

St. Louis River Estuary Manoomin Restoration Site Team

2021 Winter Meeting Minutes

10 December 2021 | 9:00am –11:00am

Contents:

Workgroups	1
Introductions & Updates.....	1
Action Items & Follow Up	2
Water Depth & Waterfowl/Goose Occurrence in SLRE (Hannah - LSNERR).....	2
Restoration Actions - 2021 Recap & 2022 Planning	4
FY23 Manoomin Restoration Proposal (Brandon & Jen - NOAA)	6
Manoomin Restoration Plan Update	7

Workgroups:

Monitoring Workgroup – Discuss and coordinate Manoomin monitoring efforts throughout the SLRE; identify additional monitoring actions/goals/needs for 2022 and beyond; inform Manoomin Restoration Plan update

- Members: Darren, Dave, Hannah
- Contact Dave if you want to get involved: david.grandmaison@wisconsin.gov

Outreach Workgroup – Discuss and integrate outreach efforts relative to other programs that are underway; contribute to recruitment and education efforts (e.g., Rice Camps); etc.

- Members: Dave, ...
- Contact Dave if you want to get involved: david.grandmaison@wisconsin.gov

Plan Update Workgroup – Develop update timelines; identify and prioritize update topics; communicate with broader Manoomin team; produce draft update for Spring Manoomin meeting

- Members: Darren, Kathy, Dave, Deanna, Matt
- Contact Dave if you want to get involved: david.grandmaison@wisconsin.gov

Introductions & Updates:

- Dave Grandmaison (WDNR) – FY22 funding requests being finalized – outlook good for continued AOC-funded restoration for 2022 - 2024
- Brandon Krumwiede (NOAA) - providing update on work in MI and GLRI FY23 proposal
- Darren Vogt (1854 Treaty Authority) – will provide monitoring update
- Deanna Erickson (LSNERR) - planning for \$77M infrastructure funds for restoration and land acquisition (2022 - 2027)
- Jennifer Ballinger (NOAA) - providing update on work in MI and GLRI FY23 proposal

- Jeramy Pinkerton (MNDNR) - fisheries specialist for Duluth area fisheries; new project manager on the SLR starting 12/27
- Jeremy Bloomquist (St. Croix Chippewa Indians) - has been involved with Allouez Bay
- Kathleen Smith (GLIFWC) - She Who Takes Care of The Wild Rice – implements the wild rice program for GLIFWC
- Greg Kessler (WDNR) - Wildlife Biologist out of Brule
- Kirsten Rhude (LSNERR) - Stewardship Coordinator; just started
- Linda Cadotte (City of Superior) – Director of Parks, Rec & Forestry
- Melissa Sjolund (MNDNR) - AOC coordinator for MNDNR; welcoming Jeramy to the team
- Martha Minchak (MNDNR) - working on MN permitting for goose management
- Hannah Ramage (LSNERR) – monitoring coordinator at LSNERR; providing a presentation today on water levels and waterfowl
- Matt Steiger (WDNR) - AOC coordinator for WDNR
- Diane Desotelle (City of Duluth) - has money for goose management plan development
- Reena Bowman (USFWS) - AOC contact for USFWS

Action Items & Follow Up:

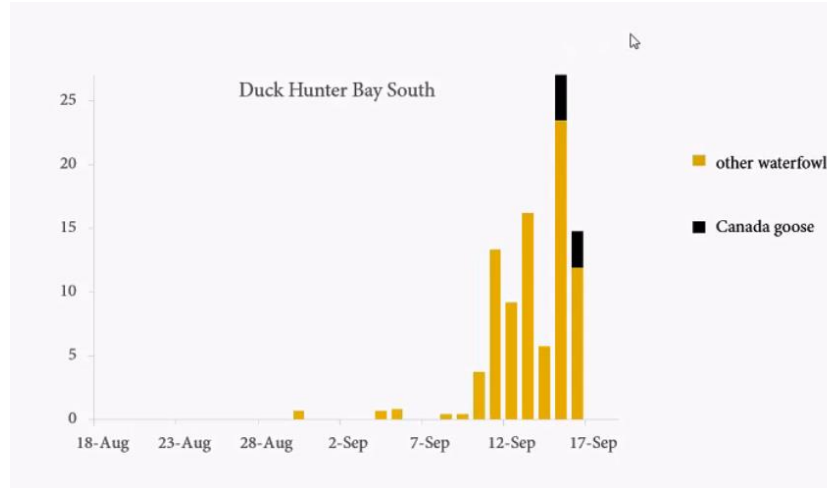
- Dave G. – schedule follow up conversation with Jeramy and Melissa to discuss permitting for goose exclosures on the MN side
- Martha M. – schedule meeting with new Wildlife Section Manager in Duluth to discuss/educate them on wild rice restoration and goose management needs
- Diane D. – connect with Martha M. to discuss goose management plan, specifically re: assistance with public process component to plan development / adoption by City of Duluth
- Kris E. – transfer remaining Manoomin interpretive signs to Matt Andrews at the City of Duluth so they can be installed this spring
- Dave G. – Schedule meeting for Monitoring Workgroup
- Dave G. – Schedule meeting for Outreach Workgroup
- Dave G. – Schedule meeting for Plan Updated Workgroup

Water Depth & Waterfowl/Goose Occurrence in SLRE (Hannah - LSNERR):

- Graduate student project from 2020.
- Microscale water level flux in rice beds
- Maximum water fluctuation (during a 24hr time period) = diff between high water and low water
 - Allouez Bay had the greatest fluctuation (closest to the lake, getting seiche influence) - can flux up to 2ft in a day!

Site	Biomass (g/m ²) 2019	Biomass (g/m ²) 2020	Average 15-minute TWD fluctuation (ft)	Maximum 15-minute TWD fluctuation (ft)	Average 24-hour TWD fluctuation (ft)	Maximum 24-hour TWD fluctuation (ft)
Allouez Bay	Not available	Not available	0.11	0.83	0.95	2.10
Duck Hunter Bay South	2.2	2.8	0.05	0.31	0.81	1.69
Oliver-Little Pokegama Bay	0.3	0	0.05	0.34	0.64	1.30
Walleye Alley Bay	0.3	1.0	0.05	0.29	0.73	1.27

- Big Takeaway - even bays that are close together experience micro-hydrological differences (hydrological exchange and water level fluctuations)
 - THOUGHT >> Perhaps we should be monitoring water level fluctuation at individual bays and incorporate those data into the monitoring report.
- Cameras used to monitor the water gauges were also used to quantify waterfowl activity
 - Surge in activity late season when rice was flowering (early to mid-September)



- Vegetation density likely influenced ability to document waterfowl as the season progressed, but these data corroborate other observational data that goose activity (in particular) increases late-July and into September.
 - This is likely a combination of resident and breeding geese PLUS molt migrants.
- Dave asked how this information might inform our management actions.
 - Hannah suggested that perhaps it could inform our expectations for each site.
 - Hannah - More specific water level data at each site would be helpful for understanding what is possible.
 - Deanna - informs restoration design. Bays that are more restricted have lower fluctuation overall. Could help guide how we construct restoration (e.g., Mud Lake).
 - Hannah - Important to consider management of EAB impacts at protected bays to ensure that we don't lose that structural element.

- Deanna - GLRI funded project on EAB likely to help with this effort.

Restoration Actions - 2021 Recap & 2022 Planning:

- Goose Exclosures - very effective at reducing herbivory; challenges in permitting on MN side
 - Melissa suggests looking how the MN exclosures performed relative to the WI exclosures that were installed earlier
 - Also look at temperature windows and what those look like for feasibility.
 - Dave - schedule a follow up with Jeramy and Melissa
- Goose Roundup - planning underway for 2022 (June 15th - 30th)
 - Successful effort in 2021, great partner turnout, report distributed
 - Greg - any public feedback? Interest in expanding (Barker's, golf courses)?
 - Linda - positive, there is a desire to have a broader effort
 - Interest in monitoring impacts of goose removal
 - Deanna - lots of paddling in the bays; thinks photo monitoring could help with better understanding of the impact of goose removal
 - Brandon - a UAV might be useful; aerial imagery; Fagan (Sault St. Marie) has been running repeated UAV surveys - great success
 - Dave - WDNR has internal personnel/pilots and capability; possibly need a different photosensor to collect multi-spectral
 - Darren - St. Croix Band & WDNR did goose counts in 2018 and they were useful; it's tough to document goose impacts; subjective data collection but has been helpful
 - Martha talking with Tom Keefe (Goose Control) - could write a mgmt. plan for the City of Duluth and conduct the roundup on City property; City of Duluth needs a city-wide management plan before MNDNR can grant a permit for a roundup in MN; hoping Tom can write the management plan
 - New MN Wildlife Section Manager lives in Duluth and has been briefed on Manoomin restoration and management issues related to geese; she comes from the Shallow Lakes Program and is familiar with wild rice management; she wants to meet to discuss the issue
 - Part of the challenge is new permitting folks in St. Paul who don't fully understand the issues, investments, and commitments
 - Folks are more than willing to come to Duluth and explain / educate
 - Diane wants to talk with Martha offline - there is a process, she has funds, need help putting on the public process component (2–3-month timeframe for meetings with NRB and Council)
- Seeding Effort - FdL coordinates seed acquisition for restoration purposes on SLR; in 2020 there was ~13,000lbs of seed. This year the seed acquisition was impacted by drought - making access difficult.
 - St. Croix Band helped us secure seed for Allouez Bay (363 lbs)
 - SLRA helped secure seed for Kingsbury Bay (500 lbs)

- Kathleen - similar challenges in WI - seed for KBIC usually come from White Earth; running into situations where vendors had already committed to restoration in other locations
- Harvester recruitment and retention - participation declining. Efforts are underway to address this from a cultural and ecological perspective.
 - Deanna - Mae Davenport (UMN) is leading a project addressing some of these issues; Marne Kaeske and Deanna E. are going to run a rice camp of some kind; stay tuned
 - Kathleen - GLIFWC - lots of rice camps were cancelled due to COVID. She is pushing for wild rice restoration to be viewed as food security which is getting a lot of attention.
 - Lots of 1st time harvesters this year but many harvesters are dropping off. Wild rice camps can help - promote harvesting as food sovereignty.
- Brandon – Can we make a call out to harvesters? Reach out to more non-Tribal folks to aid the restoration effort?
 - Dave – we have discussed this and both Dave and Tom reached out to folks. Conversations about outreach to specific harvesters – experienced and knowledgeable to help us acquire seed.
 - Darren – At \$5/lb. the financial incentive is there if you can get the rice.
 - Martha – We don’t want to end up with inexperienced harvesters and that’s why we aren’t making a general call to ricers.
 - Brandon – Maybe put a note in the State WR harvest manual for pickers to reach out if they want to be involved in restoration
- Matt S. - Agency acquisition has a lot of rules so it will be important to work with fewer harvesters who can acquire larger quantities than many, small sources.
 - Some of the uncertainty inherent in Manoomin restoration can be a challenge for GLRI work.
 - However, GLRI work and funding is available; so if folks have ideas on how to bolster acquisition of rice (short and long term) - make the argument to think outside the box - train/recruit harvesters; events, staff support, etc.
- Monitoring - big improvement this year, esp. Duck Hunter Bay
 - Darren - The big things holding us back are water levels and geese
 - This year water levels were down by nearly 1 ft.
 - Still seeing goose impacts; many or all plants nipped in some way
 - Enclosures are doing a good job of protecting rice inside the enclosure as well as between the enclosures; geese did not want to go between the tightly spaced enclosure arrays.
 - Dave - is the goose herbivory data available to incorporate into the database?
 - Darren - uses a somewhat subjective scale of degree of herbivory and we could look at standardizing a method for quantifying impacts
 - Hannah - good rice year in Pokegama Bay; LSNERR has done monitoring there; fewer geese in the bay compared to other sites - could consider as a 'reference

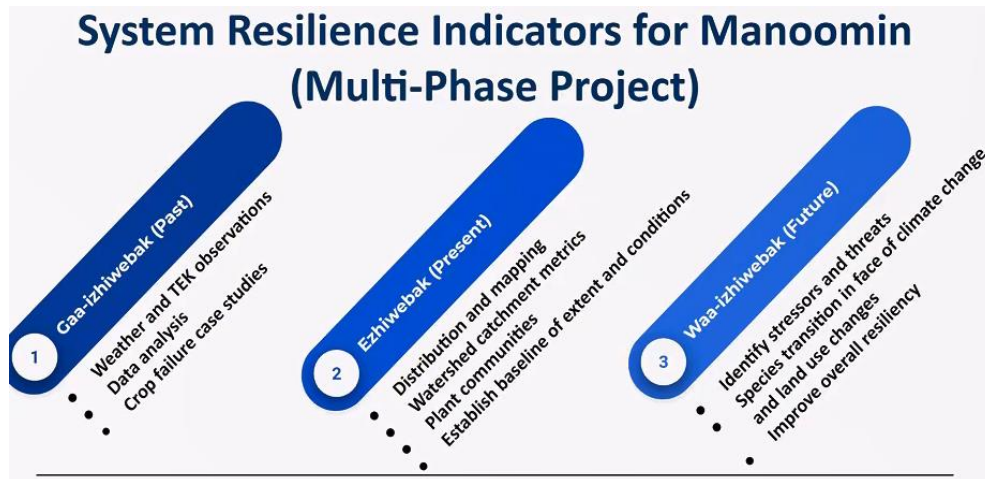
site' (fewer geese possibly due to the presence of swans; tight, enclosed bays with dense vegetation may be causing geese to avoid the area)

- Dave - Is this the same protocol that 1854 is doing?
- Hannah - follow a national protocol for broader vegetation monitoring; but going forward we should try to fold that into the overall monitoring plan
- Dave - we should convene a monitoring work group
- We have also had a few discussions about the potential for publishing our monitoring data
- Outreach -
 - SLRA coordinated their annual seeding event with SLRA members - diverted the effort from Clough to Kingsbury
 - WDNR – installed a Manoomin interpretive sign at Oliver Landing
 - Additional signs at SLRA for MN side of river - need to get them to City of Duluth.
 - Diane – you should connect with Matt Andrews at City of Duluth
 - Matt - Matt A. stopped by Oliver to chat with us about signs
 - FY22 funding request includes funding for outreach and education materials - could tie this back to retention and recruitment of harvesters, seed acquisition
 - Dave – we have funding for display and/or tabling materials to take to events around the Twin Ports; which events?
 - Deanna - Kirsten is the new Stewardship Coordinator and there are outreach components to this new position
 - Diane - this information could be also useful for communications with city council, perhaps on city website

FY23 Manoomin Restoration Proposal (Brandon & Jen - NOAA):

- GLRI - Manoomin is a priority species
- Ties to other planning initiatives too:
 - Manoomin identified as a priority species under the initiative's Action Plan Three
 - Similarly, Great Lakes Water Quality Agreement places specific emphasis on LAMP needs (annex 2), the control of invasive species (annex 6), conservation of habitat and species (annex 7), and science priorities (annex 10), where there exists an active U.S. Tribal Caucus for the TEK Task Team
 - This project will contribute to goals and objectives of several annexes, as well as Lake Superior, Huron, and Michigan LAMPs, as a result
- There is no clear definition of "Manoomin Restoration" because we don't have a clear picture of the extent of wild rice in the basin.
- Purpose - understand the spatial distribution of wild rice (*palustris* and *aquatica*).
 - Build upon previous work and look at distribution more holistically across the basin.

- Understand the dynamics and stressor on wild rice distribution for current and future monitoring/restoration efforts
- System Resilience indicators:



- Understand past and present conditions to do modeling work
- Better understanding of weather data and TEK observations from Tribal partners
- What are the weather drivers for brown-spot disease? Many theories (humidity, more frequent storm events) and opportunities to look at case studies to address these questions.
- Dynamics with "companion plants" and how native species (and invasive/exotic species) impact Manoomin
- Establishing baseline of extent and condition - to evaluate management actions against
- Identifying future climate change impacts
- This proposal will support Manoomin-focused workshops convened by NOAA and Tribal partners
- Continue geospatial and remote sensing support technical assistance
- Coastal Community Resilience Indicators and Rating Systems
 - This approach can be adapted to Manoomin
- Food System Resilience: Defining the Concept
 - Community sustainability and restoration
- Core Indicators for Resiliency - threshold sensitivity, spatial sensitivity, temporal sensitivity
- AI Earth - object based analysis to count geese! What?!
- Dave - can the proposal be shared?
 - Brandon - yes.

Manoomin Restoration Plan Update:

- Long term planning and effort to update the Manoomin restoration plan
 - We have learned a lot since the original plan was written
 - Methodologies that have been effective (seed rates, goose management practices)

- Increasing focus on resiliency in the face of climate change
- Dynamic challenges of socio-ecological components of seed acquisition
- Evaluation and looking at the targets and metrics
- Setting ourselves up for post-AOC management and planning for the transition
- Dave - looking for folks to join a workgroup to help steer that process and work with Dave on the update
 - Darren - definitely interested in being involved; are we hiring a consultant?
 - Dave - I will be taking the lead on writing it with input from the RST
 - Matt - what is the timeframe?
 - Dave - great to have a draft for discussion at the spring meeting, enough time to develop the plan and then get input from the group
 - Deanna - interested in supporting this process; consider the social and ecological metrics as a more holistic way (than acres) to assess the wellbeing of Manoomin restoration in the estuary in complement to the other standardized ways we typically use
 - Paper accepted from that work (Manoomin Cultural and Ecosystem Characterization Study)
- Matt - we have envisioned a plan update for a number of years and that's why it's in the funding
 - Expansion of relevant metrics to evaluate success and we will better define steps of success
 - Short-term - AOC steps - define as a successful AOC effort
 - Longer term metrics for a broader success of Manoomin restoration
 - What makes the most sense and what is realistic?
 - Progress in 2021 used to show us where we can be and where we can go with the restoration plan.
- Kathleen - interested in being involved
- Deanna - not, not volunteering
- Darren - definitely involved