

**Environment and Natural Resources Trust Fund
2019 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 162-D

Invasive Carp Acoustic Deterrence Field Trial at Lock 19

Category: D. Aquatic and Terrestrial Invasive Species

Sub-Category:

Total Project Budget: \$ 300,000

Proposed Project Time Period for the Funding Requested: June 30, 2023 (4 yrs)

Summary:

This project will support the installation, monitoring, and evaluation of an acoustic deterrence system at Lock and Dam 19 on the Mississippi River to prevent upstream movement of invasive carp.

Name: Nick Frohnauer

Sponsoring Organization: MN DNR

Title: MN DNR Invasive Fish Coordinator

Department: Ecological and Waters Division

Address: 500 Lafayette Rd

St. Paul MN 55155

Telephone Number: (651) 259-5670

Email Nick.Frohnauer@state.mn.us

Web Address

Location

Region: Central, Metro, Southwest, Southeast

County Name: Anoka, Big Stone, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Douglas, Faribault, Fillmore, Freeborn, Goodhue, Grant, Hennepin, Houston, Jackson, Kandiyohi, Lac qui Parle, Le Sueur, Lincoln, Lyon, Mahnomen, Martin, McLeod, Mower

City / Township:

Alternate Text for Visual:

A map showing the locks and dams on the Mississippi River accompanied by a photograph and aerial image of Lock and Dam 19.

<input type="checkbox"/> Funding Priorities	<input type="checkbox"/> Multiple Benefits	<input type="checkbox"/> Outcomes	<input type="checkbox"/> Knowledge Base
<input type="checkbox"/> Extent of Impact	<input type="checkbox"/> Innovation	<input type="checkbox"/> Scientific/Tech Basis	<input type="checkbox"/> Urgency
<input type="checkbox"/> Capacity	<input type="checkbox"/> Readiness	<input type="checkbox"/> Leverage	<input type="checkbox"/> TOTAL <input type="checkbox"/> %
<input type="checkbox"/> If under \$200,000, waive presentation?			



Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template

PROJECT TITLE: Invasive Carp Acoustic Deterrence Field Trial at Lock 19

I. PROJECT STATEMENT

Both silver and bighead Asian carp are expanding their range within the Upper Mississippi River Basin. This expansion presents an increasing threat to native aquatic communities and it establishes an urgency to field test new technologies that could limit and control the spread of these and other Asian carp species. In response to this growing threat, Federal management agencies are taking laboratory and pond tests to real-world field scenarios and initiating experimental deployment of acoustic deterrents where populations of Asian carp are established. Federal, state, and academic partners have begun coordination for implementation of a pilot projects in the Ohio River Basin at Barkley Dam and in the Upper Mississippi River (UMR) at Lock and Dam 19 (LD19). LD19 is a structure that serves as a “pinch point” in the Upper Mississippi River; whereby, fish passage is restricted to the lock because of an impassable head differential on the dam, and has been identified as a priority site for field testing by resource agency partners of the Upper Mississippi River Conservation Committee. These efforts build on recommendations at a basin level to implement deterrent technologies as part of an overall strategy to slow or stop the expansion of Asian carp populations.

The USFWS received federal funding to field test invasive carp acoustic deterrence systems in the field. The top priority is field testing a system developed by Fish Guidance Systems and Dr. Peter Sorensen’s Lab at Barkley Dam in Kentucky. The second priority will be testing a system developed the US Geological Survey at Lock and Dam 19. The priority one site will receive full funding for installation and evaluation as designed by a group of experts. The priority two site will be constrained by the amount of funding remaining. This funding request will add value by ensuring that the most likely to succeed system is installed and tested rather than a system constrained by funding.

This project will support the installation and evaluation of a deterrent system at LD19, including an assessment of fish passage, both Asian carp and native species, spatial distribution and density at the test location, as well as acquisition of additional telemetry or other monitoring equipment. The project will be implemented in partnership with the U.S. Fish and Wildlife Service, the U.S. Geological Survey, U.S. Army Corps of Engineers, and State of Iowa. The MN DNR will be involved in all phases of the project as a participating member.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Lock and Dam 19 acoustic deterrence project planning

Description: The USFWS received federal funding to field test invasive carp acoustic deterrence systems in the field. The top priority is field testing a system developed by Fish Guidance Systems and tested by Dr. Peter Sorensen’s Lab at Barkley Dam in Kentucky. The second priority will be testing a deterrent system developed by the US Geological Survey and USACE ERDC at Lock and Dam 19. This activity commences the project at Lock and Dam 19.

ENRTF Budget: \$0

Outcome	Completion Date
1. Develop a scope of work	June 2018
2. Collect the needed information sufficient for design work	August 2018
3. Identify needed permissions and permits	May 2018

Activity 2: Lock and Dam 19 acoustic deterrence project design



Environment and Natural Resources Trust Fund (ENRTF)
2019 Main Proposal Template

Description: The USGS will produce an acoustic deterrence design sufficient for securing permits and construction at Mississippi River Lock and Dam 19. The USGS and USFWS will work together to secure the needed permits and contract for installation.

ENRTF Budget: \$0

Outcome	Completion Date
<i>1. Design system to be installed</i>	<i>November 2018</i>
<i>2. Secure needed permissions and permits</i>	<i>February 2019</i>
<i>3. Develop evaluation plan</i>	<i>February 2019</i>

Activity 3: Lock and Dam 19 acoustic deterrence installation and evaluation

Description: The final phase of the project is installation and evaluation. The USGS and USFWS will be co-managers overseeing installation activities. The USGS will be the lead for the evaluation including data collection and report writing.

ENRTF Budget: \$300,000

Outcome	Completion Date
<i>1. Installation of acoustic deterrence system</i>	<i>July 2019</i>
<i>2. Begin collecting evaluation data</i>	<i>August 2019</i>
<i>3. Final report and recommendations</i>	<i>December 2022</i>

III. PROJECT PARTNERS:

A. Partners receiving ENRTF funding

Name	Title	Affiliation	Role
Marybeth Brey	Research Fish Biologist	US Geological Survey	Project Manager

B. Partners NOT receiving ENRTF funding

Name	Title	Affiliation	Role
Amy McGovern	USFWS Region 3 AIS Coordinator	US Fish and Wildlife Service	Project Administrator

IV. LONG-TERM- IMPLEMENTATION AND FUNDING:

The Invasive Carp Acoustic Deterrence Field Trial at Lock 19 is an evaluation project scheduled for three and a half years. Additional resources for data collection after installation will be provided from federal sources. A long term decision for continuation of the project will be made at the conclusion of the evaluation and based on the findings and recommendations reported.

V. TIME LINE REQUIREMENTS:

3.5 years, July 2019 through December 2022

VI. SEE ADDITIONAL PROPOSAL COMPONENTS:

- A. Proposal Budget Spreadsheet; B. Visual Component or Map;
C. Project Manager Qualifications and Organization Description**

2019 Proposal Budget Spreadsheet

Project Title: Invasive Carp Acoustic Deterrence Field Trial at Lock 19

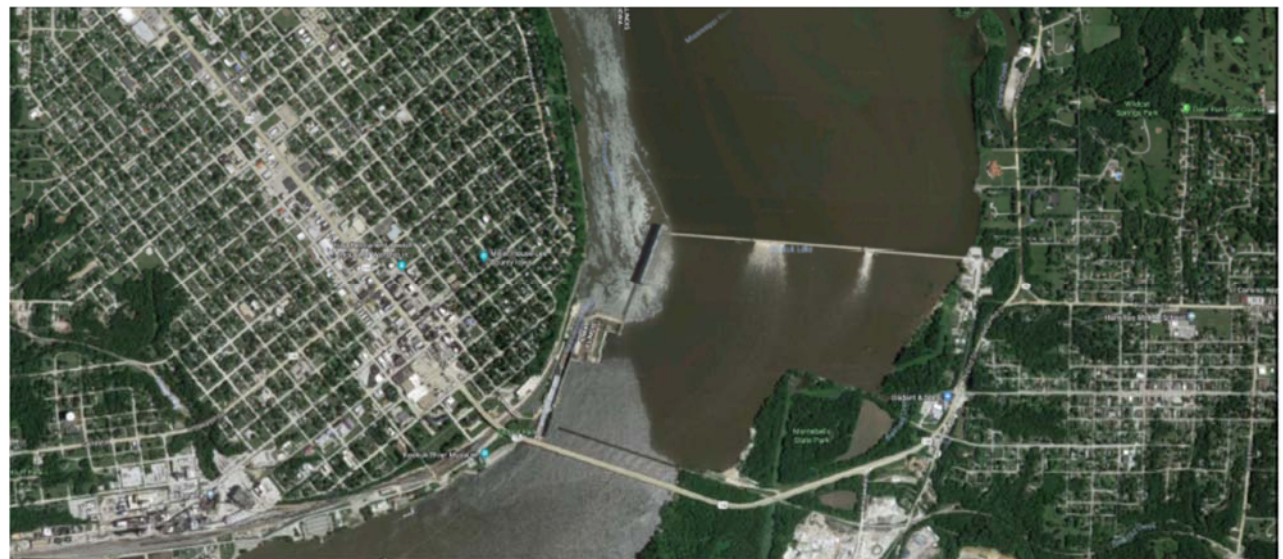
IV. TOTAL ENRTF REQUEST BUDGET 3.5 years

BUDGET ITEM (See "Guidance on Allowable Expenses")	AMOUNT
Personnel: N/A	\$ -
Professional/Technical/Service Contracts: US Geological Survey - Equipment and supplies such as speakers, mounting supplies, and control components.	\$ 300,000
Equipment/Tools/Supplies: N/A	\$ -
Acquisition (Fee Title or Permanent Easements): N/A	\$ -
Travel: N/A	\$ -
Additional Budget Items:	\$ -
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 300,000

V. OTHER FUNDS (This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period:		
US Geological Survey FY18	\$200,000	<i>requested</i>
US Geological Survey FY19	\$915,000	<i>proposed</i>
US Fish and Wildlife Service FY18	\$200,000	<i>pending</i>
US Army Corps of Engineers FY18	<\$50,000	<i>requested</i>
US Army Corps of Engineers FY19	TBD	<i>requested</i>
Other State \$ To Be Applied To Project During Project Period: N/A	\$ -	
In-kind Services To Be Applied To Project During Project Period:		
State of Iowa	TBD	<i>pending</i>
Past and Current ENRTF Appropriation: N/A	\$ -	
Other Funding History:		
US Fish and Wildlife Service FY17 - Evaluating carp and native fish movement around Lock 19	\$100,000	<i>spent</i>
US Fish and Wildlife Service FY18 - Evaluating carp and native fish movement around Lock 19	\$100,000	<i>secured</i>

Map (left) and images (below) of Mississippi River Lock and Dam 19



Continuation of Invasive Carp Acoustic Deterrence Field Trial at Lock 19

Personnel Qualifications

MN DNR Lead: Nick Frohnauer, MN DNR Invasive Fish Coordinator
Affiliation: Department of Natural Resources, Division Ecological and Water Resources
Mailing Address: Box 25; 500 Lafayette Rd, St. Paul, MN 55155
Telephone: (651) 259-5670
Email: Nick.Frohnauer@state.mn.us

Nick Frohnauer is the MN DNR Invasive Fish Coordinator stationed in St. Paul. He has been in this position since 2013 and with DNR since 2007. He coordinates the state's efforts for Invasive carp, working with state and federal agencies, non-governmental organizations, universities, and private citizens. Prior to taking this position, Nick worked as a fisheries biologist in Duluth, MN for five years. He administered the aquatic plant management program, stocking, fishing tournament, and easements for the area. He also was the lead on unique projects: sturgeon monitoring, stream habitat restoration, and fisheries population characteristics in Jay Cooke State Park. Prior to arriving in Minnesota, Nick also worked in Idaho, Missouri, and Maine.

Project Responsibilities

Nick Frohnauer will be the contract manager and serve as an active member of the project team. In his capacity as Invasive Fish Coordinator, he has demonstrated his ability to manage budgets, manage contracts, coordinate with partners, and prepare project work plans, updates, and reports.

Organizational Description

The Minnesota Department of Natural Resources works with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and provide for commercial uses of natural resources in a way that creates a sustainable quality of life. This mission requires sharing stewardship with citizens and partners, working together to address often-competing interests.

Project Administrator: Amy McGovern, Midwest Region AIS Program Manager
Affiliation: US Fish and Wildlife Service, Fisheries
Mailing Address: 5600 American Blvd West, Suite 990, Bloomington, MN 55437
Telephone: (612) 713-5109
Email: amy_mcgovern@fws.gov

Amy McGovern is the U.S. Fish and Wildlife Service (Service) Midwest Region Aquatic Invasive Species (AIS) Program Manager stationed in Bloomington, MN. She has been in this position since 2017 and with the Service since 2001. Amy coordinates the Service's Midwest Region AIS efforts, working with state and federal agencies, non-governmental organizations, and universities. Prior to this position, Amy was the Service's Liaison with the U.S. EPA Great Lakes National Program Office coordinating the agency's investment and participation in the Great Lakes Restoration Initiative. She led administration of the Service's annual GLRI budget (\$40M), including coordination of projects that support toxic substances and Great Lakes Areas of Concern, aquatic invasive species, species and habitat restoration.