mendota and to facilitate weed-cutting. I suggested a more detailed flow management system in a letter to the comments website in the 2/18/19 letters.
- 3- I suggest that my management proposal or some other "best-adaptation" approach be modeled for 2019. It would use the 2018 rainfall, but with the dredging

and weed-cutting accomplished June-August, 2018 assumed to be present all year for 2019.

4- Request DNR emergency permits for spot-dredging and weed-cutting to eliminate choke points.

5- Work on the engineering and permitting necessary to prioritize and contract for dredging as soon as possible. Dredging is a good addition to any of the other scenarios.

6- Continue pursuing all of the detention, infiltration and other upstream solutions that have been discussed.

7- Flood-proofing or buyouts of flood-prone areas have not been discussed, but they should be. It seems clear from the models that there will still be some flooding. Treatment of flood-prone areas will allow for higher safe levels and better flows out of Lake Mendota.

WHAT ABOUT CHANGING LAKE LEVEL ORDERS?

The 1979 orders were well-intended at the time, but have proven inadequate in several respects. They were basically done to legalize the way the lakes were already being managed, with goals to reduce fluctuations and to give Monona more protection by holding more water in Mendota. From what I can tell, Mendota was effectively raised 3" and Monona lowered 3" from the 1931 orders. The difference between Mendota and Monona was raised from about 4.5 feet to 4.9 feet in times of low and normal flow (which were not defined). There was no flow management recommendation that addressed how to deal with water over the maximums.

The unnatural and unattainable 6" range should have been labelled the ideal range. Min and Max were misnomers if the intent was to allow over maximum every time there was heavy rain.

Ideal levels should be re-evaluated for all lakes. A flow management plan should be presented that more accurately explains the flows and lake levels resulting from different rainfall scenarios.

But a DNR lake level review would be a very cumbersome process, so I would recommend against it at this time.

I suggest that the County use all of the flexibility and vagaries of the current orders to develop better operational plans. The Lake Level Management Guide has not been updated since 2010. Keep gathering information and modeling potential

solutions. This information may be needed for a formal review of lake levels at some future date.

Thank you for considering my comments.

Simon Widstrand



From: Jan Axelson
To: [Flooding, Yahara](#)
Subject: Public comment
Date: Tuesday, March 05, 2019 1:16:11 PM

These comments are on behalf of the Friends of Cherokee Marsh.

We thank the technical work group and task force for their ongoing efforts to explore ways to reduce flooding in the Yahara watershed, and we appreciate the opportunity to comment.

Use the model to inform lake level management decisions

DNR lake level targets were last set for the Yahara Lakes in 1979. Since that time, our ability to model lake-level responses to rainfall has greatly improved, development in the watershed has increased, and we are seeing more major storm events. Even if we assume that the targets set in 1979 were appropriate for that time, do they remain the best choice when rainfall and runoff have increased?

In recent years, the lakes have often exceeded their maximum targets by a foot or more and have fallen below their minimums only during extreme drought and even then, by a few inches at most.

We should be using modeling to run scenarios for different lake-management strategies under a variety of rainfall patterns from the last 20 years, including the flood years of 2000, 2007, 2008, and 2018 and the drought year of 2012. In addition to modeling different summer management strategies, the analysis should include the effect of delaying raising the lakes to their summer levels to leave capacity for spring rainfall.

The modeling results can inform a decision on what target levels and management strategies are likely to minimize flooding.

If the results show a benefit to changing the target levels, the modeling, along with the recent history of high lake levels, will provide a persuasive argument to the DNR in favor of a change.

Even if we keep the current target ranges, modeling can show if management changes, such as maintaining the lakes at their minimums or lower when possible, would do a better job of keeping the lakes closer to their target ranges throughout the season.

Manage at the minimums until we have data to support a different strategy

The County Board has directed staff to operate the lakes at their summer minimum levels until after the task force has made its recommendations. Doing so also complies with an objective of the County's Natural Hazard Mitigation Plan to maintain the levels of the Yahara lakes at the lower limit of the DNR's set operating range. In addition, the 2012 Peer Review of the Yahara Lake Level Management Guide

recommends evaluating "the benefits of a modified policy, such as maintaining the normal level of Lake Mendota below the middle of the mandated summer range to reduce flood risk." Yet the technical work group hasn't provided scenarios to show the effects of these management strategies.

Until the task force and County Board have had an opportunity to review additional lake-level scenarios and approve a new policy, we strongly urge continuing to manage the lakes at their summer minimum levels. With County Board approval, managing at the minimums does not violate the County's Lake Level Management Guide, but rather amends it.

Need to consider wetland losses at Cherokee Marsh

Cherokee Marsh, at over 3500 acres, is Dane County's largest wetland. Located just upstream from Lake Mendota, the marsh borders the upper Yahara River. Most of the shoreline upstream from Lake Mendota at Cherokee Marsh is public land purchased with public funds in recognition of the wetlands' value.

The water level on the Yahara River at Cherokee Marsh closely follows the level of Lake Mendota. During times of high water, wave action causes pieces of the shoreline wetlands to break off and float downstream, eventually falling apart to be lost forever. We have observed these losses occurring throughout high-water periods, not just immediately following sharp rises.

These wetland losses are a flooding concern like any other and should be factored into the decision about how to manage lake levels.

High water is damaging fish habitat

We agree with the Feb 7 comments by David W. Marshall, retired aquatic ecologist with the DNR Water Resources Fisheries and Habitat Protection Program. In particular, we agree that the loss of fish habitat due to high water has been more significant than the limited benefits that high water may provide for a few targeted species.

Flow reroute and pumping will harm wetlands and Badfish Creek

Due to the damage that will result to wetlands and other natural areas, we don't support flow reroute and pumping options through the Waubesa Wetlands State Natural Area, Dunn Heritage Park, and other nearby parcels with conservation easements. We are also concerned about the consequences of pumping and discharging into Badfish Creek.

Support for stormwater runoff recommendations

We fully support the recommendations of the Stormwater Technical Advisory Committee to decrease stormwater runoff entering the Yahara lakes.

Jan Axelson
President, Friends of Cherokee Marsh



From: Grant Foster
To: [Flooding, Yahara](#)
Subject: Improved flow & better infiltration
Date: Tuesday, March 05, 2019 3:38:57 PM

Good afternoon/evening Lake Level Task Force members:

I really appreciate the work of this group and for the work of the technical advisory group. I thought the report was very well organized, informative, and I generally support the recommendations. I do still have some questions about the impact to vegetation and would encourage you to look at that in more detail before final decisions are made.

I'd also ask that you recommend further study/remediation around the topic of stormwater management in the watershed, particularly in the developed urban areas of the county. While the focus of the technical report was primarily on managing expected inputs (big rain events) by increasing flow to avoid catastrophe, I think there's important work for us to do as a community around improving stormwater infiltration and retention to slow and reduce some of the input into the system as well. In addition to softening the impact of big rain events into the chain of lakes, it would also help to improve the actual quality of the water as well.

The City of Madison Stormwater Utility is investing significant dollars into studying and mitigating some of the most flash-flood prone areas of the city's west side this year, but I think we need to be looking at stormwater management as a county-wide issue. The closer the county works with and supports municipalities on these efforts, the better it will be for everyone in the county.

Thanks again for your work on this task force and please know you have my support on this important issue.

Grant Foster



From: Eric Katte
To: [Ritt, Michele](#)
Cc: [Flooding, Yahara](#); keifer.timothy@countyofdane.com
Subject: Katte Comments To Lake Levels Task Force Tonight
Date: Tuesday, March 05, 2019 8:56:32 PM
Attachments: 2019-03-05 Katte Comments to the Task Force.pdf

Chairperson Ritt,

Please find attached a transcript of the comments I made to the Lake Levels Task Force tonight. I would like to submit them for public record and attach them to tonight's minutes if possible.

I reside at [REDACTED]
(Wasn't sure if you'd need that info)

Thank you,

--

Eric Katte
[REDACTED]

I want to thank the Task Force and the members of the Technical Work Group for the opportunity to speak today. I live in Waunakee, District 25. I don't own lakefront property, but have been an avid boater and fisherman on the Yahara Chain for many years.

The rain, flooding, and subsequent damage to life and property in 2018 is something I hope we never have to witness again. I feel that the Work Group's report offers valuable insight into actions that will offer great benefit and it also illustrates actions that offer very little benefit.

It should be clear to everyone in this room by now that changing the DNR lake level orders in order to manage Mendota lower is of no real benefit to flood mitigation. Clearly dredging the Yahara below Monona and further down the system is a very effective option. Pumping is a very effective option as well, although it will be slower to implement.

We know that increased runoff is certainly a major contributor to the increased volume of water the chain of lakes has to deal with. We certainly need to work at increasing infiltration, no question. Increased infiltration practices are not going to be a short term fix. We know that with increased runoff comes an increase in sedimentation of the river. Sedimentation impedes the river's ability to expel water from the system. Dredging is the only way to get rid of the sedimentation that has built up over decades.

The Yahara Chain of Lakes' levels hadn't even peaked in August and already I was hearing cries of how Lake Mendota needs to be managed lower. "It's those evil lakefront property owners and big power boater's fault!", was a common theme. "Maybe [more study] is needed to convince really dense people to lower the lake level a foot", opined Mayor Soglin. Even drafts of Res. 227 included the preconceived notion that the outcome of this process would likely include petitioning the DNR to lower Mendota's target range. That notion was removed before passage by the County Board.

At face value, to a layperson, I can see how those reactions make perfect sense. At this point in the process and with the presentation of the Technical Work Group's report, every member of the Task Force should have a better understanding of this lake system and what it takes to prevent future flood events. You are now better educated on this subject than the average citizen.

No lakefront property owner on Lake Mendota wants to see levels anywhere near what they saw at the end of August. In fact, I know of many who were concerned when the levels were a foot above max all summer long, even before the August rains. On the

subject of boaters, little known fact, the two largest boats on Lake Mendota actually draw less water than nearly all other boats that operate on the lake.

Why wasn't Lake Mendota lower all summer long? Mr. Reimer has made it clear that Mendota was high because he was holding water back to give the lower lakes relief. Those lower lakes weren't able to discharge their water fast enough after heavy rains earlier in the season. Had they been able to drain faster, Lake Mendota would also have been lowered quicker. Months were spent holding water back in Mendota as they tried to get the water out of the lower lakes. We are seeing incredible evidence of how slow this system is to drain. It has been over 6 months since the heavy rains on August 20th and all 4 lakes are only now within their summer ranges. Mendota is at summer min. Monona and Waubesa are just under summer max, and Kegonsa is in the middle of it's summer range. We have a lot of snow sitting out there waiting to melt. I'm guessing all lakes will be over summer max by the end of March or early April.

As Resolution 227 was in the process of passage, I heard a lot of comments made by board members and citizens that we need a science based analysis of this situation as well as science based solutions. It's my opinion that some board members who were certain that the science would prove the need to manage Mendota lower are now not willing to accept the science that illustrates lowering Mendota is of little significant benefit.

There are members on this Task Force that are bucking the results of the Technical Report calling some scenarios "outliers". Those scenarios provide valuable information on what is and what is not effective in achieving lower levels throughout the Yahara system of lakes. To write them off as "outliers" is to ignore the valuable information within, or perhaps it illustrates an inability to fully understand the situation at hand. I'll offer one more explanation, perhaps continued pressure to lower Mendota's level is only pursued to pander to one's voter base. A voter base that has been crying for lower levels on Mendota for a long time without taking the time to understand how very ineffective that is in achieving a goal we all have.

I ask that the larger body of this task force not cave to the emotion driven calls of some members to petition the DNR to lower Mendota's summer min. There is no basis to support such action and it is a waste of time and resources. I'd like to remind the Task Force that recommendations of this group do not need consensus, only a majority for approval.

It is my hope that recommendations are approved for dredging as soon as possible. Thank you.

From: Joy Zedler
To: [Flooding, Yahara](#)
Cc: [PAMELA A PORTER](#)
Subject: copies of testimonies
Date: Wednesday, March 06, 2019 8:10:17 AM
Attachments: TaskForceTalk2.18.2019.pdf
TaksForceTalk+Bathtubs3.5.19.pdf

Please note that I added a bathtub diagram to the 3/5 file to link a large pipe to total-lake mixing.

If I can help with more of the environmental science, please let me know,

Joy Zedler

Hi, I'm Joy Zedler; my PhD is from UW where I returned in 1998 as the first Aldo Leopold Professor. I live in the Town of Dunn where I offer science-based advice on wetlands.

Here, my advice is to **reject scenario 6...**

For 3 reasons:

- First: Scenario 6 did not **consider any environmental issues**—says my colleague Ken Potter. The recommendation to pipe floodwater out of Lake Waubesa is **not** a mandate. It's an engineering analysis of water levels **alone**--without regard for biodiversity and wetland services that benefit us all.
- Second: Environmental impacts would be **too damaging** for this **Wetland of Distinction**--newly designated by a society of >3,000 wetland scientists. In my eBook on Waubesa Wetlands, I describe the **vulnerable resources in detail** -- 11 rare wetland types, 27 endangered & threatened species, 73 nesting birds, a major northern pike nursery, carbon-stored as peat, and more.

A pipe intake anchored in the lake bottom would churn up peat and nutrients and fuel algal blooms. Sucking floodwater in the lake's Toe would pollute the pure groundwaters of the fish nursery. Screens could save large fish but larvae would die in an 8,000-foot pipe.

Upslope, the MMSD pipeline already created a weed-infested berm through a sedge meadow, obstructed water flows, and formed a row of cottonwood trees--now poised to blow over and break the aqueduct. Imagine the pipeline needed to transport 7 times that flow*. The construction path would be a destruction path. We'd lose pure water, fish, and critical habitats.

*Aqueduct = 60 cfs;
scenario 6 = 400 cfs

Unacceptable impacts call for **rejecting scenario 6,**

- Third reason: There are far **better alternatives**. See Chapter 7.

Flooding originates in watersheds; so let's address the upstream **sources** using **watershed approaches:**

Nick Miller can find restorable wetlands that can trap floodwaters upstream. Cities can **retrofit hardscaping** with permeable materials, green swales to infiltrate runoff, green roofs, rain barrels, and rain gardens **and** tanks to store runoff for use in irrigation,

These alternatives reduce flooding at **sources** and avoid permanent harm to a Wetland of Distinction..... And they are **feasible....**

China is converting its **most flood-prone urban areas** into "**sponge cities**" using holistic, sustainable, watershed approaches. **So can Dane County.**

I recommend **rejecting scenario 6 now**, so we can direct our efforts toward watershed solutions.

I am here to advise you to **reject Scenario 6**. On Feb. 18, Lake Waubesa was depicted as a giant **bathtub** that could be kept from overflowing by **pumping and dumping** floodwaters. Of course, it's not that simple when science is used to identify the environmental consequences of churning up water in a very **shallow** bathtub.

About half Lake Waubesa is less than 20' deep and most of the other half is only 20-35' deep. In contrast, Lakes Monona and Mendota are over 70' deep so their waters tend to form **layers** in summer—warm water on top; cold water on the bottom, so nutrients collect on the bottom where it's too dark for algal growth. Dick Lathrop wrote that the **shallower** lakes, Waubesa and Kegonsa, have “smaller temperature differences between surface and bottom waters.” Thus they “have a much higher propensity for internal recycling of nutrients from the bottom sediments.” **Internal recycling** means mixing the lake from bottom to top, churning up nutrients and bringing them to the surface where light makes algae thrive.

If Lake Waubesa is used as a bathtub to collect and pump out Yahara basin's floodwaters, the pipe might have to be **11 feet in diameter***. To install and operate such a pipe, the soft sediments, dislodged peat, and nutrients would be churned up and mixed into a brown soup, which algae would quickly turn into a green soup. And as the algae die and decay, the soup will smell bad. Algal blooms would **degrade** an attractive fishing and recreational destination, and toxic blooms can poison wildlife and humans.

Even if the pipe only sucks up water for one day, its negative impacts would persist all year long. The pipe mouth would need screens to exclude fish, and the screens would soon be clogged by biofilms and invasive animals, like zebra mussels; i.e., **biofouling**. Screens would need continual **unclogging** to be ready to suck up **400 cfs** of water.

Can you envision 400 cubic feet per second? I couldn't, so I tried converting to bathtubs. 400 cfs = 37 average-size bathtubs **every second**. In just one **24-hour day**, that's over **3 million bathtubs full of lake water**, and a lot would be clean groundwater with fish larvae from the submerged wetland fish nurseries that extend to 20' deep. Valuable groundwater, native plants, and fish larvae would be pumped and dumped.

And if Waubesa **Wetlands** are supposed to be the **right of way** for the pipeline, that's the **wrong way** to go. Waubesa Wetlands are nationally recognized as Wetlands of Distinction. Shifting a pipeline toward **Tower Road** would still damage clear, clean, groundwater-fed wetlands, including the **Heritage Park** nursery—which was specifically restored for Northern Pike.

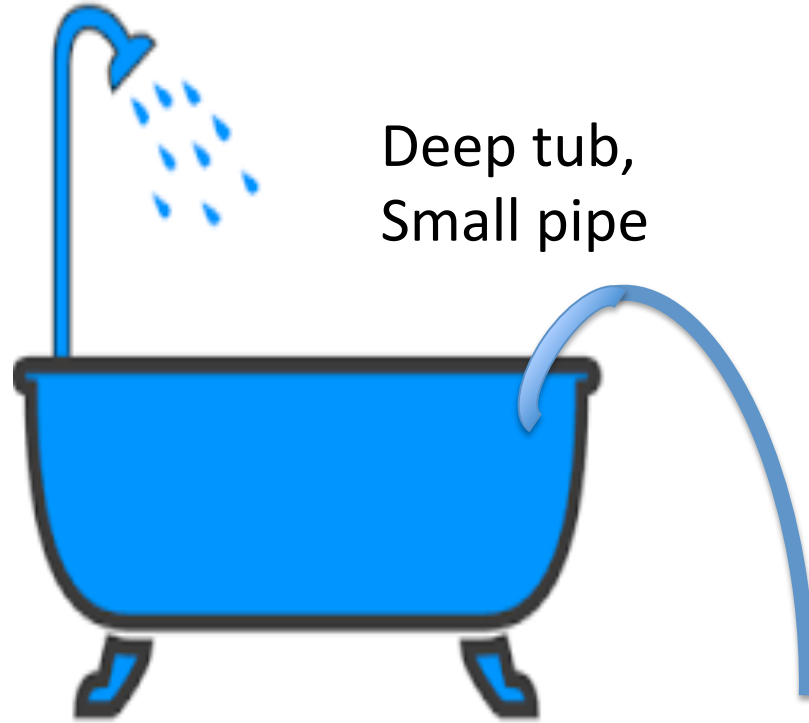
The **science-based** environmental impacts are clear. Scenario 6 would disrupt a wealth of natural resources in Lake Waubesa and its valuable Wetlands. **Pumping** would churn up and pollute the water in south Lake Waubesa, and **dumping** would pollute Badfish Creek. Both are unacceptable impacts that would seem to violate both the Clean Water Act and the Endangered Species Act.

By rejecting Scenario 6 now, your time and energy can be spent--**far better**--working on **watershed approaches** to reduce flooding at its **sources**, which are **upstream**. Chapter 7 of the free eBook offers examples of **sustainable** watershed approaches.

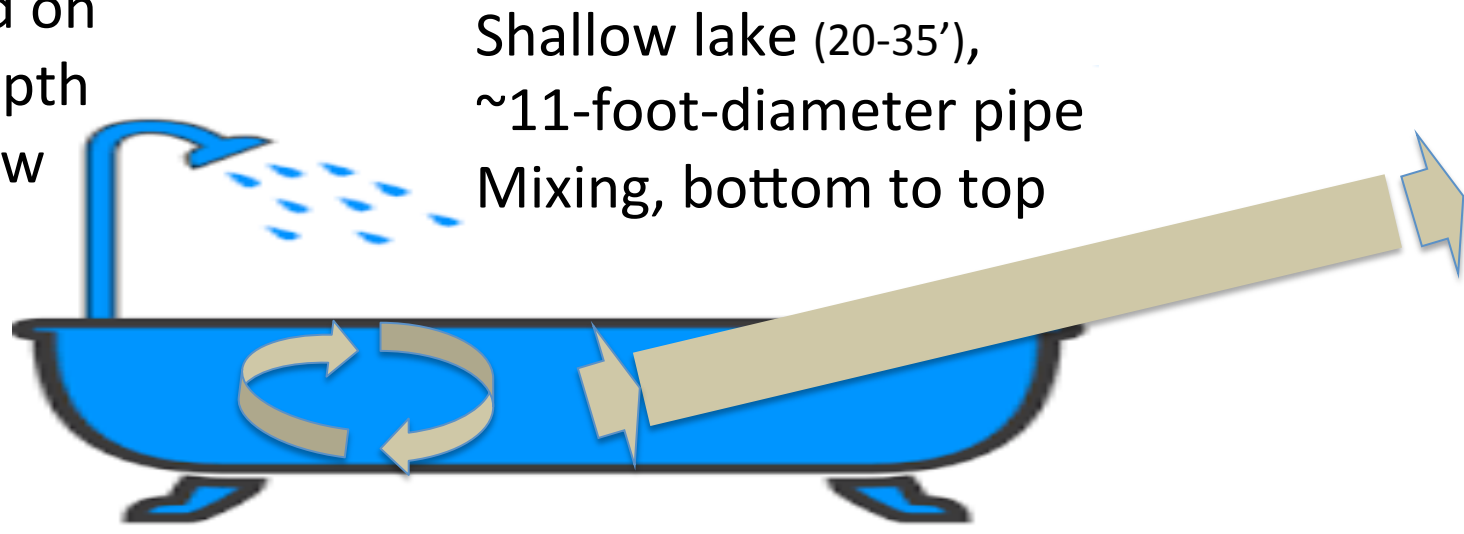
*An 11-ft-dia pipe would be 1/2 to 1/3 of the lake's depth; see drawing, added 3/6/19.

Bathtub models of Lake Waubesa and pipe

1. Engineers' concept, 2/18/2019



2. Scientist's concept, based on L. Waubesa depth and 400 cfs flow rate, 3/5/2019



Again, no one is advocating lowering Lake Mendota in a manner which would result in flooding on the lower lakes. Gradually creating one foot of storage on Lake Mendota would pose no greater risk of flooding on the lower lakes provided the same lake and dam management practices used today continue.

The second adaption scenario, safely manage Lake Mendota at the 100 year water level, would actually raise the level higher than current practice. Considering the groundswell of opinion to the contrary, this proposal is stunning. The logic behind reducing the capacity to buffer downstream flooding and major rainfall events in the Lake Mendota watershed simply makes no sense, and is directly opposed to conventional wisdom.

The third adaption scenario, remove all damns from the Yahara Lakes, is simply preposterous. No one is advocating such a radical fundamental change to one of the most defining aspects of Dane County.

The overall feeling I got from reading these scenarios is that the technical work group which wrote them failed miserably. The only scenario which makes any sense at all makes substantial sense, but it appears the work group was far more concerned about how lowering Lake Mendota would not work than how it most definitely would. And it sure wouldn't cost much.

Mayor Paul Soglin addressed the issue well. Quoting.....

“Maybe [more study] is needed to convince really dense people to lower the lake level a foot,” Soglin told the [*Wisconsin State Journal*](#). “Our engineers know that if we keep Lake Mendota down a foot toward the lower end of the spectrum that even the kind of storm we had on Aug. 20 would not cause a problem.”

Both the Lake Kegonsa event and the August rain event were dealt with using the capacity of Lake Mendota and the control the Tenney Dam provides. It would be irresponsible for the county to not increase the capacity and capability of these combined tools.

Lake Mendota must be lowered.

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This is a transcript of my public testimony provided 3/5/19.

I have no problem with any of the mitigation scenarios except for the concern of cost and time to implement. Clearly too much water is in the system as evidenced by the lower dams being open continuously. Increasing flow is considered an unarguable effort and should be continually pursued.

The adaption scenarios of removal of dams and managing at the 100 year level are both cartoonish and should be dismissed as such. The time wasted on analysis of these two is indicative of the sincerity of the effort of this committee to immediately address the problem.

Which leaves the third scenario, of lowering Lake Mendota. This is a no brainer, only argued by “really dense people” as Mayor Soglin has put it. But apparently the county disagrees,

because as was done in 2018 the county chose again this year to increase the level of Lake Mendota in February to the summer minimum, placing us in approximately the same position we were in last season at this time. The county appears to have learned little from last season's flooding.

I've stared for hours at the graphs on page 23 of the report and among other things noted the scale of the y axis on the Mendota and Monona graphs represents 5 feet of depth range while that of the Waubesa and Kegonsa graphs is only 4 feet. The reader assumes these four charts are comparable when they in fact are not. But those for Mendota and Monona are so I concentrated on those by comparing the lines for actual 2018 data to those for maintaining Lake Mendota lower. What I can't figure out is why the charted lowering of Lake Mendota by a foot, which in theory and graphically represents a large quantity of water, doesn't result in a significant increase in the level of the much smaller Lake Monona. In fact, there is hardly any significant change in the Lake Monona levels. The county is fond of saying water from A goes to B then to C, but the INFOS system seems to indicate that this I not so. But if INFOS is in fact accurate and lowering Lake Mendota by a foot makes so little difference on Lake Monona, the county should definitely maintain the lower Lake Mendota level and benefit from the dramatic increase in flood mitigation potential that would result.

The comparison of the 2018 actual data lines with the two hypotheticals is interesting, but not indicative of what one would hope would be actual lake level management. It would be far more useful to have a scenario where the county actually attempted to manage the Tenney Dam and all lakes levels in 2018 to maintain each lower than the no-wake levels. INFOS apparently has all the data, and with perfect advance knowledge of what happens the county should be able to determine what steps should have been taken and when. Logically, a lower Lake Mendota at the start of the year would have provided more capacity to deal with the multiple high-water events experienced. But arriving at a scenario that solves 2018 may show a lower Lake Mendota wasn't necessary. But since we can't of course predict the future, lowering Lake Mendota provides the margin for error necessary to deal with that uncertainty.

The effort of the task force thus far provides the feeling that the lowering of Lake Mendota is viewed as a last resort. And I get that, but here's the thing: the mitigation scenarios are all relatively long-term and costly. As I said earlier, by looking at the current lake level charts and comparing them to 2018 just before the spring thaw it appears the county has us in essentially the same position we were in last year at this time. I would suggest that an honest analysis of last year's actions would reveal that in hind sight things could have been managed far better. And I get that hind sight is 20/20. But it looks like the county's approach to this season has not changed other than the theoretical increase in flow from weed cutting and isolated dredging.

Relying on luck, which many have said was a big reason 2018 was not far worse than it was, is no way to manage. Neither is prayer. But it appears those two are what the county is asking citizens to rely on.

From: Tom Murn
To: [Flooding, Yahara](#)
Subject: Yahara Flooding - Public Comment
Date: Wednesday, March 06, 2019 11:05:34 AM

Your comments below must include a name and address in order to be reviewed by the task force. Comments may be posted online and available as open records.

Name: Thomas Murn

Address: [REDACTED]

Comments: I have led walks in city of Madison parks for many years, and as such am familiar with lake level fluctuations, and the history of the city and county in watershed management, including substantial preservation of Cherokee Marsh and other wetlands in part to preserve flood control capacity. I have also delineated wetlands for various agencies throughout the Yahara watershed and surrounding areas. My comments on flooding prevention are as follows: (1) current and ongoing construction, for residential or commercial purposes, continues to utilize non permeable surfaces throughout development, including parking lots, driveways, sidewalks, patios, and the like. Currently, some businesses and residences are retrofitting to collect water from, for example, parking lot drainage, in order to use the water, stored under the parking lot, for purposes of watering, cleaning, and the like. I know that some new developments such as around ABS, have rain gardens as a requirement, as well as well-designated and properly sized waterways and detention areas. However, given prospects for any continued larger precipitation events, these may not be enough. All public work, at a minimum, should contain only permeable surfacing, and public lands should work to retrofit permeable areas. (2) Native landscaping holds snowpack better, lets it absorb into the ground, catches and cleans liquid runoff, etc etc. I know the city and county have encouraged such things in the past, however it's time to push harder, in order to retain precip on land and not run off immediately. That would include a prohibition of cultivars, especially GM cultivars which may be bad for our (remaining) pollinators. It could also include a prohibition of any use of chemicals for cosmetic purposes in landscaping, such as the current law in municipalities in MD and ME, as well as in provinces of MB and ON. (3) Lake surface water levels could be reduced whenever possible to provide additional storage capacity, the few boaters and pier owners inconvenienced would be minor in the whole picture of continued widespread flooding.

Thanks for your task force work to confront these flooding issues before they become worse.

TM

From: Peggy Garties
To: [Flooding, Yahara](#)
Subject: Comments for lake levels group
Date: Wednesday, March 06, 2019 2:13:55 PM

Hello,

As a Madison resident who lives near Lake Monona, I would like to register my comments for your deliberations. Our home, many of our neighbors homes, and businesses in our area were very affected by last summer's flooding, and the continued high level of the lakes has us worried what next spring will bring. We still had water in our basement in December, which is unheard of in the 25 years we have lived in this house.

Please take into consideration my suggestion:

1. Manage the lakes at the summer minimums. This will allow at least a little leeway for the more frequent and more severe storms that our technical experts are predicting
2. Permanently lower Lake Mendota by one foot, but do it gradually over several years in order to allow lake shorelines and vegetation to adapt. This would avoid the ill effects noted in the report from a precipitous drop, while allowing Lake Mendota to be used as a buffer to temporarily store water during future catastrophic rain events. This seems to me to be a good tradeoff between a 3 foot drop in Mendota (which would be detrimental to north shore Mendota landowners) and leaving the levels the same (which will be detrimental to Monona landowners and leave us open to catastrophic flooding in the Isthmus again).
3. Continue weed harvesting in the Yahara river between all lakes to improve flow. Consider dredging areas of the Yahara river that have excessive silt buildup, if it can be done in an environmentally sound manner.
4. Aggressively pursue long-term solutions to our increased water runoff problem, such as expanding wetlands, reducing the amount of runoff allowed from new development, and pursuing regulations and even remediation to keep water in the "internally drained basins" which should not be draining to the watershed.

Thank you very much for your attention.

Peggy Garties



From: Joy Zedler
To: [Flooding, Yahara](#)
Cc: [PAMELA A PORTER](#)
Subject: a way to fund the conversion of hardscape to permeable surfaces
Date: Wednesday, March 06, 2019 3:29:59 PM

Here is The Nature Conservancy magazine article that I suggested for the Task Force; it tells how Washington DC has new policies (a credit market) that make retrofitting hardscapes affordable. I hope you find it helpful in working to address flooding at its upstream sources.
Joy Zedler

<https://www.nature.org/en-us/explore/magazine/magazine-articles/planning-for-a-rainy-day/>



Planning for a Rainy Day

www.nature.org

Washington, D.C., combines regulations with a new credit market to keep polluted stormwater out of its rivers.

From: [Buckingham, Tanya](#)
To: [Flooding, Yahara](#)
Subject: Re: Improved flow & better infiltration
Date: Wednesday, March 06, 2019 9:15:22 PM

Thank you, Grant!

I wrote a summary of my thoughts after last night's meeting late in the night (I'm sure it needs some editing). I agree with you and think we should prioritize wetland restoration and infiltration options before doing some the suggested items in the study until we know more about their impact.

You can find my summary here: <http://www.tanyabuckingham.com/dane-county/2019/3/6/my-recommendations-on-the-lake-level-task-force>

See you Saturday!

Tanya

From: Flooding, Yahara
Sent: Wednesday, March 6, 2019 4:22 PM
To: Brouwer, Stefanie; Buckingham, Tanya; Chawla, Yogesh; 'David Pfeiffer'; Erickson, Chuck; Miles, Patrick; 'Phillips, Rob'; 'Porter, Pam'; Ripp, David; Ritt, Michele; Stubbs, Shelia; 'Vieth, Eric'; 'Wells, Topf'
Cc: Balousek, Jeremy; Reimer, John
Subject: FW: Improved flow & better infiltration

From: Grant Foster [REDACTED]
Sent: Tuesday, March 05, 2019 3:39 PM
To: Flooding, Yahara
Subject: Improved flow & better infiltration

Good afternoon/evening Lake Level Task Force members:

I really appreciate the work of this group and for the work of the technical advisory group. I thought the report was very well organized, informative, and I generally support the recommendations. I do still have some questions about the impact to vegetation and would encourage you to look at that in more detail before final decisions are made.

I'd also ask that you recommend further study/remediation around the topic of stormwater management in the watershed, particularly in the developed urban areas of the county. While the focus of the technical report was primarily on managing expected inputs (big rain events) by increasing flow to avoid catastrophe, I think there's important work for us to do as a community around improving stormwater infiltration and retention to slow and reduce some of the input into the system as well. In addition to softening the impact of big rain events into the

chain of lakes, it would also help to improve the actual quality of the water as well.

The City of Madison Stormwater Utility is investing significant dollars into studying and mitigating some of the most flash-flood prone areas of the city's west side this year, but I think we need to be looking at stormwater management as a county-wide issue. The closer the county works with and supports municipalities on these efforts, the better it will be for everyone in the county.

Thanks again for your work on this task force and please know you have my support on this important issue.

Grant Foster



From: Jeff Steuer
To: [Flooding, Yahara](#); chinwu@engr.wisc.edu
Subject: A short follow-up to my verbal comment at the March 5th meeting.
Date: Wednesday, March 06, 2019 10:38:29 PM

Dear Lake Levels Task Force and Dr. Wu,

It may be easy for citizens living adjacent to Lake Monona to hastily conclude the 2018 Lake Monona flooding was directly tied to Lake Mendota outflow. The March 5th meeting was the first occasion I saw the technical report, but from an initial look (fig 16) it appears Lake Monona flooding may be somewhat insensitive to Lake Mendota outflow. Did the Lake Monona watershed provide much of the runoff necessary to flood Lake Monona during the fall 2018? A model scenario using average Lake Mendota outflow as input into Lake Monona during the fall 2018 intense precipitation period may help answer that question. Results from such a scenario may be helpful for readers who have a difficult time understanding why Lake Monona responds the way it does in figure 16.

It may also be useful to calculate Lake Monona level response in fall 2018 using Tenney Dam as the model upper boundary. Thus Isthmus runoff would be the uppermost water input into Lake Monona. Should this scenario result in Lake Monona flooding - - it also may help communicate the 2018 Lake Monona flooding was largely due to runoff from the Lake Monona watershed itself. This, however, may be an unreasonable model modification.

Best,

Jeffrey Steuer



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