U.S. Fish & Wildlife Service

Nishnabotna Fertilizer Spill

Natural Resource Damage Assessment and Restoration

1 Year Later

What Happened?

- March 9-11, 2024, fertilizer spill at the NEW Cooperative Inc. facility in Red Oak, IA released approximately 1,500 tons of liquid nitrogen fertilizer (32% solution) into the East Nishnabotna River
- Release resulted in a fish kill extending approximately 60 miles to the confluence of the Nishnabotna and Missouri Rivers
- An estimated 800,000 fish were killed representing over 20 species
- The natural resource Trustees initiated a natural resource damage assessment and restoration (NRDAR) to evaluate the impacts of the spill on the natural resources
- Trustees are Iowa Department of Natural Resources, Missouri Department of Natural Resources, Nebraska Department of Environment and Energy and U.S. Fish and Wildlife Service

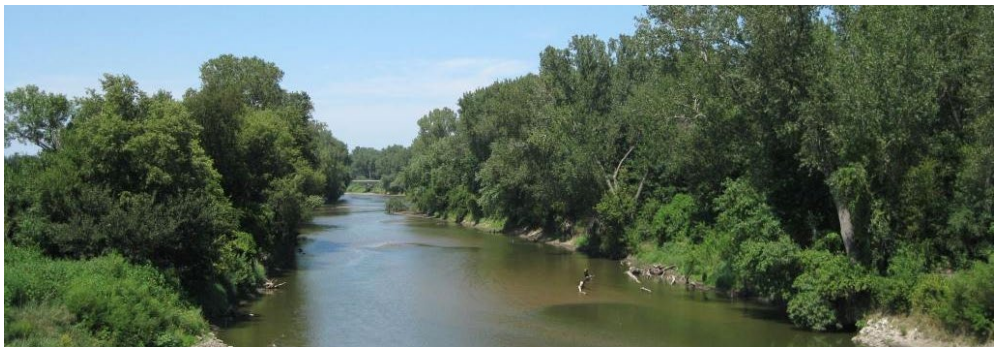

Photo: NOAA

The East Nishnabotna River at Red Oak, IA.

Photo: John Olson, IDNR

The sand shiner is a commonly found fish species in the Nishnabotna River.

The Nishnabotna Fertilizer Spill NRDAR:

- Fish, wildlife, other natural resources and their services can be injured when hazardous substances enter the environment
- Those resources are managed for the public's benefit
- Based on the damage assessment, the Trustees intend to seek compensation (damages) from NEW Cooperative, Inc. to restore or replace injured resources
- Our ultimate goal is to restore the Nishnabotna River's natural resources injured by the spill

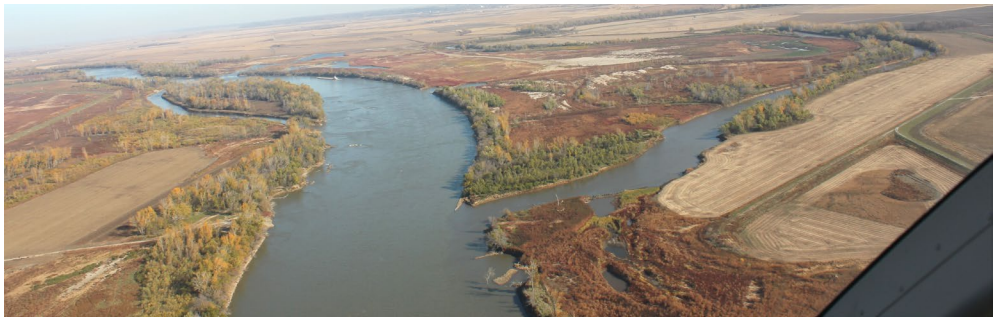

Photo: USACE

The confluence of the Nishnabotna River and Missouri River.

The Trustees began Pre-Assessment Activities in March 2024, and then initiated a NRDAR for the Nishnabotna River in November 2024

The NRDAR process generally follows these steps:

General NRDAR Process	Nishnabotna NRDAR
1. Pre-Assessment - What was harmed? ▪ Identify resources at risk ▪ Evaluate readily available data from response ▪ Determine if the case is viable	▪ Resources at risk: Federal and state listed fish; recreational use ▪ 60.39 miles of river impacted ▪ Developed Pre-Assessment Screen and Determination
2. Planning - How do we determine injuries? ▪ Determine assessment procedures ▪ Develop an Assessment Plan ▪ Evaluate costs of assessing injuries	▪ American Fisheries Society Assessment Methods ▪ Published Notice of Intent to Conduct a NRDA and Engage in a Cooperative NRDA
3. Assessment - How much injury? ▪ Field and lab testing ▪ Modeling and analysis ▪ Determine and quantify injuries	▪ Analyze water quality data ▪ Analyze fish kill data ▪ Analyze fish tissue data *In Progress*
4. Resolution - How do we recover damages? ▪ Settlement ▪ Litigation	**NEXT STEP**
5. Restoration - How do we restore? ▪ Develop a Restoration Plan (42 USC Sec. 111(i)) ▪ Compensate for injured resources and lost services ▪ Implement the Plan ▪ Monitor for long-term success	

When the Trustees reach step 5, they go through a process known as restoration planning to develop a Restoration Plan. You can learn more about restoration planning on the next page.

NRDAR CERCLA Restoration Planning Process

Select Restoration Criteria

- Trustees evaluate restoration alternatives against 10 factors under CERCLA (43 CFR §11.82(d))
- Trustees may develop additional selection criteria

Factors include, but are not limited to, cost effectiveness, technical feasibility, and compliance with laws and policies

Develop Goals/Objectives

- NRDAR's goal is to restore resources to baseline and compensate for interim service losses
- Goals and objectives establish groundwork for restoration

Example Goal: Enhance native species

Example Objective: Remove 100% of invasive species

Develop Alternatives/Projects

- Restoration alternatives - actions needed to restore natural resources and services
- Trustees determine the costs to implement
- Restoration can be onsite or offsite from the release

How much restoration to restore injured resources and/or lost services can be achieved with recovered funds?
May involve a public solicitation for restoration ideas

Evaluate Alternatives/Projects

- Trustees evaluate restoration alternatives against criteria
- Project selection aims to accomplish goals and objectives

The Trustees may propose one or multiple projects to meet their developed goals and objectives

Develop Restoration Plan (42 USC Sec. 111(i))

- Trustees write a Draft Restoration Plan including background of the release, proposed restoration alternatives, environmental compliance analyses and evaluation of the alternatives

The Draft Restoration Plan is made available for a 30-day public review and comment (43 CFR §11.81(d)(2))
May include public meeting and availability session

Implement Restoration Alternative(s)

- After considering the public's input, the Trustees select the final restoration project(s) and publish the Final Restoration Plan

Begin Restoration!

Examples of Successful Aquatic Habitat Restoration Implementation in the NRDAR Program in the United States

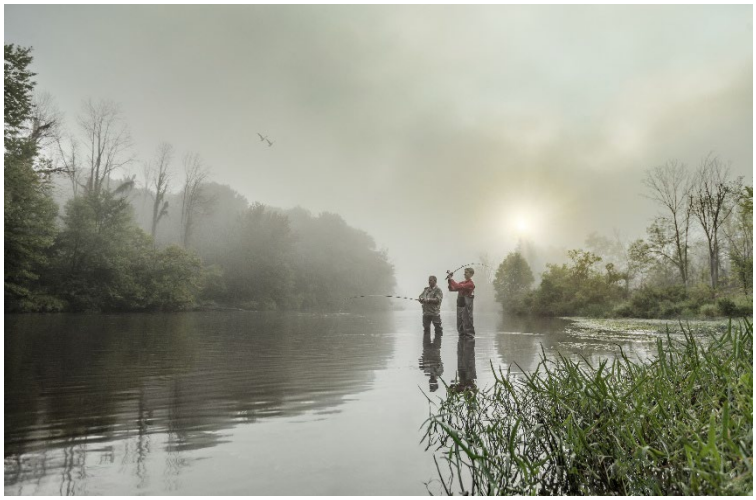

Photo: Enbrdige

Members of the public fishing on the fully restored Kalamazoo River - Kalamazoo River NPL Site, MI

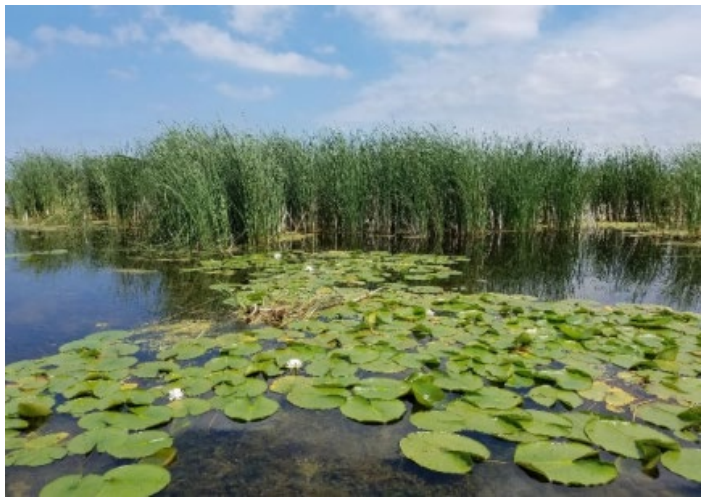

Photo: Amy Carrozzino-Lyon, UW-Green Bay

Removal of invasive plant species and revegetation improves habitat on Duck Creek to the west of Ken Euers Nature Area - Fox River and Green Bay NPL Site, WI

Local Restoration Efforts in the Nishnabotna River Watershed

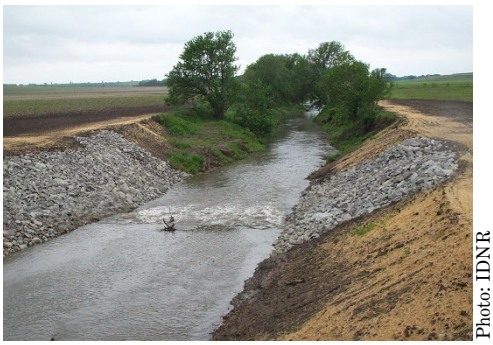

Photo: IDNR

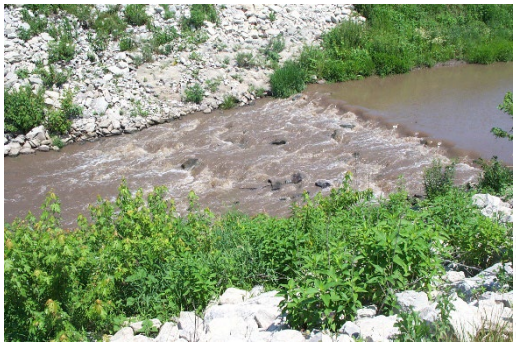

Photo: IDNR

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Bank stabilization and modified grade control structures completed in Turkey Creek, a tributary of the East Nishnabotna River. The goal of this restoration project was to allow for fish to more easily navigate barriers in their habitat during their natural migration. Restoration work was completed in Cass County, IA in 2005.

Quick Facts

- 265,000 gallons of fertilizer released
- 60.39 river miles impacted
- Four Trustees involved
- At least two federally-protected species potentially impacted

More Information:

Nishnabotna Fertilizer Spill:
https://www.fws.gov/project/nishnabotna-fertilizer-spill

USFWS NRDAR:
https://www.fws.gov/nrdar

ORDA NRDAR:
https://www.doi.gov/restoration

For questions related to the Nishnabotna Fertilizer Spill NRDAR, please contact: U.S. Fish & Wildlife Service, Midwest Region 3

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