



Ruffe Control Program Review

Mike Rucinski

USFWS Huron/Erie AIS Coordinator

Alpena, MI

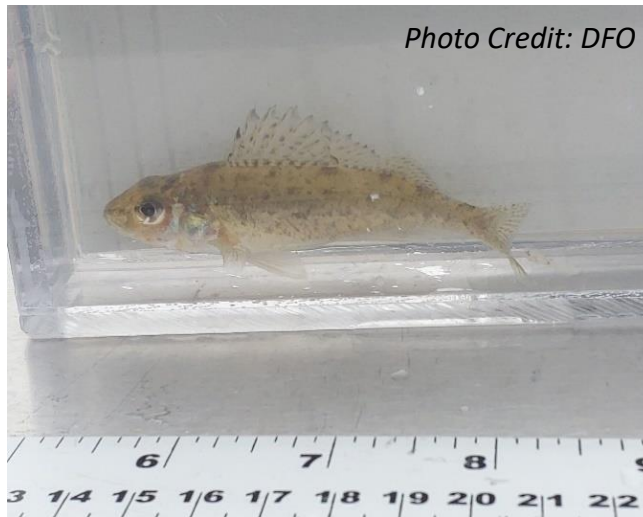
Photo Credit: USFWS



Photo Credit: Sault
Ste. Marie Tribe of
Chippewa Indiana



Photo Credit: DFO



Eurasian Ruffe (*Gymnocephalus cernua*)

- Europe & Asia
- Small body
- Percidae
- Similar to YP

Concerns

High fecundity

Compete for food and habitat

Egg consumption

Outcompete and displace NS

Invasion Timeline

1986 - 2022



1986



Gymnocephalus cernua
Ruffe
Fishes
Exotic



WISCONSIN

WISCONSIN

WISCONSIN

MICHIGAN



Courtesy USGS NAS Database

-88.5120, 48.2598

Esri, HERE, Garmin, USGS, EPA, NPS, NRCAN

1991



Gymnocephalus cernua 
Ruffe
Fishes
Exotic



1996



Gymnocephalus cernua 
Ruffe
Fishes
Exotic




2001



Gymnocephalus cernua ◆
Ruffe
Fishes
Exotic



2006




Gymnocephalus cernua ◆
Ruffe
Fishes
Exotic




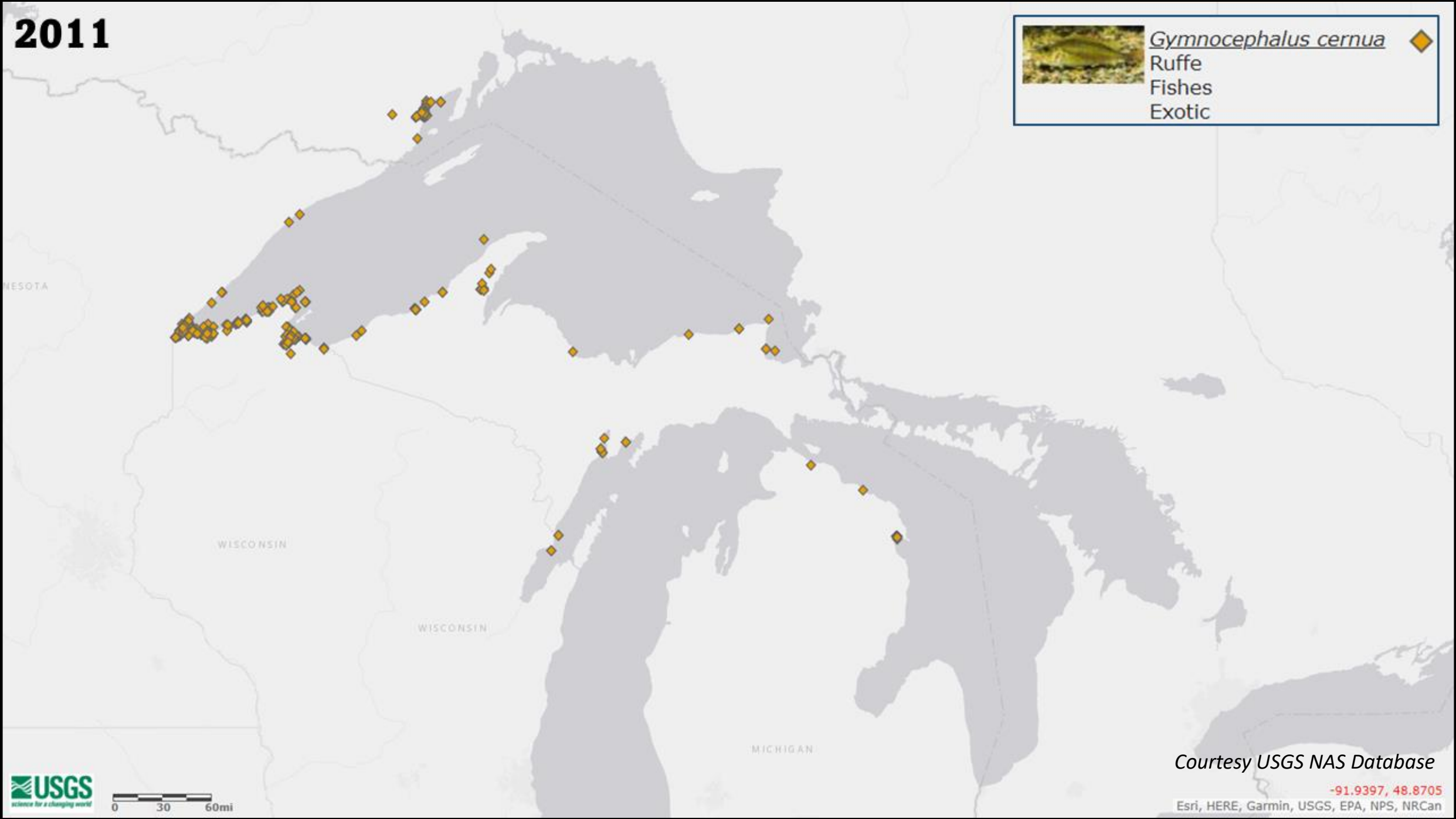
Courtesy USGS NAS Database

-91.7749, 48.4496
Esri, HERE, Garmin, USGS, EPA, NPS, NRCAN

2011



Gymnocephalus cernua 
Ruffe
Fishes
Exotic




USGS
science for a changing world



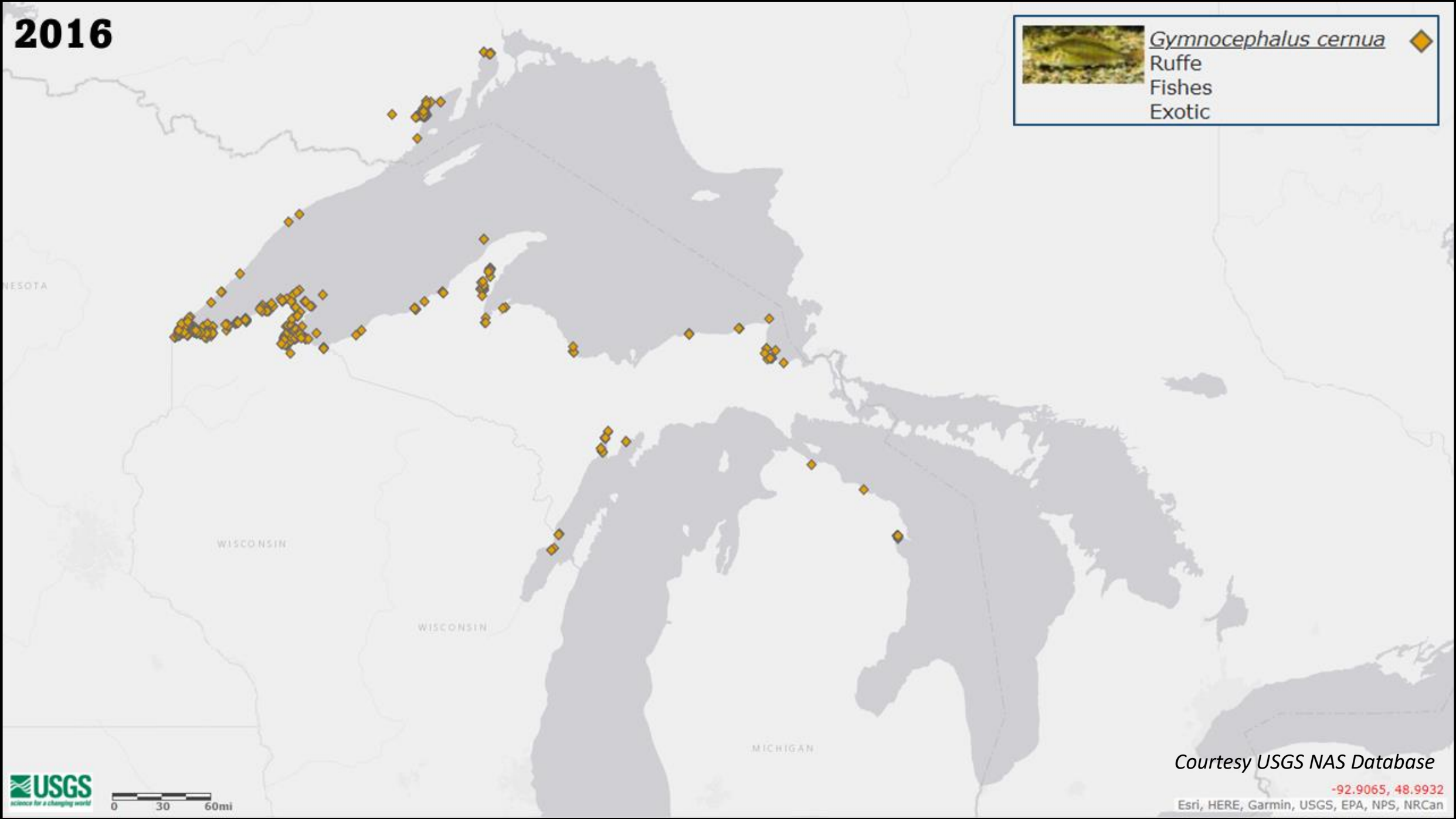
0 30 60mi

Courtesy USGS NAS Database
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Esri, HERE, Garmin, USGS, EPA, NPS, NRCAN


2016




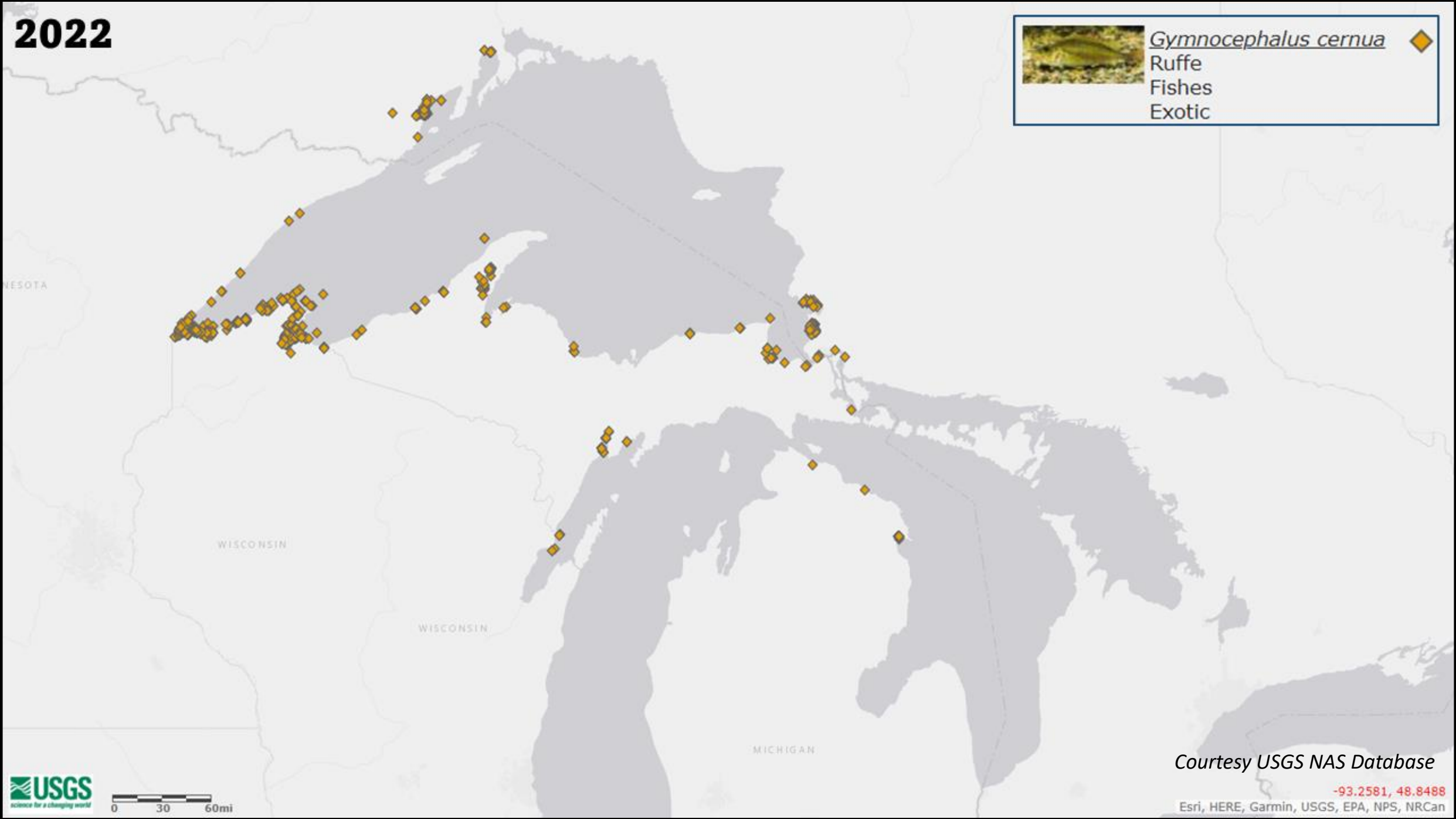
Gymnocephalus cernua ◆
Ruffe
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2022



Gymnocephalus cernua 
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1986



Gymnocephalus cernua
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1986 – First record
of Ruffe, L.
Superior



Courtesy USGS NAS Database

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1991



Gymnocephalus cernua
Ruffe
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1986 – First record
of Ruffe, L.
Superior

1991 – First
meeting of Ruffe
Control Committee

1991 – Over 1 million
Ruffe in SLRE



1996



Gymnocephalus cernua
Ruffe
Fishes
Exotic

1986 – First record of Ruffe, L. Superior

1991 – First meeting of Ruffe Control Committee

1992/93 – USFWS initiates Ruffe surveillance program

1996 – Ruffe Control Program published

1991 – Over 1 million Ruffe in SLRE

1992 – Ruffe spread S. shoreline L. Superior

1995 – Ruffe discovered in L. Huron

2006



Gymnocephalus cernua
Ruffe
Fishes
Exotic

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1996 – Ruffe Control Program published

1991 – Over 1 million Ruffe in SLRE

1992 – Ruffe spread S. shoreline L. Superior

1995 – Ruffe discovered in L. Huron

2002 – Ruffe discovered in L. Michigan



0 30 60mi

Courtesy USGS NAS Database

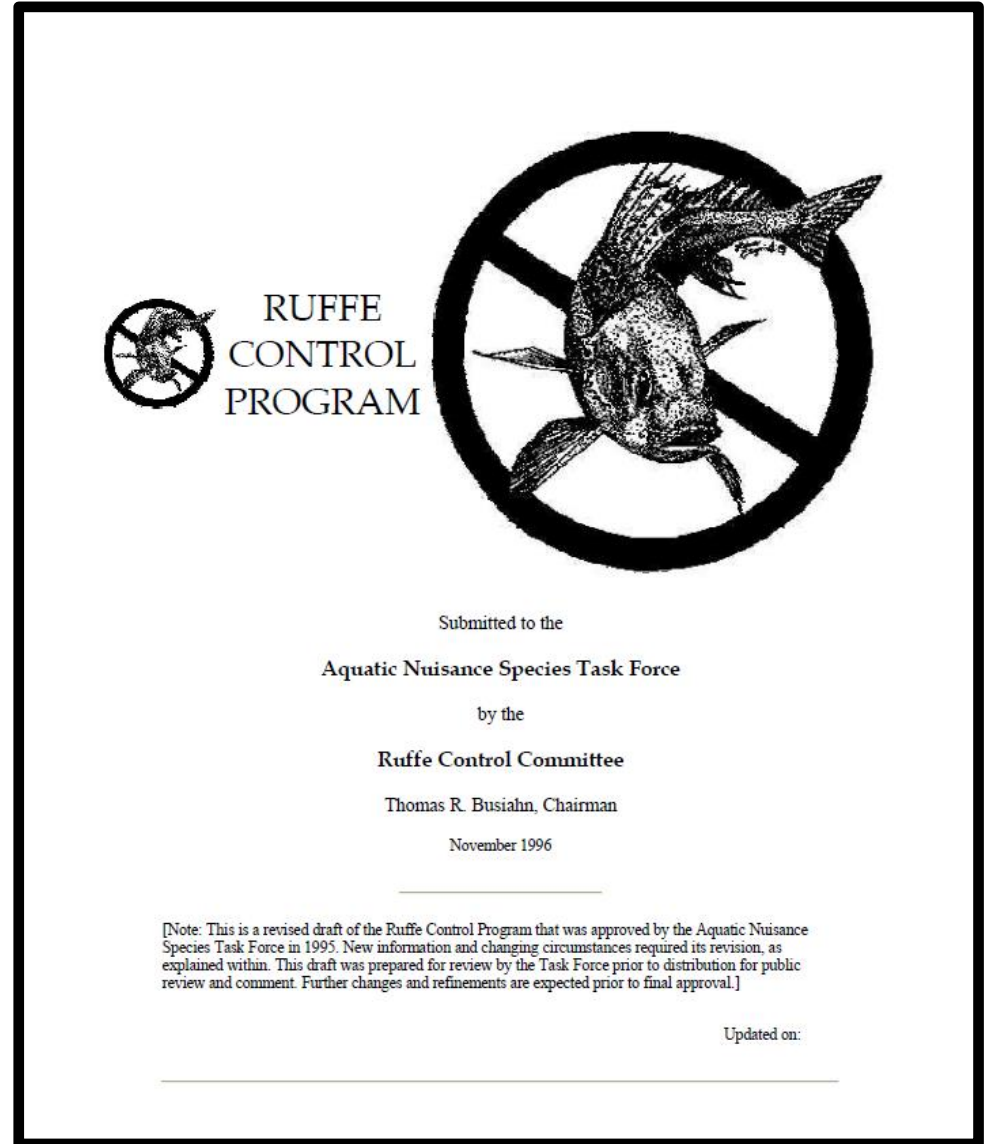
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Ruffe Control Committee

- 1986 – Ruffe invade SLRE
- 1991 – 1 million Ruffe in SLRE
 - GLFC Ruffe Task Force
 - 1992 – Ruffe threaten NA
- 1992 – National Aquatic Nuisance Species (ANS) Task Force
 - Ruffe Control Committee
 - Objective – come up with a plan!

Ruffe Control Program

- 1996
- 8 objectives
- 11 research needs
- Multi-agency, international program
 - Differing roles and responsibilities



Objectives

1. Population Reduction
2. Ballast Water Management
3. Population Investigation
4. Surveillance
5. Fish Community Management
6. Education
7. Bait Fish Management
8. Chicago Sanitary and Ship Canal

Research Needs

1. Distribution of Ruffe
2. Environmental Determinants for Distribution
3. Effects of Ruffe Colonization
4. Characterization of Ruffe Genetics
5. Chemical Control Measures
6. Attractants and Repellants
7. Ballast Water Management
8. Biological Control
9. Characteristics of Ruffe in Bait Fish Commerce
10. Dispersal Barrier in Chicago Sanitary and Ship Canal
11. Ecological Theory for Community Resilience to Ruffe Invasion

Ruffe Control Program Review Report

- What is it?
 - Actions, facts, and published reports/literature

Ruffe Control Program Review Report

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- Why?
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- Summary?
 - Program was effective!
 - Procedures, protocols, legislation, regulations, research

Ruffe Control Program Review Report

- What is it?
 - Actions, facts, and published reports/literature
- Why?
 - National ANS Task Force approached USFWS for update on actions
- Summary?
 - Program was effective!
 - Procedures, protocols, legislation, regulations, research
- What now?
 - November/December – Partner review of summary
 - December/January – Formulate recommendations for next steps based on summary
 - January – Submit recommendations and summary to National ANS Task Force

Questions?

- Mike Rucinski
- michael_rucinski@fws.gov

- Nick Frohnauer
- USFWS Great Lakes AIS Coordinator
- nicholas_frohnauer@fws.gov

