DEPARTMENT OF NATURAL RESOURCES

Minnesota Statewide AIS Advisory Committee (SAISAC)

October 26, 2023 Meeting Minutes
Sauk Rapids, MN

Members Present: Pat Brown, Kate Hagsten, Beto Garcia, Mike Sorensen, Shelly Binsfeld
Members Absent: Chris DuBose, Holly Kalbus, Michaela Kofoed, Ryan Wersal, Will Bement, KorriRay Northrup, Chris Magnotto, Maggie Stahley, Charlie Brandt
Ex-officio Members Present: Nicholas Phelps, Maddie Haden
Ex-officio Members Absent: Nicole Lalum, Amy McGovern
DNR Staff Present: In-person: Tina Fitzgerald, Kelly Pennington, Eric Katzenmeyer. Online: Doug Jensen, Wendy Crowell, Emelia Hauk-Jacobs, Angelique Dahlberg
Guest: Jeff Forester

T. Fitzgerald called the meeting to order at 10:05AM

Motion to approve agenda: First by B. Garcia, second by M. Sorensen.

Motion to approve Meeting Minutes from September 28, 2023: First by K. Hagsten, second by P. Brown.

Meeting Summary:

- The Committee learned about and discussed the complexities of invasive aquatic plant management in Minnesota with a panel of DNR experts. The Committee recommended the DNR create resources to more clearly communicate to stakeholders how decisions are made using adaptive management to control invasive aquatic plants while protecting natural resources and their use in the state.
- The Committee learned about the AIS related legislative changes made in 2023 and approaches for Civic Governance around clean water.

Getting into the Weeds: A Deeper Look at Invasive Aquatic Plant Management (IAPM)

How can this Committee and those involved in IAPM support the DNR's goal: to minimize harmful effects caused by invasive plants while also protecting the natural resources and their use in the State. Short presentations and discussion with a panel of DNR staff.

Chemical control of invasive aquatic plants: New products and new ways to use old products

Wendy Crowell, Aquatic Invasive Species Management Consultant

- Goals: Minimize the harmful effects caused by invasive plants while protecting the natural resources and their use in the State.
- Adaptive management means to continuously improve by studying biology, working with researchers on products and new methods, and testing methods and monitoring results over time.
- Three types of management used include chemical, physical, and biological controls (rarely, difficult to find).

- Management methods are chosen for the best outcomes – they depend on the target species, methods used, and goals. Potential goals include: lake access, recreation, preventing spread to other water, long term control, and ecological benefits related to effective control of invasive plants
- Success of control depends on the target plant, size and location of infestation (e.g., water flow, water quality), timing of control, non-target species are located there, and resources available.
- Overall goal is for effective control while minimizing impacts on beneficial non-target native aquatic plants.
- **Physical control**
    - Depends on what parts of the plants are removed and frequency of control needed.
    - Methods: hand removal (e.g., rakes, shovels, scuba), cutter bars, harvest machines, and benthic barriers. We are testing new barriers that are now gas permeable (e.g., fiber mats) – previous types were not permitted due to the damage that they cause.
- **Biological control**
    - Depends on what biological control organisms are available, how successful they are at doing damage to the target plant, how selective they are, and how easy it is to establish reproducing populations.
    - Classical purple loosestrife biocontrol with leaf eating beetle has been massively successful, very selective and excellent control. The DNR initially worked with 100s of stakeholders throughout the state to help establish reproducing populations of the beetles. Because large infestations of loosestrife created a large seed bed, we have found that continued efforts to move beetles from well-established areas to areas where it has regrown from seed is necessary. Continued monitoring of loosestrife throughout the state by stakeholders has assisted in those efforts.
- **Chemical control**
    - Depends on what chemical (contact or systemic) is chosen and rate of application, both of which will affect the selectivity and efficacy of the treatment.
    - **Contact herbicides:** Fast acting, doesn't translocate into the plant, broad spectrum and kill quickly, selectivity depends on timing and good for spot treatments. For example, treating curly-leaf pondweed early in the season when other species have not started growing or lowering dose. Effectively treating starry stonewort is difficult because it doesn't have vascular tissue. Only a handful of contact herbicides that are allowed by EPA: copper and chelated copper compounds (1950s), Endothall (Aquathol k) (1960), Diquat (1962) and Flumioxazin (Clipper) (2011) – DNR is interested in learning if Flumioxazin can be alternative to Endothall and Diquat for curlyleaf pondweed treatment.
    - **Systemic herbicides:** Slower acting than contact herbicides, though there is a lot of variation between chemicals. They are translocated – moved through vascular tissue, so they aren't going to work on starry stonewort, but works well against vascular aquatic plants as the chemical can reach roots. Fluridone is so slow acting that it dissipates throughout a water body, and it can be effective at extremely low rates. Because they are taken into the roots, you can get several years of control with one treatment for perennials like EWM. ProcellaCOR is an interesting new product, and one of the benefits over other systemics is that it is pretty fast acting, so it can be used in distinct areas, and does not have to be used on a whole lake basis. Approved systemic herbicides include: 2,4-D and Triclopyr are selective for dicots – since most aquatic plants are monocots, it is highly effective and selective for EWM. Fluridone (Sonar) at very low levels selective for Eurasian watermilfoil and curlyleaf pondweed. Galleon and ProcellaCOR are relatively new. Galleon has been used successfully against curlyleaf pondweed with good selectivity. ProcellaCOR has been very selective and effective

against both Eurasian and hybrid watermilfoil – DNR has been monitoring their effectiveness under a variety of conditions.

- **Plant biology** has a very large effect on which control methods can be used and when they are best used.
    - Eurasian watermilfoil: dicot (susceptible to system herbicides), perennial (need an herbicide to translocate to the roots so it does not grow back; physical control often leaves the roots intact), spreads easy (could be many different places), starts growing early (treating early increases selectivity), but can hybridize with native milfoil (can be more difficult to control due to hybrid vigor).
    - Curlyleaf pondweed: Monocot (like many natives), acts as a winter annual sprouting from turions in the fall (contact herbicides can be effective in preventing growth and formation of turions), and mid-summer dieback can lead to decreased water clarity. Therefore, it is important to treat as early as possible after ice-off. This early treatment method has been effective both with contact herbicides and with cutters that cut the plant at the sediment surface.
    - Starry stonewort: Macroalga (only the cells of the plant that are in contact with the chemical algicides will be killed), spreads through production of bulbils (not impacted by chemical control), starts growing mid-summer, peak biomass in fall. Dense growth can limit contact / success of herbicide. It overwinters through the formation of bulbils. Scuba hand removal and combination of chemicals and scuba hand removal of plants and rhizoids have been effective, especially for control in small areas near public water accesses and prevent spread. Because it continues to grow throughout the season, non-target damage is always a concern with this species. It requires multiple treatments throughout the growing season which is resource intensive.
- **Research** that has improved our understanding of how to manage invasive aquatic plants comes from research institutions, including projects funded by the DNR. DNR follows research being conducted from around the world. Results can be found in peer reviewed journals and grey literature. Examples include:
    - Transition of treatment of curly-leaf pondweed from June to April using whole lake experimental trials with Endothall proved effective in cold water previously conducted in the Twin Cities area. Four consecutive years of treatment found elimination of turion production, regrowth after second treatment, decline in regrowth after third treatment, required a fourth treatment, which increased native taxa and abundance, and continued dominance in reference lakes.
    - Monitoring results over time to inform adaptive management. Done for many species and treatments by researchers, the DNR, applicators, grant awardees, etc.
        - Work in 1990s in lakes with good water clarity we saw good survival and response from native plants even at higher rates of Fluoridone application (6 – 10 ppb), but not in more eutrophic systems, where we saw a lot of die back of native plants at those rates. In 2016, very low rate of Fluridone for Eurasian watermilfoil in Crooked Lake (2-4ppb) saw a reduction from 60% to 1-6% five years following treatment and saw increase in both native species and their abundance. Goal is to use low doses to help protect native plants.
        - ProcellaCor: Lake Jane hybrid watermilfoil field trial went from 70-50% frequency at the start and 1%-8% one year after treatment, with heavy damage to the hybrid milfoil including roots. This research was published by DNR staff in 2022. Native plants were positively impacted, average species richness was significantly higher one year after. Did observe negative impact to floating leaf plants (e.g., water shield), but they grew out of that.

- **Summary**
    - Many products and methods have been attempted and are well understood.
    - New products and methods of using old products are always being developed.
    - Evaluation of these new methods is ongoing.
    - There are continuing new challenges, new opportunities, and room for improvement in treatment methods for invasive aquatic plant management.

Invasive Aquatic Plant Control in Region 3 and the process of issuing permits

Emelia Hauk- Jacobs, Assistant AIS Specialist Region 3 North

- Region 3 issues the most permits of all regions, therefore inspections are not always possible due to workload. Third party delineations are appreciated, especially curlyleaf pondweed treatments.
- Region 3 North has two staff who issued 72 curly-leaf pondweed permits,: 50 Eurasian watermilfoil, 9 starry stonewort (combination copper and hand removal), 3 flowering rush, and 5 Non-native Phragmites permits.
- Aquatic plant survey types include: point intercept (PI) surveys that compare plant community changes year to year and plant delineations/meander surveys that are purposefully biased to identify areas of control.
    - Delineation collects information on if the target plant is present, boundary of the plant bed, depth, abundance, natives present, and abiotic conditions. All are used to determine herbicide selection. The outcome is a map that includes the abundance of invasive plants, date and party conducting the survey, proposed treatment areas in polygons, and total number of acres to treat.
- Permitting process: (1) Identify nuisance plants you would like to manage, (2) conduct delineation, (3) submit a map to DNR, (4) DNR to verify boundaries and other natural resources concerns, (5) permit issued.
    - Applicant Requirements: Delineation (either new or last year's map), company (applicator) and herbicide to be used.
    - Delineator Requirements: Delineation report/map of proposed treatment areas including three required GIS shape files.
    - Specialist: Calculates acres based on shape files – if it is close to 15% of the littoral zone, then they contact DNR aquatic plant management staff to determine how many acres their program is permitting on the lake. All treatments must stay under 15% of the littoral zone unless there is an approved variance. Calculated through MPARS. If treatment will be done within 150 feet of shoreline, applicant must get signatures of impacted landowners or issue a public notice. After that, a permit can be issued.

Invasive Aquatic Plant Control in Region 4

Eric Katzenmeyer, AIS Specialist Region 4 North

- Large area, but fewer infestations than other regions, most lakes in Meeker and Kandiyohi counties. Therefore, he is able to inspect all permit applications before issuing the permit. But it is helpful when a third party does the work, especially in the tight timeline for curlyleaf pondweed in early spring. If Region 4 becomes more infested, he may not be able to conduct inspections on all infested lakes.
- Permit load: 20 lakes with curly-leaf pondweed treatment history – For 2023, 11 permits, 19 Eurasian watermilfoil lakes – 10 permits (2-4D or ProcellaCor) and 1 starry stonewort (Long Lake).
- Case study: Lake Stay in Lincoln County curlyleaf pondweed

- Small lake at 221 acres, 9ft deep, poor water clarity (4”), and few native plants. In spring, curlyleaf pondweed is completely matted out, almost 100% coverage, it is a walleye fishery and the camp owners were upset the lake was unusable from fishing opener until the Fourth of July.
- During 2021-2022, developed a Lake Vegetation Management Plan and proposed low dose Fluridone (4 ppm) with monitoring for curly-leaf pondweed control and monitoring native plant response. May have to leave some curly-leaf pondweed as fish habitat if the natives didn’t respond; need to provide some value as habitat for native fish. Five years to try out some stuff. Year one had good response from native plants, but still 85% curly-leaf pondweed. Second year after treatment almost no plants were found. While the nuisance curly-leaf pondweed was reduced, poor water clarity is likely limiting native plant growth. Will continue to monitor. Plan approved by all parties.
- Lake Stay (Lincoln County Curlyleaf Pondweed Management: (1) First whole lake treatment April 21, 2002. (2) Bump treatment to maintain herbicide concentration May 16, 2022. (3) DNR and Lincoln County conducted point-intercept vegetation survey on July 13, 2022. (4) Good response by native plants, still lots of curlyleaf, perhaps a second crop below water surface, but severely reduced; several native pondweeds survived around the edges. (5) Second year treatment on April 27, 2024, with bump treatment May 18, 2024. (6) Point-intercept showed no curlyleaf and very little native plants, but did not blame that loss on herbicide treatment because there was very poor water quality during this period. (7) Will survey again next spring to determine if herbicide treatment is warranted (plan was only to treat for two years).

- Case study: Lake Minnie Belle in Meeker County Eurasian Watermilfoil
  - Lake is 597 acres, 49ft deep, good water clarity (12.7 ft), and has abundant and diverse native plant community.
  - Used ProcellaCOR in 2021, two treatments, 19 acres with no concerns. Concerns arose in 2022, the lake association wanted to target all Eurasian watermilfoil which was greater than 15% of the littoral zone, basically wanted to eliminate all the invasive milfoil in one year
    - DNR evaluated 2021 treatment and found no Eurasian watermilfoil detected in 2021 treatment areas and little harm to native monocots.
  - Permitted with variance for 41.7 acres in 2022 that included pre-treatment and post-treatment surveys. Eurasian watermilfoil found in patches that did not show up well the in either survey – only showed up 8%. Therefore, didn’t see reduction.
  - Did not treat in 2023 even though permission was granted to treat some small areas.
  - 2023 delineation did not find Eurasian watermilfoil in 2022 treatment areas. Still some areas that were not treated that has Eurasian watermilfoil.
  - Summary: Eurasian watermilfoil controlled using ProcellaCOR in 2021 and 2022 and native plants including coontail and northern watermilfoil showed limited damage. Will continue monitoring, hoping that multiple year treatment achieved control. On-going project which shows promise.

IAPM Discussion

- **B. Garcia**: For the systemic herbicides what is the choice between different types? Costs? **E. Katzenmeyer** says yes, the choice is often cost related. 2,4-D is cheaper, but don’t see multiple years of control. ProcellaCOR seeing good results, multiple years of control. Costs, especially on smaller lakes with fewer residents. Larger lakes with more residents generally bear costs more easily. **B. Garcia** asks, so lake associations are using Fluoridone for curlyleaf pondweed, ProcellaCOR for Eurasian watermilfoil, why? **W. Crowell** the choice depends on native plants, water quality, cost, and the target plant. Fluridone can be used

for Eurasian watermilfoil and curly-leaf pondweed in similar low doses (2-4 ppm). **B. Garcia** asks, what about damage to water lilies and cattails? **W. Crowell** says those are not likely to be affected. Sometimes water lilies can be impacted but they usually grow out of it. That is something we think about in permitting 2-4D treatments – stay away from water lilies as well as what native plants are growing, when they are growing, water clarity, water movement, the target plant, how much money and effort do you have to implement management and finally what are the goals – recreation nuisances, reduce spread (e.g., starry stonewort treatment at accesses), lakewide control (e.g., patchy widespread Eurasian watermilfoil), etc.

- **N**. **Phelps** says there are tradeoffs between controlling invasive plants and protecting the environment, which are competing priorities. For example, in Minnie Belle if you would have been more generous or would have allowed more treatment, you would have gotten more control. There is a lot going on there outside of the permit process. How does that process work? **E. Katzenmeyer** says its really quite subjective and depends on how much native plant damage will occur. Excited about ProcellaCOR because not seeing native plant damage, but with other chemicals (2-4D, Triclopyr) we would see loss of northern milfoil. Always want to do more good than harm. Some fish like Eurasian watermilfoil, fishermen target Eurasian watermilfoil, but we shouldn't offer the same protection to natives. We want to selectively remove, but at the same time keep in mind if we remove 5 acres how much of that will fill in with invasives. Every specialist is different, each region and each lake is different, so it's a subjective process.
- **N. Phelps** says it seems the 15% littoral limit depends on the approach – it seems more likely for a variance to be approved for more selective herbicides? **E. Katzenmeyer** says for the selective herbicides it isn't 15% vegetation reduction, it is very selective and native remain. According to statute, all 15% was treated, but it is not bare. Diquat would wipe out all 15%, whereas ProcellaCOR takes out invasive Eurasian watermilfoil only. **N Phelps** says lake associations hear what is approved in one area, but not in another. They talk and get upset/confused. There could be more standardization, consistency, or transparency so folks understand what is going on and why those decisions are being made. It is because of the type of chemical, lake, target plant, and water quality. **W. Crowell** says there is consistency across regions, but the lakes, species, and problem species differ across regions. An example is comparing lakes with little aquatic plants versus a lake with lots of aquatic plants – they are approached differently. We should emphasize how the different types of lakes effect the results of treatments. For example, some are safer in good quality lakes vs. eutrophic ones – there is less risk when using Fluridone in a good lake than in a poorly vegetated lake. The more we can emphasize that the risks and benefits differ across the state would be helpful. The consistency would be talking through the risks and benefits for a particular system. Sometimes variances are permitted when more knowledge is needed on how a particular lake will respond. **N. Phelps** says that makes sense – if there is way to convey that to stakeholders and practitioners, like a factsheet that could be really helpful. Maybe show a matrix with pluses and minuses. **E. Katzenmeyer** says contractors and specialists talk about success of work in different areas, but the challenge he encountered was that Fish and Wildlife staff in his area weren't familiar with Fluridone, so it made them nervous. Word regarding successes in using Fluridone is getting out, so more people are asking to use it – we need to walk them through the process. There will always be some inconsistencies because each specialist is different based on their knowledge and experience, and some are more conservative than others.
- **B. Garcia** shares an example for Lake Owasso, they are looking at Fluridone treatment for Eurasian watermilfoil, but have a lot of lilies and other plants, a lot of competing interest of use/management and not the best water quality. Could be a consultant pushing a product. He is concerned about how the lake association is getting their information. How can they be better informed so that they can make better decisions? How do the consultants, vendors and contractors work with DNR on permits to find one solution

over another? **E. Katzenmeyer** says he appreciates it when the association comes to him first. Most third party consultants are great to work with, are providing good information, and appreciate DNR's perspectives. There is a concern of chemical applicators and conflict of interest. When he issues a permit, he is trying to do as much good as he can for the lake. **W. Crowell** adds that it is worth working through all the options with everyone. Regional AIS specialists are really familiar with the lakes in their area, then she brings context of looking at all the treatments across the state. Consultants and applicators do have on the ground experience, and we work with them to discuss our role and responsibilities as an agency, and we can learn from them as well. The association should talk to April Londo, the AIS Specialist for your area.

- **P. Brown** asks if there is public outreach to associations if a treatment is happening? **W. Crowell** says no, only if the treatment is within 150 ft of shoreline. But, there is a requirement to notify tribes of treatments that are permitted within their boundaries. We have to get permission. The northwest region encounters this a lot. Tribal consultation is complicated.
- **D. Jensen** asks for public outreach to lake associations – are there materials available that helps with the expectations of what the DNR permits? Maybe a decision-making tree by region would help show the compare and contrast to improve expectations? **W. Crowell** says yes there is on the DNR webpage about IPAM. Working on updating materials now. It's a balance – testing new things and it is adaptive. Materials about adaptive management might be the most helpful, rather than specific materials about treatments or regions.
- **M. Sorensen** says it appears the DNR is issuing more permits in metro than in greater Minnesota. Is that because there are more nuisances, socio-economic, or other factors? **E. Hauk-Jacobs** responds its likely more infestations, people, movement, applicants, and more money. **W. Crowell** adds there is more conflict because of population density. There are diverse and conflicting uses in the metro. **N. Phelps** comments that it seems Specialists willingness related to their risk tolerance to try something new is more in metro vs. greater Minnesota.
- **K. Hagsten** asks if there is more information about how many treatments were needed to control a population? For example, for ProcellaCOR do you do 2-3 years and then go back? More information on how long it has been infested, how long it has been treated, is that available? You said if something goes badly or bad native response – it falls on the Specialist, but that doesn't seem fair. Perhaps consider a permit contingency – if something goes wrong, you are liable for restoration? Might get people to think more. **W. Crowell** says the lakes that experience die-offs, those plants come back, it just takes a while. Aquatic plants are persistent, that is why IAPM takes a long-term effort. Both hard to kill and to restore aquatic plants. Restoration is allowed. Mostly used for emergent vegetation. There are already possibilities in law, e.g., if someone illegally removes cattails, they have a restoration order. Right now, if something causes more harm than good, we aren't going to let you do it again and restitution may be involved. If we improve our ways to restore underwater plant communities, more permits may be issued. It is also possible that in the future that restoration would be required after herbicide treatment. **E. Katzenmeyer** adds that turbid lakes flip to clear and they start growing native plants, there is a seed bank there. For history of treatment, we could get that for a particular lake. For ProcellaCOR, it is a little too early.
- **B. Garcia** asks, how can we as a Committee help you?
    - **E. Katzenmeyer** says for the special projects above 15% or lakewide vegetation management plans, we want those discussions to start now for next year. Hard when new projects for new lakes pop up right when the ice is about to come off. Best to get all parties involved before making a decision. **E. Hauk-Jacobs** adds for the LVMPs they need that extra time to get signatures too after specialists approve.

- **W. Crowell** says general support for the program at the legislature and research like at MAISRC is really important. Support research on new management methods, biology, in mesocosm/contained trials, etc. and not in lake systems because controlled environments offer greater safety. Forgot to mention that the formulation and label of the product is really important and changes over time. Examples: 1) Label for Diquat changed because levels allowed in the 1960 resulted in fishery impacts. 2) 2-4D applications were allowed based on surface area resulting in little effect on EWM because the concentration was too low especially in deeper waters. Many lakes have a long history, but the products have changed and tracking the details of the applications isn't always complete or consistent. Therefore, talking to the people involved is really important to get the full picture of treatment history. It time and resources are available, a lot can be learned.
- **B. Garcia**, asks if there is a need to make changes to rules or legislation? **W. Crowell** says rules are codified in 6280, developed by Ecological and Water Resources and Fish and Wildlife Divisions, are really good and clear. It says that invasive aquatic plants are approached differently than native aquatic plants. A case needs to be made to control aquatic plants. There is great risk of opening 6280 because for some people that want more control, it would be a problem for the resource and our program. Unintended consequences resulting from that makes people leery of any IAPM.

DNR Updates

Kelly Pennington, Invasive Species Unit Supervisor

- Staffing:
  - Adam Doll has started in the Prevention Consultant position, previously held by K. Pennington.
  - Angelique Dahlberg started in the Research and Grants Consultant position, previously held by Jake Walsh.
  - Rafael Contreras-Rangle is the new AIS in Commerce Prevention Planner.
  - Tyler Lindholm has started in the AIS Trainer position for northern Minnesota.
- Legislative: No updates.
- USGS, USFWS, Wild Rivers Conservancy, WI DNR and MN DNR conducted a "Rapid Capture" event (used to be called Modified Unified Method or MUM) in Pool 8 of the Mississippi River testing new methods for invasive carp captures. It was a 4-day event and there will be a news release coming out soon with more details.
- **M. Sorensen** asks, what does the Prevention Consultant do? **K. Pennington** says it leads regulatory aspects like revision to rule and statute, coordinates with states and regional partners, manages the infested waters list, and coordinating with Specialists on permitting. **M. Sorensen** appreciates the work Adam did in for the watercraft inspection program. **K. Pennington** clarifies that Adam would cover other permits for prohibited invasive species from the prevention aspect such as research, moving infested waters, etc.
- **S. Binsfeld** asks, how many people are in the AIS Program full time? **K. Pennington** says for the unit in central office working on statewide its 13. Each region has AIS Specialists and Watercraft Inspection Supervisors. **T. Fitzgerald** mentions that a breakdown for all of the positions are listed in our Invasive Species Annual Report. https://files.dnr.state.mn.us/natural_resources/invasives/2022-invasive-species-annual-report.pdf
- **B. Garcia** asks, what is the annual budget? **K. Pennington** says the rough number is around $10 million, with $1 million federal through GLRI and USFWS. Mainly, funds come from state funding, invasive species account fees and general fund money.

https://files.dnr.state.mn.us/natural_resources/invasives/2022-invasive-species-annual-report.pdf

- **S. Binsfeld** asks, what's next? **K. Pennington** says we are having a statewide staff meeting next week – one topic of discussion short term strategic projects for next field season. Longer term thinking about organisms in trade for growth and opportunity. For instance, the federally funded effort AIS in Commerce, we are involved in it, really a growing area and opportunity. Hasn't been a focus of most state programs but is a growing issue that needs addressing. Behavior change and how to community-based social marketing could be used for organisms in trade too. First season on-demand state operated decontamination in Big Bog State Park. On-demand water heater with infrastructure that is much quieter and provides consistent temperature. Could expand that into more areas. **M. Sorensen** asks, would a level 2 operate that? **K. Pennington** says yes. Colorado has been putting a lot of effort into those, so we are learning how to do them more efficiently. **P. Brown** says it could be helpful to show legislators it is working and how it could be used by bigger lakes. **M. Sorensen** asks how is it powered? **P. Brown** responds powered electric and propane for heat and add that this could be a good topic presentation for this Committee. It was completed with $300,000 given to do AIS outreach and decontamination for Red Lake area. Also installed two CD3 units within the reservation and created a bunch of outreach materials. Very successful.
- **D. Jensen** adds that county plans and metrics are coming in. Attended MISAC meeting about the terrestrial pest center prioritization process, planning for UMISC, and elected new co-chair – Kelsey Taylor with Fond du Lac, a previous member of this Committee. Lake Superior Partnership Work Group's Cooperative Science Monitoring Initiative Workshop results showed it is in good condition, but poor condition for AIS due to zebra mussels and sea lamprey. Finally, helping plan a Great Lakes Panel meeting and Information and Education Committee meeting in November.

Committee Member Updates

- **P. Brown:** Installed two CD3 units last year, this year getting people to use them and why. Working out well. Permanent decontamination station. Collecting freshwater drum and yellow perch stomachs – looking for adult zebra mussels. Did not find any in 200 of each. Collected 200 water samples for veligers. **N. Phelps** asks, what is the adult abundance? **P. Brown** says they have not found one yet since it was listed as infested 5 or 6 years ago. Finding veligers? Yes, but not exploding. What's easier – fish bellies or zebra mussel samplers? Easiest to just look at substrate, but stomachs are easy and already collected for him. CD3 stations offer shop vacuum, air hose, etc. Don't need hot water because none of our boats are left in the water. We are focused on removing water and drying boats. Water festival, all 5th graders, AIS stuff.
- **K. Hagsten:** Winterized CD3. Lots of land transfer meetings, working with DNR. Yesterday, Grand Rapids coordination meeting with the DNR. PFAS sampling for fish consumption and other toxins – many labs can't test for the level of PFAS that would be deemed safe for consumption. Emerald Ash borer was found near Reemer. Raining White attended the Beltrami County AIS meeting, working with them to do surveys on Moose Lake for starry stonewort – some reports say it seems to be moving within the lake. Sending two staff to the U of MN to a boot camp for data analysis to build a geohub which means I will be reaching to everyone ask for data to supplement data Leech Lake has been collecting about lakes. This hub will be important for us to deal with climate change.
- **D. Jensen** adds via chat that impacts on human and wildlife health is extremely now, in the single parts per billion. There are about 300 forms of PFAS/PFOS, their fate, transport, and impacts are not well understood.
- **M. Sorensen:** Back with Minneapolis Park Board. Went to City of Robbinsdale for the water resources specialist, but is now the new position of Water Resources Lead for Minneapolis. Supervising all water resources field staff – lake, stormwater, and stream monitoring, tangentially AIS, etc. Thrilled to be back.

Cedar Lake and Lake Nokomis have had blue green algae issues recently. Working with Barr Engineering on what is causing it – likely internal phosphorus loading. Common carp are sometimes the culprit. Lakes are very connected, so not just the carp in the lakes now, but also ones that move between. Maybe building fish barriers in the future.

- **D. Jensen** adds via chat that based on research on Lake Superior and inland lakes, there has been no correlation between nutrients and harmful algal blooms. The lack of findings may be because of the approach being used.
- **B. Garcia:** Working on nanobubble project to reduce cyanobacteria in a Wisconsin lake. Not much research in it yet, not sure how it impacts AIS. Increases oxygenation, bringing the solids to the floor of the lake. Lake Arrowhead in a manmade marina. Very closed off, clearer in that area where it was done vs. the bigger part of the lake. $30,000/mo rent to the machine. The lake association has taxing authority to cover costs.
- **N. Phelps:** 2022 Annual Report hard copy shared. Big event coming up: MAISRC has been around for just over 10 years – take a night off to celebrate – December 7th McNamara Alumni Center, Minneapolis campus. Coming up: Legislative funding for Lab to Lake Initiative – research into implementation – will focus this effort over the next 4 years moving common carp research into implementation. Metro and southwest focus areas using different management strategies. He highly encourages member of this committee to engage in these projects, ways we can interface the research, the progress of research with management. Hope you'll reach out with ideas and opportunities. Other two are zebra mussel control and surveillance and early detection programs. January 1st there will be 10 new projects starting so ramping those up. New research and outreach specialist, previously held by Meg Duhr, is now Maddie Haden. She comes from DNR and has been on board for a month and a half. Maddie will serve as MASIRC's representative on this Committee. Her role is to be the interface between researchers on campus with end users and partners.
- **M. Haden:** Came from MN DNR, from the conservation side focus on rivers and streams.
- **S. Binsfeld:** No updates.

Legislative Update and Civic Governance Approaches

Jeff Forester, Executive Director, Minnesota Lakes and Rivers Advocates (MNLRA)

- MNLRA Background: Over 500 lake associations in Minnesota. 105,000 people are members of a lake association in Minnesota – more than the teachers union, teamsters, chamber of commerce. Probably the largest civic engaged group of people in the State. Not unified, each lake association is its own entity. Also, not a lot of connections between lake associations and agencies doing similar work. Lots of opportunity. An issue will come up and they will mobilize and organizing around it, they may win or they may lose, but at the end they have less political capitol and get burned out. So instead, helping them build relationships in their community and with agencies and other organizations. Concordia study reported they give 1.2 million volunteer hours/year. Therefore, use the Civic Organizing Model developed by the Active Citizenship Initiative, which organizes citizens and professionals working together to protect water. Many businesses and organizations are using this model especially in Wisconsin. Also, a 501c4 organization – we lobby.
- Legislative Changes to AIS Laws:
    - Removes the requirement that an inspector can only order a decontamination if a decontamination unit is available on site. The original language was written because they thought it might be a liability issue if we tried to send them to another location.

- Requires DNR to prepare, in coordination with local partners, a comprehensive statewide plan to manage AIS. Must be updated every 5 years. Millions spent ($10M DNR, $10M counties, $6M LAs), but not working together. Also consider climate change.
- Boater education and certification – worked with the industry to create this. AIS and wake management are a focus. Research ongoing about wake impacts.
    - Applies to boaters >12 years old
    - Boats with <25 hp do not require a license
    - Youth boaters limited to 75 hp
    - Watercaft owner is responsible for watercraft operation
    - Test can be administered electronically or on paper
    - Requirements phased in:
        1. Effective July 1, 2025, born on or after July 1, 2004
        2. Effective July 1, 2026, born on or after July 1, 2000
        3. Effective July 1, 2027, born on or after July 1, 1996, and
        4. Effective July 1, 2028, born on or after July 1, 1987
        5.
- Commissioner must create a working group to create course content and implementation
    - Course must include content on best management practices for mitigating AIS, reducing conflicts among user groups, and limiting the ecological impacts of watercraft.
- Funding for MAISRC – HF 2310:
    - $1M for the first year for carp plan, long-term monitoring program, development of criteria for selecting and managing lakes, large scale surveillance and early detection methods, development and sharing of continency plans to develop a blueprint for preparedness and response planning documents, including risk communication, education, outreach materials.
    - $3,829,000 for grants to MAISRC to find research-based solutions to reduce impacts, prevent spread, control populations, and manage ecosystems to advance knowledge to inspire actions by others.
- Wake board boat and prop thrust studies impacts on shorelines and resuspend sediments with release phosphorus. St. Anthony Falls lab conducted research on hydrodynamics of these and aquatic plants – outcomes of this is not to ban wake board boats, instead educate them
- Many other items of interest that came out of civic organization.
- Property tax – changes that should lower the property tax pressure on shoreline:
    - $80M increase in County Program Aid to offset property taxes each year (base increase)
    - $9.3M in payment in lieu of taxes for counties with high public land ownership increase
    - Increase in homestead market value credit
    - Social Security state tax exclusion under 100k
    - SWCD Aid $15M/year

- Stop Starry ENRTF (Environment and Natural Resource Trust Fund): now up to 26 lakes that have boat cleaning equipment installed at landings on lakes with starry stonewort. Boaters will have the tools at the times that they need them to take action and lower the risk for spread. Will have use data. Installing one next week on North Long Lake, which was just confirmed with starry stonewort a few weeks ago.

Discussion

- **S. Binsfeld** asks, what do you tell someone who says I want to make a difference? **J. Forester** says do what you can, where you are, with what you have. Are you a member of your lake association? Lake associations are spending $500,000 on fish stocking, many don't know that. Sometimes it is only the loudest voice that we hear and they are usually angry. Creates a trust problem between the public and government. That's hard to bridge sometimes. So instead, the civic governance approach focuses on developing relationships with political competency. Politics is about the responsibility of working together for the common good. Civic organizing focuses on the common good, in this case clean water, understanding each organization has an agenda too. I don't have authority, but I have power. DNR has authority, but not necessarily power. How do we pair it constructively is critical.
- **S. Binsfeld** says associations don't always have the technical expertise. **J. Forester** says half of associations have board members with natural resource professional experience. **S. Binsfeld** asks, do you have a formal or informal way to help lake associations get things done? **J. Forester** is part of some Civic Organizing groups in a few different areas of the state. Annual meeting will be April 30th, 2024, with multiple tracks. Also working to put together a booklet about lake association activities. If you have a board with people that have a very strong opinion (e.g. ban wake board boats), it eventually dissipates political capitol. Instead, have board members working towards a common goal within their jurisdictions. Shares an example of setting up lake improvement districts (LID) in Wisconsin vs. Minnesota. Forming a LID with taxing authority is a heavy lift. In Minnesota, DNR has a person who reviews LID permits. They provide the paperwork but do not help the association. There are 43-35 LIDs in Minnesota. They can do a lot of good.
- **S. Binsfeld** says her Lake Orono LID was created because they needed to dredge, which is a huge, expensive project – the project helped the LID happen. Didn't want it to happen again in 20 years, we want someone to watch over this for the long term. A lot of interest and high attendance at meetings.
- **B. Garcia** says lake association members are cyclic, active to non-active, how do you mentor that? AIS are long term problems. Lake associations think more short term, this year and next year. Wake boats today, jet skis were 20 years, very reactive. How do you create institutional memory, longer term? Is there something in between an association and a LID? **J. Forester** says many counties have COLAs (Coalition of Lake Associations), which are a little more long-term. If you have a governance structure for organizing people – it is not dependent on a charismatic leader and greater capacity.

November and 2024 meeting topic ideas

- Local grant programs: how to prioritize that funding - small grants in many places vs. larger projects in fewer places.
- MISAC plan – SPIE
- Invasive species nomenclature.
- Red Lake project and on-demand decontamination station.
- Bring back to the Invasive Species Coordinator group and program – are there ideas?
- Allocation of resources like CD3 and on-demand decontamination.
- Climate change grant to do data work, GeoHub - modernizing data systems and records.
- GIS and data visualization tools for AIS - e.g., EDDMapS, etc.
    - Mike Verhoeven created a point intercept database on what plants were in what lakes and when. Have talked a lot internally about how to include treatment records.
    - Data sharing.
    - Minnesota Natural Resource Atlas.

- Additional ideas from the list of priority topics previously created by the Committee:
    - Private boat launches.
    - AIS training opportunities for local law enforcement. Some counties that have been successful, could hear from them.
    - Tournament anglers.
    - AIS funding: explore voluntary contributions.
    - Integrating AIS, water quality, and ecological integrity.

Committee membership

Committee members discussed attendance, low in person attendance at this meeting (due to conflicts), location of meetings (DNR Sauk Rapids Office is identified in the charter), and ways we could encourage more members to come to in-person meetings.

Adjournment at 3PM.

Next Meeting to be held ONLINE ONLY on November 30, 2023. On the agenda for the next meeting is (1) Vote for Chair and Vice Chair, (2) Celebrate retiring members, (3) topics selected from the list above.