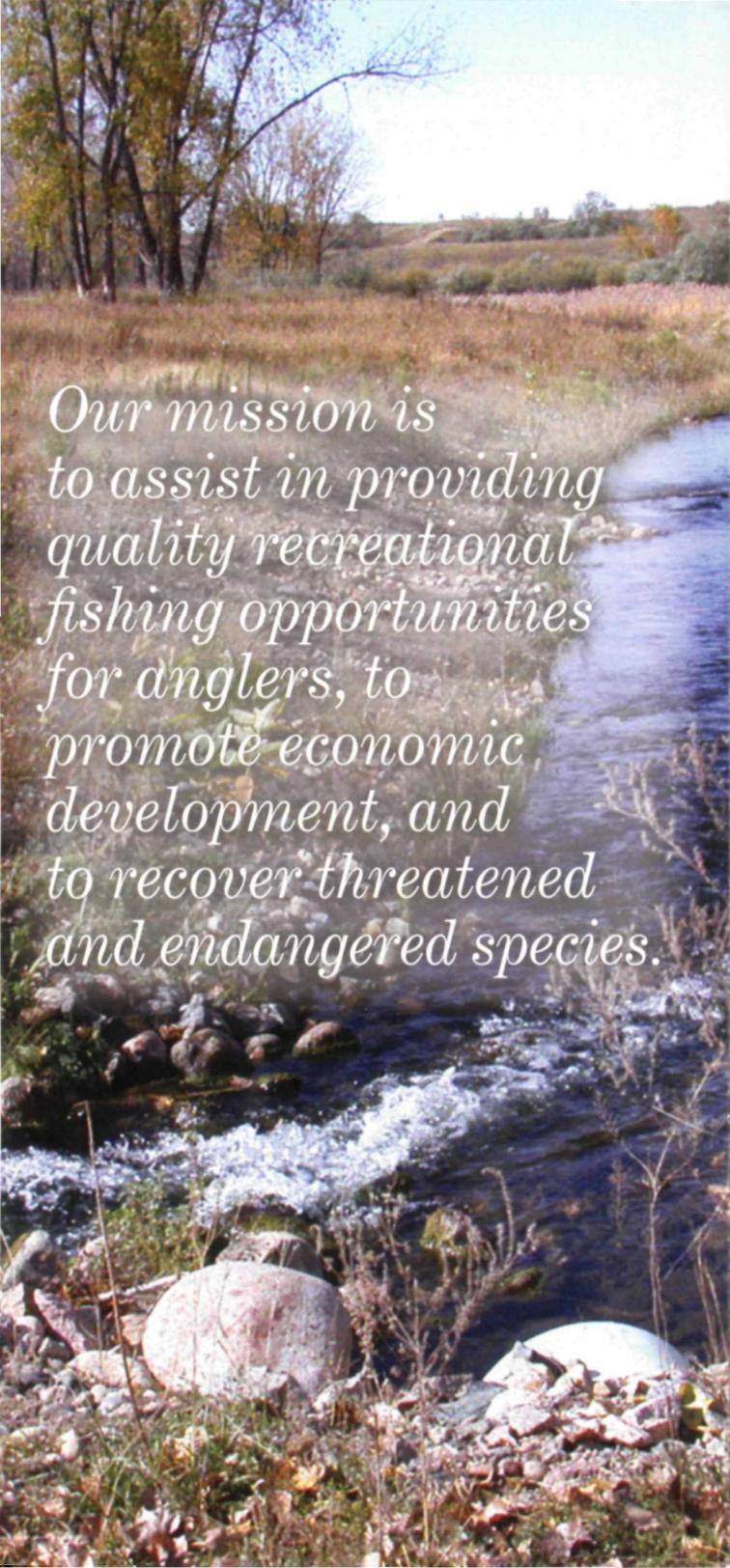


U.S. Fish & Wildlife Service

# Garrison Dam

*National Fish  
Hatchery*





**Welcome to  
Garrison Dam  
National Fish  
Hatchery**

*Our mission is  
to assist in providing  
quality recreational  
fishing opportunities  
for anglers, to  
promote economic  
development, and  
to recover threatened  
and endangered species.*

Garrison Dam National Fish Hatchery (Hatchery) plays a key role in providing quality fishing opportunities in several midwest and western states and in restoring the endangered pallid sturgeon in its northern range of the Dakotas and Montana. The Hatchery is operated by the U.S. Fish and Wildlife Service (Service) with cooperative funding through the North Dakota Game and Fish Department and the U.S. Army Corps of Engineers.

The Service is the lead Federal agency responsible for stewardship of the nation's fish and wildlife resources. Although there are some fisheries that can be maintained through natural reproduction, most fisheries today cannot keep up with existing fishing pressure and habitat changes. National fish hatcheries have the ability to provide the fish necessary to meet the growing needs of the resource and the angler.

At the request of several State game and fish agencies, the Hatchery stocks hundreds of waters with fish and ship eggs to other facilities for hatching. The fish stocking, either for restoration or to balance fish populations, increases quality fishing opportunities. For example, this Hatchery produces in excess of 25 tons of trout and salmon annually for stocking into North Dakota waters. State game and fish agencies in several other states, such as Wyoming, Idaho, and Nevada, do not operate hatcheries for coolwater fish species, such as walleye and pike, and rely on this Hatchery to produce those species. In some years, South Dakota and Montana are also provided fish or eggs to cover their needs for fish.

## Why Build the Hatchery Here?

The Hatchery was built in 1962 downstream of Lake Sakakawea for a variety of reasons. The availability of quality water that could be gravity fed into the Hatchery raceways and ponds was perhaps the key factor in choosing this location. Since the original purpose of this Hatchery was to mitigate, or offset, fishery losses in the Missouri River resulting from the construction of the dam, it made sense to locate the Hatchery close to the lake for stocking fish. Today, mitigation stockings account for only a part of the Hatchery's production with native fish reintroduction and endangered species recovery playing an ever increasing role.

*Garrison Dam National Fish Hatchery*



USACE

## What Types of Fish Can Be Found Here?

Native species like walleye, northern pike, pallid sturgeon, and shovelnose sturgeon, and non-native fishes such as chinook salmon, and brown, rainbow, and cutthroat trout are raised at the Hatchery annually, each for specific stocking needs. Some waters require annual stockings to maintain a balanced fish population. Lakes that have poor habitat or poor water quality, have experienced winterkill, or those that are fished excessively are all good candidates for stocking. Annual stocking is necessary in rivers that have been altered by dam construction and in the reservoirs that were created by dams.

Dams have radically changed river habitats. Most of our large rivers are now interrupted by reservoirs created by the dams where the water is controlled for hydropower, flooding, and navigation. Many of these reservoirs are stocked with non-native trout and salmon because the deep, cold water of the reservoir is not suited for the survival of the native river fish. Some native fish, such as pike or walleye, may successfully inhabit areas of the reservoir, but often they are not able to spawn successfully due to inadequate water conditions.

Other fish species that are occasionally produced here at the Hatchery include paddlefish, yellow perch, sauger, burbot, muskellunge, crappie, largemouth bass, smallmouth bass, and bluegill.

## Spawning Fish at the Hatchery – A Yearly Cycle

Spawning is the term used to describe the reproductive process in the life of a fish where eggs are released, fertilized, developed, and hatched. The process at the Hatchery attempts to mimic that process in the wild. However, under controlled Hatchery conditions, the survival rates are dramatically improved.

Spawning at the Hatchery occurs during specific times of the year, depending on the lifecycle of that particular species. Water temperature and season alone are enough to initiate the spawning process in some fish species such as trout, pike, and walleye.

In general, the spawned eggs are incubated in special hatching jars that maintain the correct temperature and oxygen level for the developing eggs. Depending on the water temperature, the eggs may hatch anywhere from a few days to several weeks. The newly hatched fish, called “fry,” are stocked in rearing ponds or Hatchery tanks.

# Garrison Dam

National Fish Hatchery

-  Hatchery Boundary
-  Public Road
-  Nature Trail
-  Visitor Center
-  Parking
-  Restroom
-  Accessible Site
-  Camping
-  Information Kiosk
-  Viewing Area

To Powerhouse  
and Pick City

Not to Scale

To Boat Ramp

To Hwy 200  
and Riverdale

To Spillway

Salmon Run

Hatchery Ponds

Missouri River

Eagle Nest

Lewis and Clark Trail

Wetlands Trail

Trout Pond

Hatchery Road

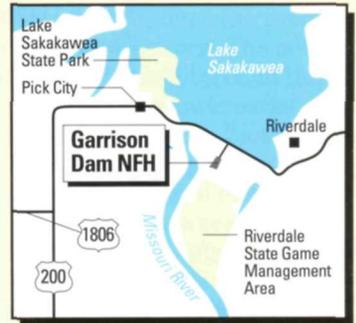
Camploop 1

Camploop 2 & 3

Riverdale State Game Management Area

Hatchery Ponds

To Camploop 4



Biologists add nutrients to the ponds to encourage growth of plankton, the microscopic plants and animals that feed the developing fry. The fry grow quickly in the ponds and in about a month, are ready to be stocked into area fishing lakes where natural spawning conditions are lacking.

In the case of young trout, salmon, and sturgeon, they spend their time indoors at the Hatchery in tanks where they are supplied with filtered well-oxygenated water at the optimal temperature and fed a diet made specifically for their growth. The following spring, the sturgeon are released in the Missouri and Yellowstone Rivers. Trout and juvenile salmon, or “smolts,” are released in Lake Sakakawea and several other fishing lakes across North Dakota. The trout provide an “instant fishery,” as they are nearly a foot long when released and are ready for the frying pan. Many of these fish are released near urban areas to provide opportunities close to home for kids and adults alike to enjoy.

### **Recovering a Dinosaur – Pallid Sturgeon Spawning**

Pallid sturgeon are undoubtedly the strangest looking of all North Dakota’s fish. They are a prehistoric fish species that can live to be over 60 years old and weigh up to 80 pounds. Covered in armor scutes, these fish have changed little since the early Triassic times. During the reign of the dinosaurs 200 million years ago, their ancestors were the dominant freshwater fish.

Pallid sturgeon once swam the entire length of the Missouri and Mississippi Rivers. However, progress in the form of dam construction and river channelization changed the river systems. Thus, the pallid sturgeon, once reliant on spring flooding to trigger their spawning and on unaltered river flows to

*Adult pallid  
sturgeon*

transport their fry hundreds of miles downstream to suitable nursery areas, are now an endangered species.



USFWS

In early June, sturgeon and paddlefish are preparing to spawn. Wild adult pallid sturgeon collected from the confluence of the Yellowstone and Missouri Rivers are held in large hatchery tanks in anticipation of spawning. Water temperature alone is not sufficient to trigger spawning in these ancient fish, so managers induce the process with hormone injections. The adult fish are carefully monitored in the weeks prior to their anticipated spawn date. Periodically, biologists remove developing eggs from the female sturgeon and examine them to see if they are ready for spawning. When the eggs are mature, a spawning hormone is injected to initiate the spawning process. If the timing is wrong, the released eggs are non-viable and the opportunity for this fish to help in the recovery of the species is lost.

Because pallid sturgeon are an endangered species, Hatchery staff use a variety of scientific methods to reestablish the sturgeon population. Using small fin clips from the fish, geneticists examine the DNA from every adult. This information helps select fish that may have unique characteristics that could possibly enable them to adapt better to the changes in river water management. In some cases, frozen milt from the Hatchery’s sperm bank is used to

produce the best genetic combination. The young sturgeon are closely monitored through their growing phases at the Hatchery and are marked with tags prior to their release. These tags enable biologists to monitor the growth, movement, and survival of each individual fish released from the Hatchery.

This information gives biologists a good picture of the overall health of the pallid sturgeon population. Our stocking efforts have been successful in preventing the extinction of this fish.

### **What can I see or do at the Hatchery?**

We welcome visitors to the Hatchery and encourage you to spend time observing Hatchery operations, viewing fish in the aquariums, or taking a stroll down our hiking trails. The fish production cycle at the Hatchery is in constant change, coinciding with the spawning time for the various fish species, so each visit will reveal something new.

Juvenile pallid sturgeon, trout, and salmon can be viewed in the tanks and raceways year-around. Egg incubation for pike and walleye occurs in late April through May. If you visit the Hatchery in mid-October, you will be able to witness the migration of chinook salmon in the creek along the Hatchery trails and watch as eggs are collected from these awesome fish. A visitor center, complete with five 400-gallon aquariums, will provide you the pleasure of viewing the fishes of North Dakota in their environment.

If you are up for a stroll, the Wetlands and Lewis and Clark hiking trails provide excellent opportunities for wildlife observation or for simply enjoying the out-of-doors. Birders will be rewarded as many of the birds found in the State may be observed along the route. Cross country skiing

### *Lewis and Clark Trail*



Rob Holm / USFWS

is also encouraged on the groomed trails, weather permitting. Come often as the experience changes with the seasons. The length of the trail is about 1-½ miles. You won't be disappointed.

### **Accessibility**

The visitor center aquariums are open year-round, and admission is free. The Hatchery is open from 8:00 am to 3:30 pm weekdays throughout the year and on weekends from Memorial Day through Labor Day. Group tours are available with prior reservations. Garrison Dam National Fish Hatchery is located downstream of the Garrison Dam and Lake Sakakawea off State Highway 200, near Riverdale, North Dakota.

Equal opportunity to participate in and benefit from programs and activities of the U.S. Fish and Wildlife Service is available to all individuals regardless of physical or mental ability. Dial 711 for a free connection to the State relay service for TTY and voice calls to and from the speech and hearing impaired. For more information or to address accessibility needs, please contact the Hatchery staff at 701 / 654 7451, or the U.S. Department of the Interior, Office of Equal Opportunity, 1849 C Street, NW, Washington, D.C. 20240.

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U.S. Fish & Wildlife Service

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## *National Fish Hatchery*