Lake Monitoring and Protection Network

Cooperative Agreement, 1st Quarter Report

Written and compiled by:

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Citizen Science Center

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CONNECTING PEOPLE WITH NATURE

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Newsletter

1/4	Sent out AIS Newsletter to 99+ Subscribers

Citizen Lake Monitoring Network

1/25	Acquired CLMN Monitoring Equipment/Supplies from DNR
2/29	CLMN Hazardous Materials Shipping Training
3/7	CLMN Chemistry Overview with DNR CLMN Coordinator
All Month	Distributed equipment/supplies to CLMN Volunteers for Lake Altoona, Tainter, Wissota, and Two Island Lake
3/19	CLMN Coordinator Check in with all State Partners
3/26	CLMN SWIMS Overview with 4 Volunteers

Clean Boats, Clean Waters

2/20	Assisted Lake Altoona Protection and Rehabilitation District with CBCW Grant
All Quarter	Assisted 6 Lake Groups with grants and finding watercraft inspectors for the summer season.

Lake Groups

1/10	Wrote Article for LWIPA Spring Newsletter on Zebra Mussels
1/16	Eau Claire River Watershed Technical Committee Meeting
1/25	Assisted Chain O'Lakes Group with Purple Loosestrife Biocontrol Permit Application
1/29	All County Lake Groups Contacted to Plan Summer Presentations, Events, and Trainings
1/29	Met with Lake Pepin Legacy Alliance to Discuss Future Partnership Opportunities
2/19	Lake Wissota Stewardship Project Meeting
2/26	Dunn County Fish & Game: LMPN Introduction Presentation
3/18	Provided Zebra Mussel/AIS Monitoring Article for LWIPA Newsletter

Outreach and Education

1/9	Lakes & Rivers Series: Wetland & Shoreline Ecosystems
2/13	Lakes & Rivers Series: Climate Change & Water Quality
3/12	Lakes & Rivers Series: Aquatic Invasive Species
3/14	Red Cedar Watershed Conference Tabling

Figure 1: Red Cedar Watershed Table including activities, event flyers, and AIS specimen samples.

Purple Loosestrife Biological Control

2/12	Purple Loosestrife Biocontrol Updates Presentation and Q&A
3/12	Purple Loosestrife Biocontrol Program Refresher and Q&A

Travel and Meetings

1/8	Submitted all LMPN Reimbursement Paperwork and End of Year Reports
1/11	Great Lakes Seminar
1/16	LMPN Meeting with DNR Regional AIS Coordinator
1/17	NAISMA – Protecting Threatened & Endangered Species from Pesticides
1/22	Eau Claire Lane Conservation Meeting
1/23	Wisconsin Lakes Webinar – Riparian Rights
1/25	Interviewed an AIS Technician for Summer Season
1/30	Dunn County LMPN Meeting
1/30	International Invasive Species and Climate Change Conference
1/31	Webinar: Tips and Strategies for Helping Gardeners Create a Landscape Free of Invasive Plants
2/6	Lakes & Rivers Partnership Monthly Call: Lake, River, Watershed Integration
2/9	AIS Management 101 Course Completion
2/12	Invasive Species Centre: 2024 Invasive Species Forum
2/15	CLMN: Winter Water Talk - Factors that Affect Stream Health
2/19	Lake Wissota Stewardship Project Meeting: Chippewa County
2/26	Dunn County Fish & Game LMPN Introduction Presentation
2/27	NISAW Webinar: The Invasive Species Language Workshop
3/5	Lakes & Rivers Partnership Monthly Call: Aquatic Invasive Species/APM
3/6	WDNR AIS Verifier Test
3/7	Lake Altoona CLMN Chemistry Protocol Review with CLMN Coordinator
3/12	Purple Loosestrife Biocontrol Program Refresher and Q&A
3/14	Red Cedar Watershed Conference
3/21	LMPN SWIMS Training Webinar
3/26	LMPN Overview for Partners Meeting

GLOSSARY

AIS – Aquatic invasive species

ALPOA – Amacoy Lake Property Owners Association

BCR – Beaver Creek Reserve

CBCW – Clean Boats, Clean Waters

CLMN – Citizen Lake Monitoring Network

CSC – Citizen Science Center (Beaver Creek Reserve)

LCC – Land Conservation Committee (Eau Claire County)

LCFM – Land Conservation and Forest Management (Chippewa County)

LLLPRD – Lower Long Lake Protection and Restoration District

LMPN – Lake Monitoring and Protection Network

LWIPA – Lake Wissota Improvement and Protection Association

Secchi disk – instrument used to measure water clarity

Station – Specified location on a waterbody with historical and/or continuous associated fieldwork

SWIMS – Surface Water Integrated Monitoring System

WBIC – Waterbody identification code

WCI – Watercraft inspector

WDNR – Wisconsin Department of Natural Resources

Evidence of a compensatory response in invasive Rusty Crayfish (Faxonius rusticus) following intensive harvest removal from northern Lake Michigan fish spawning reefs

Full Article Link

Abstract

The goal of most invasive species suppression programs is to achieve long-term sustained reductions in population abundance, yet removal programs can be stymied by density-dependent population responses. We tested a harvest removal strategy for invasive Rusty Crayfish (Faxonius rusticus) at two nearshore native fish spawning habitats in northern Lake Michigan. Changes in average Rusty Crayfish densities were evaluated with a before-after reference-impact study design. We removed 3182 Rusty Crayfish, primarily adults (> 20 mm carapace length), at two sites over two harvest seasons, expending 17,825 trap days in effort. Generalized linear modeling results suggested a statistically significant reduction in Rusty Crayfish densities was achieved at one reef, Little Traverse Bay (LTB Crib). Reduced densities were sustained over the egg maturation period for native fish and into the following year after removal ceased. By late summer/early fall, between consecutive suppression efforts in 2018 and 2019, we observed a threefold increase in pre-removal densities. Size-frequency histograms from diver quadrat surveys showed higher abundances of juvenile (< 20 mm carapace length) size classes the following spring and summer at LTB Crib compared to its paired reference site. Stock-recruit curves fit to count data, pooled across all sites, provided further evidence of density-dependence. With a proviso that we only conducted two seasons of consecutive suppression, this study highlights an important aspect of invasive species management and raises questions about the efficacy of adult-only crayfish removal strategies.

Facilitating effective collaboration to prevent aquatic invasive species spread.

Full Article Link

Abstract

Aquatic invasive species (AIS) threaten ecosystem health, serving as a major challenge for conservation efforts worldwide. Invasive species easily move across jurisdictional boundaries that may each have diverse management approaches, leading to management mosaics in which each manager's actions impact those of neighboring jurisdictions. Here, we investigate the potential impact of collaborations between counties in Minnesota in managing four aquatic invasive species (Eurasian watermilfoil, spiny waterflea, starry stonewort, and zebra mussels), with a focus on evaluating the efficiency of county-led prevention programs. We aimed to identify potential collaboration networks, each representing a group of counties with a relatively high number of potentially infested boats moving between them and describe the connections within those groups using social network analysis. We found that collaboration networks formed by ranking reciprocal connections amongst counties yielded efficiency gains over a non-collaborative or county-focused approach but were still less efficient than a state-wide approach. This study presents an analytical framework for identifying collaborations based on AIS dispersal pathways that may increase the efficiency of inter-jurisdictional prevention efforts.