Can Small-Scale Cattail Removal Positively Impact Nearshore Fish Communities Across Minnesota?

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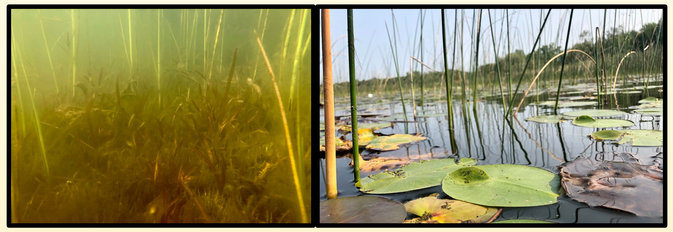
Introduction



- Complex plant communities that includes a mix of floating, emergent, and submergent plant types tends to increase fish abundance and diversity including sportfish (bass, pike, sunfishes).

- Invasive, hybrid cattail *Typha X glauca)* dominates shorelines, growing in nearly impenetrable stands.
- Following mechanical cattail harvest, plant diversity tends to increase, particularly in younger stands.

Objectives

1) Determine if small-scale cattail removal can increase fish abundance and diversity.
2) Compare regional effects of cattail removal on nearshore lake ecosystems.

Methodology

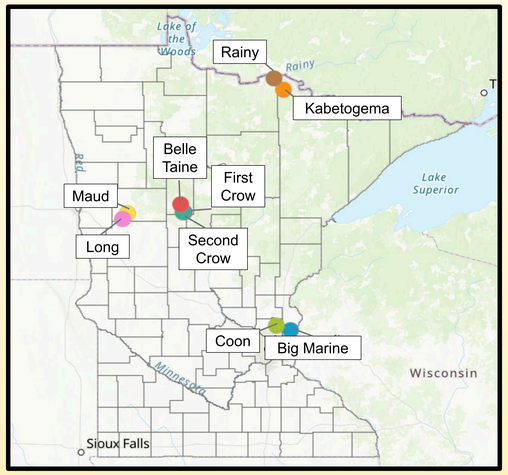


Figure 1: We established sites at 9 (n=9) cattail lake sites across MN.

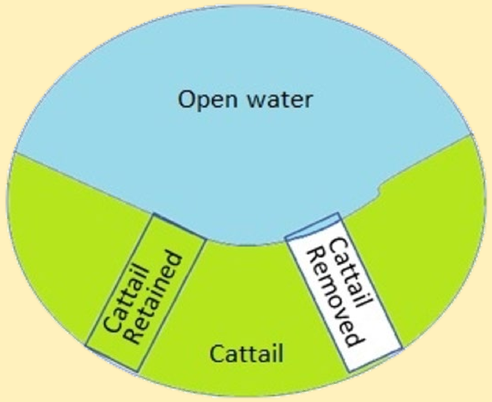


Figure 2: We selected two sites in each lake. We sampled water quality variables, plants and fishes at each site during summer 2021. We will remove cattail at one of two paired sites (in white above) during fall 2021. We will then repeat sampling during summer 2022.

Preliminary Results

Figure 3: Field sampling cattail stands at Lake Belle Taine.

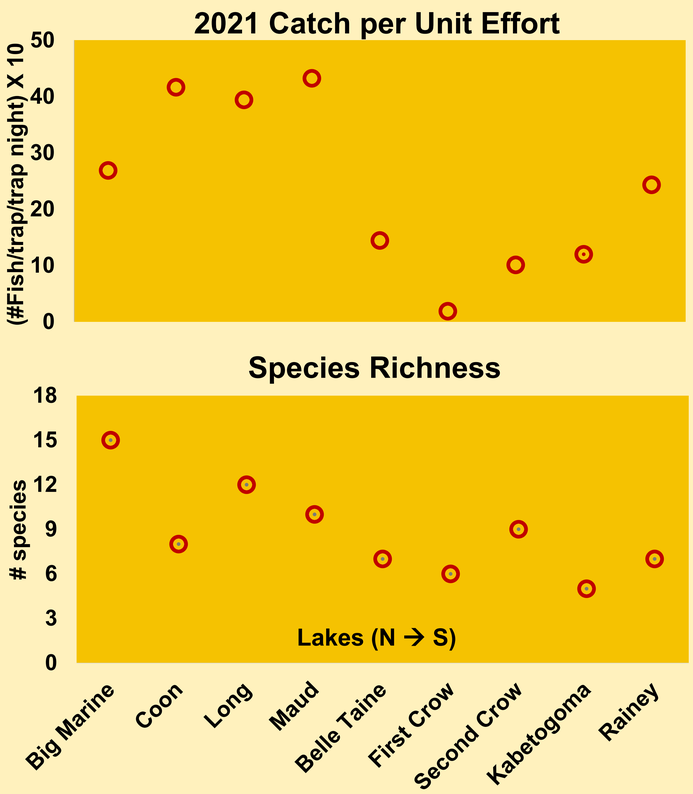


Figure 4: CPUE and species richness from sites in 2021. We caught a total of 1,740 fishes from June 30- August 21, 2021.

Future Work

- Re-sample same plots in 2022 following cattail removal
- Deploy probes to monitor long-term environmental variables
- Establish additional control plots in reference wetland sites to compare differences in fish abundance and diversity
- Investigate stand ages, factors leading to floating mat formation
- Connect with lake associations and other stakeholders interested in cattail work

Acknowledgements

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