

# Fish and Wildlife Enhancement Fund (FWEF) Spring 2022

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*Manitoba Habitat Heritage Corporation*

## Executive Summary

Fish and fish habitat are being threatened with the introduction of zebra mussels in Manitoba waterways. Preventing the spread of zebra mussels through angler and public awareness is critical to maintain natural fish habitat. Citizens for Protecting Our Northern Waterways (CPONW) is proposing to undertake a project in 2022 that will enhance government efforts, fill gaps, enhance angler/public awareness and implement surveillance monitoring of lakes not currently being monitored. Outreach will target leisure shows, community councils, cottage associations and boat launch awareness events. Highway billboard signs will be strategically located on PTH 6 and 10 with appropriate messaging, developed with the Provincial AIS unit, informing the driving public with watercraft on what needs to be done to prevent the spread. Boat launch signs will provide lake specific information. Watercraft inspection training will be hosted to expand northern knowledge and build capacity. Surveillance monitoring will be undertaken in collaboration with the Provincial AIS unit to determine presence /absence of zebra mussels in selected lakes with results contributing the Provincial monitoring data base. Support for this work includes the RM of Kelsey, the Kelsey Watershed District, service clubs, cottager associations and the Provincial AIS Unit. Projected output for each activity is provided, communication efforts are outlined, and methods for project evaluation are described.

## Proposal Title

Angler Outreach and Engagement to Conserve Fish and Fish Habitat in Northern Manitoba

## Primary Contact

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## Proposal Author

Same as Primary Contact

## Which group(s) will implement this project?

### Citizens for Protecting Our Northern Waterways Inc. (CPONW)

CPONW is a coalition of citizen and business volunteers committed to protecting our pristine Northern Manitoba waters. Our focus is on preventing the spread of zebra mussels into the Grass River and Churchill River watersheds, and preventing the further spread in the Nelson River watersheds to ensure the protection of aquatic ecosystems including fish habitat. This is done through awareness, outreach, government liaison and advocacy activities. We are Incorporated as a Manitoba not-for-profit.

## Have you previously received funding from FWEF?

Yes

### Previous Project(s) Funded by FWEF

Aquatic Invasive Species Prevention Initiative

FES 20-025

Funding Amount: \$4011

Application submitted: 2020

## Duration

One year

## Which Fund are you Applying to?

Fish Enhancement Fund

## Brief Proposal Description

Fish and fish habitat in northern Manitoba are being threatened with the introduction of zebra mussels. Preventing the spread of zebra mussels is critical to maintain natural fish habitat. This project will enhance government efforts and fill gaps not being filled by the Provincial AIS program to enhance angler/public awareness through targeted outreach, placement of highway and lake specific signs, training, and monitoring of lakes to determine presence/absence of zebra mussels.

## Outputs

### Outreach

- 3 trade shows – estimate 300 people (The Pas, Flin Flon, Thompson)
- 4 community council meetings – estimate 16 council members (Sherridon, Snow Lake, Wabowden, Thompson)
- 6 cottager association meetings – estimate 150 people, including anglers (Bakers Narrows, Clearwater, Rocky, Snow Lake, Setting and Paint Lake)
- 8 boat launch Events estimate reaching 150 anglers (e.g., Reed Lake, Wekusko, Paint Lake, Bakers Narrows, Saskatchewan River)

Signage

- 2 highway signs reaching an unknown large number of anglers with boats/watercraft
- 14 lake specific signs reaching an unknown large number of anglers with boats/watercraft
- Sign content and design will be reviewed by the AIS Program staff prior to production and installation

Watercraft Inspection Training

- 2 watercraft inspection training seminars reaching 30 people who own watercraft, including anglers (e.g., Rocky Lake, Paint Lake)

Surveillance Monitoring

- Sampling 4 lakes per region with 2 substrate samplers per lake (lakes to be determined by working directly with the AIS program staff)
- Infrastructure (dock) monitoring on lakes as determined with AIS Program staff

**Project Budget Summary****Total Trust Project Request**

Funding request \$20,915

**Total Other Funding**

Other Funding \$16,500

**Total Project Budget (including other funding)**

Total budget \$37,415

**Data Accuracy Check**

*I have checked that the request listed above match those in the Budget Table*

**Choices**

I agree

***Project Location(s)***

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**Where is your project located in Manitoba?**

Northeast Region

Northwest Region

**Project Location**

Project will take place in an area north of PTH 60, west of the Nelson River and north to PH 391 including the RM of Kelsey, LUD of Cranberry Portage, Kelsey Watershed District, The Pas, Flin Flon, Sherridon, Snow Lake and Thompson.

## Detailed Proposal Description - Fish Enhancement Fund

### **FWEF Project Category - Fish**

Angler Education/Monitoring & Research

#### **Background** *Character Limit: 3600*

Fish habitat and fish in Manitoba are being threatened with the introduction of zebra mussels (*Dreissena polymorpha*) and other Aquatic Invasive Species (AIS). Zebra mussels are an aggressive freshwater AIS that alters both ecosystem structure and function (Karatayev et al. 2002) including increased water clarity, modified aquatic vegetation communities and altered ecosystem processes. They are well known to be responsible for significant impacts on native species and associated human activities (e.g., angling, commercial fishing, subsistence fishing) through ecological damage, habitat alterations and direct competition for resources (Fisheries and Oceans Canada 2017). Geisler et al. (2016) noted increased water clarity associated with zebra mussels can reduce walleye production. A recent study conducted in Minnesota by Hanson et al. (2020) documented slower growth rates of walleye in their first year of life following the invasion of zebra mussels and spiny water flea (*Bythotrephes longimanus*).

Most lakes in the NW and NE Region of Manitoba are currently free of zebra mussels and other AIS. Preventing the spread of these organisms into these northern waters is critical to maintaining healthy aquatic ecosystems for fish in these northern regions. The natural expansion of zebra mussels is through the movement of microscopic larvae (veligers) by current or wind action. They do not move upstream and can only expand to upstream waters, or isolated new lakes, by human activity such as moving boats, the overland transport of watercraft, and items that have been in zebra mussel invaded waters.

Public and angler awareness of zebra mussels, the impact to aquatic ecosystems, and what needs to be done to prevent their spread, is a key preventative measure. Public outreach undertaken in the NW Region by Citizens for Protecting Our Northern Waterways Inc. (CPONW) in 2021 noted although people indicated they knew about zebra mussels, and did not want them in our waters, most did not have a full understanding of what needs to be done to prevent the spread (CPONW 2021). This work also documented public interest in knowing the status of zebra mussel presence or absence in local waters and how close they are to areas where they live and spend boating/fishing.

#### **References**

Citizens for Protecting Our Northern Waterways Inc. 2021. Fish and Wildlife Enhancement Fund (FWEF Project FESS 20-025) Aquatic Invasive Species Prevention Initiative Final Report November 2021. 13p.

Fisheries and Oceans Canada. 2017. Socio-Economic Risk Assessment of the Presence of Zebra Mussel in Lake Winnipeg, Red River, Nelson River and Cedar Lake – Final Report. Fisheries and Oceans Canada, Policy and Economics. 54p.

Geisler ME, Rennie MD, Gillis DM, Higgins SN. 2016. A predictive model for water clarity following dreissenid invasion. *Bio Invasions* 18:1989-2006.

Hanson, G.J.A., Ahrenstorff, T.D. Dethke, B.J. 2020. Walleye growth declines following zebra mussel and *Bythotrephes* invasion. *Biol Invasions* 22, 1481-1495.

## **Project Description** *Character Limit: 6000*

This project will enhance current government initiatives and fill gaps not being filled by the Provincial AIS program in Northern Manitoba. The primary goal is to enhance angler and public awareness of zebra mussels, their impacts to aquatic ecosystems, and what needs to be done to prevent the spread. This will be done through targeted outreach activities, placement of highway and lake specific signs, and offering watercraft inspection training.

Further, we will work with the Manitoba AIS program staff and engage local anglers to undertake surveillance monitoring of lakes currently not being monitored. This work will fill gaps and increase the number of lakes being monitored to enhance provincial monitoring efforts on lakes considered “at risk” for an introduction.

The following provides further detail on these proposed activities:

### Outreach

- Attend various trade shows, cottager associations and community council meetings with emphasis on communities that have had limited exposure to information on zebra mussels and other AIS, and where anglers contribute positively to the local economy.
- Hold boat launch awareness events across the project area, with emphasis on sites that have high angler usage and limited exposure to previous work undertaken by CPONW.

The principal objective of these outreach activities is to educate/inform northern community leaders, the general public and anglers of zebra mussels, and the threat they pose to aquatic ecosystems, fish habitat and fish. Further, there will be an emphasis on what needs to be done to prevent the spread of zebra mussels and other AIS into northern waters. Information will also be provided on the impact of zebra mussels on community infrastructure (e.g., plugged water intake pipes) and implications on social activities (e.g., beach experience) to heighten awareness and demonstrate additional impacts that can occur. These activities will be implemented by CPONW with the support of our partners. Further detail on output from this project component is provided in the project workplan spreadsheet.

### Signage

There is a serious need to have more and larger signs to inform anglers with watercraft what needs to be done to prevent the spread of zebra mussels and other AIS.

- Placement of two large highway signs, strategically located on PTH 10 and PTH 6, where owners of watercraft need to be informed about Clean-Drain-Dry practices, and reporting to designated inspection/decontamination stations.
- Placement of boat launch signs at lakes with specific messaging relevant to the local area (e.g., actions that need to take place when a watercraft has been in an AIS Control Zone).

The objective of this sign initiative is to specifically reach owners of watercraft, including anglers, informing them on what needs to be done to stop the spread of zebra mussels into northern waters. Wording on these signs will be developed jointly with the Manitoba AIS staff to ensure consistency/compatibility in language and conformance to legislation. This component of the project will be implemented by CPONW with support from our partners. Further details on output from this project component is provided in the project workplan spreadsheet.

#### Watercraft Inspection Training

- Host two watercraft inspection training seminars for anglers and other watercraft owners to expand the knowledge of zebra mussels and other AIS, how to prevent the spread, and hands on training on how to inspect watercraft for zebra mussels.
- One seminar will be held in the N.E. Region (e.g., Paint Lake) and one in the N.W. Region (e.g., Wanless).

The objective of this training is to expand northern knowledge, expertise and capacity. Detail on the output from this component of this project is provided in the project workplan spreadsheet.

#### Surveillance Monitoring

Monitoring to determine presence/absence of zebra mussels is critical to guide zebra mussel prevention strategies and associated actions.

- Identify lakes where resident anglers can fill gaps and expand surveillance monitoring to determine presence/absence of zebra mussels.
- Lakes to be monitored will be selected in collaboration and guidance from Provincial AIS staff to prevent duplication. Volunteers will be trained by Provincial AIS staff on sampling protocols and analysis.
- Results will be used as part of the provincial surveillance monitoring data base.

This work will help establish “ownership” by resident volunteers and demonstrate they are doing their part to understand the status of AIS in their area, while contributing important information to the ongoing government AIS monitoring program. Detail on output from this project component is provided in the project workplan spreadsheet.

#### **Alterations to fish stocks and/or the aquatic ecosystem.**

Given the nature of this project (outreach, education and monitoring of natural ecosystems) There will be no alteration to aquatic ecosystems, fish habitat or fish.

## Proposal Information

### Organizational Experience and Key People *Character Limit: 3500*

CPONW has been operating since 2019 with a focus on providing local/regional information on zebra mussels and what needs to be done to prevent the spread. Our group has since grown in size, scope and knowledge, slowly building capacity and experience. Active members include retired natural resources professionals, local lodge businesses, nature enthusiasts, all who are passionate about the environment.

In early 2020, we became incorporated as a Manitoba Not-For-Profit and established a governance model that includes a core executive, supported by regional representatives to ensure broad perspectives and input. Additional information can be found on our corporate website <https://www.zebramusselprevention.com/>.

A key aspect of our organization has been to ensure our efforts complement, and support, existing efforts delivered by the Provincial AIS unit. This has been done by establishing a trusting and meaningful relationship with the staff.

In 2020 we secured a FWEF grant to undertake zebra mussel and AIS outreach in the north in 2021 (FWEF Project FES 20-025). Despite restrictions associated with Covid 19, this project was successfully delivered on time and within budget. Detailed of aspects of this project is documented in a final report delivered to the FWEF in November 2021 and is attached for reader reference.

### Project Partnerships

Following is a list of project partners, their role and activity and current status of support.

Partner	Role	Activity	Status
RM Kelsey	Funder	General Support	Pending - \$1500 requested
Kelsey Watershed District	Funder	General Support	\$500 received
The Pas Rotary Club	Funder	PTH 10 Highway sign	Pending – request made
Thompson Rotary Club	Funder	PTH 6 Highway sign and lake boat launch signs	Pending - request forthcoming
Clearwater Lake Cottagers Association	Support	Membership awareness/project participation	Letter of support forthcoming
Paint Lake Cottagers Association	Support	Membership awareness/project participation	Letter of support pending
Manitoba AIS Unit	Support/Guidance	Sign messaging/monitoring guidance & training	Support confirmed

## **Project Communications** *Character Limit: 3500*

Information on the project will be delivered through various means depending on the venue and project activity.

General Project Information – including individual project components, and scheduled events, will be communicated through the following:

- CPONW website and blog posts <https://www.zebramusselprevention.com/>
- CPONW Facebook Page <https://www.facebook.com/CPONW01/>
- CPONW newsletters (at least 2 per year) sent to a wide audience <https://www.zebramusselprevention.com/news-and-updates>

### Scheduled Events

- General Outreach - such as leisure shows and boat launch events, information will be delivered verbally, supported by fact sheet hand-outs.
- Community/Cottage Meetings – communication delivered verbally via PowerPoint presentations, accompanied by fact sheet hand-outs.
- Key Events - such as with the sign project, an effort will be made to secure the interest and support from local media for use in newspaper articles and associated social media.

Audience - the primary audience will be owners of watercraft, in particular anglers. In addition, community leaders (e.g., those responsible for water related infrastructure) and those living on the water will be important groups to reach out to.

FWEF Recognition – the FWEF will be recognized in all communication efforts listed and supported by the FWEF. This will include reference to the FWEF in written material, news articles and the use of the FWEF logo on hand-out material, within presentations etc.

## **Monitoring, Evaluation, and Sustainability**

Monitoring will take place in several ways and results will be used to modify future activities to enhance outreach efforts.

For each event – document the number of people who we interact with to measure the reach of our efforts. Further, through discussion, we will attempt to determine the level of understanding that people of what actually needs to be done to prevent the spread.

Watercraft launch events - in addition to documenting the number of people interactions associated with watercraft, a key metric will be documenting notable changes in behavior related to preventative measures, in particular to adherence to Clean-Drain-Dry protocols. We will use these events to engage in specific dialogue relative to the importance of these protocols.

Website and Facebook – utilizing the analytics offered by the CPONW web service and Facebook, we will evaluate the success of our outreach efforts being offered by these outreach tools. An example of past use of these of these analytics is provided in our final report to FWEF for our 2020 project (see attached).



## Licenses/Permits/Approvals

Permits are required for the following activities:

Highway Billboard Signs - a Crown Land General permit and a Manitoba Infrastructure Permit is required prior to placement of highway signs.

Boat Launch Signs – For signs placed within a Provincial Park, approval from Manitoba Parks is required.

Boat launch Events – for events that take place within a Provincial Park, a Special Events Permit is required.

Monitoring – a permit to undertake surveillance monitoring from the Manitoba AIS Unit is required

## Attachments

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Attachment 1 – Project budget and workplan

Attachment 2 - FWEF Project FES 20-025 final report (November 2021)