Community Conversation on Water Issues: Flooding in the northern Ramsey County suburbs

Q&A[1]

June 9, 2020

Q: Is the DNR working with other state agencies to create best practices and plans to help communities proactively adapt and mitigate the negative consequences of climate change in Minnesota? I think many residents are frustrated with the various stakeholders and our community leaders acting reactively rather than proactively considering all the climate change projections and data points to a very different "new normal." Did we not see this coming or were we completely blindsided for the last 7-8 years?

A: Peter Boulay (DNR) - So for climate change, what was mentioned earlier was one of the big things we participated in was the NOAA Atlas 14 Project. The other study being used for design criteria was technical paper 40, which relied on data that ended in about 1960, so we're trying to create the tools to help design an engineer better adjust for what's going on. The state climatology office-we're a little limited-we're just a tiny little slice of the DNR and my mission is to have data freely available, as much precipitation data as people want. It's all on our website and if anyone wants to email me it's peter.boulay@state.mn.us. Go ahead and ask questions on the data.

Q: Is there a management function overseeing the interactions between watershed districts?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - There is a state agency called the Board of Water and Soil Resources and they help facilitate watershed districts and oversee our function. That's who we send our annual reports to and who we report to generally.

A: Nick Tomczik (Rice Creek Watershed District) - I'll just add that there is an association of watershed districts. This organization provides a format for the exchange of information, ideas and issues as well as those items that need legislative attention. The exchange of information often develops into practical administration of projects and regulations in a watershed.

Q: Can Ramsay County make a lake "no wake"? (potential for erosion?)

A: Mark McCabe (Ramsey County Parks & Rec) - That decision would not be Parks and Rec jurisdiction. We can communicate that concern or desire, I guess, to the enforcement agencies and DNR and see

[1] This Q&A document transcribed responses given at the live event hosted on June 9, 2020 and added additional information from contributors after the event with more time to research and respond. The meeting recording, including original Q&A session, is available online here: https://www.youtube.com/watch?fbclid=IwAR2JOqxed7QxPlWbjbZFqX7gNafYDwEMfy9bZv94il7VlW_eb63Rg7S2Y28&utm_medium=email&utm_source=govdelivery&v=EnIQ678Cne0

what they come back with so if you're keeping track of who submits those questions, we can follow up that way but that isn't a Parks and Rec determination.

A: Mark Maloney (Shoreview Parks & Rec) - There is a history of the City establishing a temporary "No Wake Zone" on Snail Lake when in 2014 the Minnesota DNR had recognized an emergency high water condition for the lake. That decision was made in conjunction with a recommendation from the Snail Lake Improvement District (SLID). I am not aware that the SLID is currently considering that approach again.

Q: Can we build a cool floating dock and boardwalks to make the park usable and educational? Bring people closer to the wildlife that has moved in? Perhaps a small nature center?

A: Mark McCabe (Ramsey County Parks & Rec) - I'll speak to the overall nature center question. There's a lot of interest for people to have some kind of facilitated nature-based programming so I can make a note of that. That would have to come through a capital request for legacy funding so if there's interest there, that's how we could go about funding that. From the floating dock standpoint, I guess, Gus, if you wouldn't mind fielding that sort of question.

A: Gus Bulmer (Ramsey County Parks & Rec) - As part of the master plan update, one of the things we've been looking at and soliciting comments, responses and input from the public is what to do with trails that happen to be underwater and after looking at those comments from their perspective and applying engineering and all the different issues with water elevations, actually fixed boardwalks seems to be the best solution in those areas and, certainly those boardwalks could have extensions that could definitely be used for educational purposes and all that information is actually available on the Ramsey County Parks website under the Vadnais Snail Lake Regional Park Master Plan Update. You can see concepts where all of that is proposed. So, if you go to Ramseycounty.us/parks and look under planning and development projects you'll find that there.

Q: When a water district chooses to direct high-water levels into park trails, beaches and open space is this legal, agreed upon by Parks and Rec. and who has the power to decide? I am not concerned with temporary stormwater run-off but permanent flooding as we have seen in the past 5 or 6 years.

A: Gus Bulmer (Ramsey County Parks & Rec) - So the water was already there and the way it came up we expected it to go down so there wasn't really any sort of question about not being able to store water there, and then when you look at it from the entire watershed district perspective there really is no other place for the water to go so even if we didn't want it there it's going to be there regardless. Part of the infrastructure that was agreed upon between Ramsey County Parks and Rec and, in this case, Ramsey Washington Metro Watershed District, we incorporated recreational facilities with some of the infrastructure to deal with high water and a case in point would be a berm was built with the trail that was flooding on top of the berm. We had to move an overflow to try to get water further to the east, so it didn't impact the Suzanne Pond neighborhood and that was done. We lowered the trail in that case and we're still looking at a more permanent solution because the trail had actually washed out from even more high water. So, whenever the decisions are made by the watershed district that something needs to be done, we work collectively with them to try to improve the recreational facilities as well and not at their expense.

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - I'll just add to that there were no decisions to flood. This is a natural low-lying area that naturally takes that drainage. Like Gus mentioned, there were some decisions made with the County Parks staff to help direct that water into specific places in the park so that we can free up some of that recreation as well as direct some of that flooding away from structures and homes that we were concerned about.

Q: Has there been changes in drainage to these watersheds in the past 10 years?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - Looking as a historical perspective we haven't changed drainage flow patterns. We've done maintenance in some areas to ensure that those areas can continue to drain. One change that was made was the addition of an outlet from West Vadnais Lake. I know there's some other questions in there about West Vadnais Lake. You know this whole Grass Lake and West Vadnais Lake are two water bodies connected by a pipe under Rice Street and they essentially, in time like this when water levels are high, they work together in tandem mostly as one water body. There is an outlet from West Vadnais Lake as of 2006. When Unweave the Weave project at 694 and that area happened, and that was before Ramsey Washington managed the Grass Lake area, but we were a part of it because that outlet was flowing into Ramsey Washington Metro Watershed District with the addition of that outlet. So, an outlet was put in. It was sized at a particular size that now during this time has been found to restrict flow downstream but it also provides an opportunity to protect homes that are downstream of this area as well so again it's balancing that risk between the upstream and the downstream. That 15-inch pipe is the subject of a lot of discussion and a lot of study. We are just going to answer some of those other questions I've seen in there real quick. Paul, one of your questions was about the beltline and that is the large pipe system that flows out of Phalen Lake and into the Mississippi River. That is the ultimate control point for this whole region including the Phalen chain of lakes. That beltline, we're looking at other areas, not just the Grass Lake area but whatever drains to the Phalen chain of lakes there's a number of flood risk areas that we're looking at ways of improving that system to allow more water out and to find more storage. And so, we do have a project that will be constructed over the next year that will provide more storage so that we can manage that flood risk. It's part of this chain of studies and feasibility looks at what we can do upstream including more water to come out of West Vadnais Lake.

Q: Does Snail Lake drain anywhere?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - Snail Lake is landlocked. There is a pipe below Snail Lake Blvd to a wetland to the east but there is no outlet from that wetland. When water is high, Snail Lake and that wetland are the same elevation.

Q: Is the water path the same as it was before habitation?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - In general, yes. Water flows through this area and then eventually to the Mississippi River as it does now. Development and storm sewer systems have changed the local drainage but the larger systems are essentially the same.

Q: How much higher does Snail, have to get before it is no longer "land locked"? And how did it get land locked?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - Snail Lake hasn't had an outlet since we've been managing that system so I don't know if the city of Shoreview might want to jump in too to provide some historical context but as far as I understand there is not a normal water outlet on that lake that can help keep it at a more constant lower elevation. Many of you have referenced the augmentations. You're aware that there was some work done to bring water to Snail in times of low water. I'm not aware of the mention of the overflow being planned for during that project. Again, the city of Shoreview would be the best to answer that question so it doesn't have a normal water outlet, but it does have a place it can go if it reaches a higher elevation. I think somebody had asked about that elevation as well and so I pulled that up. Sorry I lost it. Other than that, I'm not aware of changes to that overflow system in the time that we've been part of that. Mark, do you have anything to add?

A: Mark McCabe (Ramsey County Parks & Rec) - The only known outlet for Snail Lake that anyone here is aware of is the pipe that goes through the Ramsey County parking lot and drains to that low area to the south and east of Snail Lake Blvd. but that's the only outlet I've ever known existed. I know when the county redid the park at the beach, now I'm talking a number of years ago, that pipe was re-laid but I believe it was re-laid at the exact same elevation that it had been. That's my understanding

Tina Carstens (Ramsey-Washington Metro Watershed District) - To clarify, it is an outlet that is a high water outlet and not a normal, it doesn't, it goes to that wetland to the south but from there it has to reach a different elevation before it overflows into the wetland area to the east of there.

Q: In the past, Snail Lake has had an overflow outlet that drained to Grass Lake. That no longer happens. In fact, Grass lake is now 4' feet lower than Snail. We would like to know what has changed and why.

A: Mark Maloney (Shoreview Parks & Rec) - I cannot verify that. I've looked at historical maps and aerial photos of the area and have never seen any indication of that. The contour maps that I have access to don't show a direct drainage path that would support that statement. I believe that Suzanne Pond and the Wetland A area are both lower in elevation than Grass Lake and therefore would be potentially flooded by an overflow from Snail Lake before Grass Lake would be impacted. This is the first I've ever heard of a theoretical (overland) connection between Snail Lake and Grass Lake and I can't picture it unless it's referring to pre-settlement (before 1800's) era conditions.

Q: By our best estimation, due to an "errant culvert" a minimum of 20 MM cubic feet left Grass Lake into the "landlocked" area July 2017 to March 2018. Is there any effort to move equivalent water back south to see positive impact on groundwater/surface water issues in the area?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - If I'm understanding the question, the errant culvert issue was a pipe that was in Grass Lake that at certain elevations did allow water to exit Grass and go into the low-lying areas in Ramsey County parks area. Certainly, that did move water at a certain elevation, but that elevation was quickly over topped and water found its way into that low area and then into that wetland area and it would have whether that errant culvert was there or not. We have looked at the potential of moving water out of that low area, the wetland area. We did a small trial of that, very small I recognize, but we also understand that connection of that low area to the groundwater as well. Right now, that groundwater level is real close to the surface water elevation and any pumping of the low-lying area is pumping groundwater essentially and will not necessarily impact the surface water elevation positively.

Q: Can you tell us whether there are any class action lawsuits in the works related to the destruction of property on Snail Lake due to re-working the lake's drainage without resident input?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - I would ask Mark Maloney to address that. I'm not aware of anything and I'm not aware of any changes to the lake area or drainage areas.

A: Mark Maloney (Shoreview Parks & Rec) - I'm not aware of anybody litigating anything that would involve the City of Shoreview. I think it might not be common knowledge for all the people participating here but there is a lake improvement district that is a layer of governance for Snail Lake and their original purpose in 1991, they were created for the purpose of lake augmentation, but that is the governance structure on the lake that is positioned to speak to the city about various topics. We facilitate their annual meetings, and I've not heard anything from the Snail Lake Improvement District about anyone litigating against the city or any other governmental agency for lake level concerns.

Q: As part of the permitting process for the augmentation of Snail Lake, my understanding is that an overflow was to be installed to protect properties. It appears that the pond design chosen is inadequate to handle the overflow. Are there plans to remedy this? Also, have other runoff sources such as Snail Lake Landing been directed to this overflow pond?

A: Mark Maloney (Shoreview Parks & Rec) - I cannot verify this statement. I don't have any information that stipulates a DNR requirement for an overflow for Snail Lake beyond what existed through Ramsey County Park Property at the time of the 1991 Augmentation project. There wasn't a pond intentionally

designed or created where the lake has flooded east of Snail Lake Boulevard on Ramsey County Park Property; it's a historic low area as far as I can tell. The Snail Lake Landings development area, along with the Evergreen development area and a portion of Reiland Lane and Brigadoon Areas flow to a drainage pond near the southwest corner of Snail Lake, which overflows to the lake. None of those residential areas drain directly to the flooded low area east of Snail Lake Boulevard.

Q: Can we get a brief summary about how the Grass Lake region's drainage, including Snail Lake, is severely limited by West Vadnais Lake? A quick tour of possible long-term solutions for Grass and Snail if we can increase flow out of W. Vadnais would be great, too. From the other questions, I think these would be helpful to others.

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - I think I already addressed this Paul, while you were off, but we are doing a project and improvements over the next year that will provide more storage in the Phalen chain of lakes and that project, including the beltline system, does allow us to look upstream to areas not just in the Grass Lake area, but in other areas throughout the watershed that have properties at flood risk that we'll be looking at the potential. We're in feasibility studies for five different areas to look at the potential for moving more water to those systems

Q: Can you comment on the plan to manage the flooding on Snail Lake. We've had increasing elevations each year. As I understand it we're 'supposed' to overflow into a body of water that is also flooded, and, apparently too small by design to accommodate the needs of Snail? I understand Turtle, Owasso, Wabasso are not flooded and they flow into the same (guessing Grass Lake) overflow as Snail is supposed to go into. Can you speak to that?

A; Tina Carstens (Ramsey-Washington Metro Watershed District) - Turtle Lake does not drain to Snail or Grass, that is located in the Rice Creek Watershed District. Owasso and Wabasso do flow towards Grass Lake. They are not currently high but Owasso Lake does have flood prone homes as well.

Q: The seepage rate of Snail Lake was 2.871 inches per month according to the Snail Lake Augmentation study 1991. In the last 4 years, Snail Lake has been accumulating excess water at roughly the same rate. Snail Lake has been augmented about 60% of the time since the early 1900's. What has caused the seepage to slow so dramatically?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - That's definitely true. That would be true for Grass as well, so Grass, Snail, the wetland area between them, Suzanne Pond, all of those areas when groundwater was lower would be able to seep in those lake systems and surface water systems are able to seep into the ground. When groundwater is as high as it is now and I saw somebody just asked about if groundwater is equally high in all areas so yes, what I'm told is that groundwater is extremely high throughout the metro area in particular and that is a contributing factor to surface water being high throughout the metro area as well so there's just not room for that surface water to seep into the ground. Essentially that groundwater and that surface water elevation become real similar.

Q: It is my understanding that Snail has no outflow beyond flooding into Wetland A. RWMWD developed 2 methods to control the level of Snail Lake. Can you address this and discuss what will happen in the long run when the climate continues to get wetter? Do they have a proactive project to address climate change among the districts?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - More frequent and intense rainfall puts stress on stormwater conveyance systems that, in some areas, were designed and constructed several decades ago. The first step is identifying areas of the system that are more prone to climate change, which flood-risk is a component. RWMWD has used the District's stormwater model to identify areas where additional rainfall could result in deeper or larger inundation areas. Another way the District considers climate change is looking for opportunities to build in resiliency in projects. Or put another way, consider opportunities to mitigate flood-risk above and beyond current industry standards.

Q: Grass Lake/West Vadnais Lake is not a rain event flooding but a 6-year system failure with 9+ sq miles draining into Grass Lake and an insignificant 15-inch culvert from West Vadnais. In essence, managed as a dead end. From the presentation, Gervais flooding have been known for over 4 decades. Owasso Basin problems have been known for over 3 decades. Is there no appetite to correct RWMWD downstream limitations to relieve Grass Lake/West Vadnais Lake/Snail Lake flooding?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - Since the District's inception, we have worked with our cities, counties and other stakeholders to identify feasible opportunities to reduce flood risk. And we have continued to do that.

Q: Can I get a water quality test at my residence?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - I think it depends on what kind of test they're looking for. We do water quality monitoring on our major lake systems. We actually cooperate with Ramsey County on doing that work so that is something we have data and information for if they're looking for that in particular or if they're looking for a specific water body we can talk about that if they want to send me a message offline

Q: What are the current rules for lakeshore improvements on Snail. Permits from the city, county and DNR or who?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - That's a popular question. We have been working with Snail Lake residents. There are a couple different things going on and we've been working with a number of residents, like 30 of them on the lake, to do some shoreline restoration work. Obviously with the continued high-water levels, that's made it a little more difficult to complete that project, but we're still looking at planting in upland areas that are outside of the water levels for now. The other thing is people are wanting to do improvements on their property and we've heard some feedback that that's been challenging for residents to navigate both the city and the watershed's requirements and permits. So, we are collaborating with the city of Shoreview and setting some guidelines and you'll see some communication about this real soon. You only need one permit and whether it will come from the watershed or the city depends on where on the property you're proposing to do the work and we're going to help delineate that for you so you know so it's not confusing and we'll have a modified application and that's just a staff review. So, we're working through some of those systems, but there are potentially permits that you need, and you can be in touch with us about that.

Q: Can the public get informed when water's accumulating temporarily just so they know what's going on?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - Ramsey County Parks has had some information on their website and we have too, but I think we can be better at coordinating our communications around this and so that is one of the things we've been talking about how to streamline communications so that anybody who is looking for information can find that so we'll be working with Ramsey County and Shoreview on a more unified approach.

Q: Can VLAWMO and Ramsey Washington Watershed District comment on how they handle the challenge of West Vadnais outside of the Ramsey Washington Watershed District yet being crucial to drainage of Snail Lake and Grass Lake?

A: Tina Carstens (Ramsey-Washington Metro Watershed District) - We've worked collaboratively yet we're well aware of each other's role in this. Having it in a different watershed district hasn't changed how we've been able to move forward with our projects. It is a very unique situation that the lake is not part of our watershed, but that hasn't held up any of our studies or projects to date. With all of our neighboring watershed districts we work real closely. Just because the water flows in one direction in one place and

another direction in another doesn't mean we don't have very common programs and issues to work on so we do that collaboratively all the time and in this case, in particular, we're in close connection about that. And we're also doing some collaborative work, VLAWMO mentioned their work with carp. We also do a lot of work with carp for water quality purposes. In particular, West Vadnais Lake has a large carp population and so that impacts both VLAWMO because of their interests in West Vadnais Lake but also because of the outflow from West Vadnais into our district for water quality purposes so we're working collaboratively on that too.