

APPENDIX D

FISH SGCN SPECIES ACCOUNTS

Contents

Blacknose Shiner <i>Notropis heterolepis</i>	260
Blue Sucker <i>Cycleptus elongatus</i>	261
Burbot <i>Lota lota</i>	262
Carmine Shiner <i>Notropis percobromus</i>	263
Finescale Dace <i>Phoxinus neogaeus</i>	264
Flathead Chub <i>Platygobio gracilis</i>	265
Hornyhead Chub <i>Nocomis biguttatus</i>	266
Lake Sturgeon <i>Acipenser fulvescens</i>	267
Northern Pearl Dace <i>Margariscus nachtriebi</i>	268
Northern Redbelly Dace <i>Chrosomus eos</i>	269
Paddlefish <i>Polyodon spathula</i>	270
Pallid Sturgeon <i>Scaphirhynchus albus</i>	271
Pugnose Shiner <i>Notropis anogenus</i>	272
Sicklefin Chub <i>Macrhybopsis meeki</i>	273
Sturgeon Chub <i>Macrhybopsis gelida</i>	274
Trout-perch <i>Percopsis omiscomaycus</i>	275

Fish SGCN and SGIN categories.

Common Name	Species of Greatest Conservation Need			Species of Greatest Information Need			
	SGCN a. Regionally or globally imperiled	SGCN b. At-risk or declining, ND important	SGCN c. At-risk, expert review	SGIN d. Scientific knowledge deficient	SGIN e. Potentially stable in ND, declining in range	SGIN f. Potentially stable but life history trait vulnerability	SGIN g. Declining, ND significance uncertain
Blacknose Shiner			X				
Blue Sucker		X					
Burbot			X				
Carmine Shiner			X				
Finescale Dace			X				
Flathead Chub			X				
Hornyhead Chub			X				
Lake Sturgeon	X						
Northern Pearl Dace			X				
Northern Redbelly Dace			X				
Paddlefish		X					
Pallid Sturgeon	X						
Pugnose Shiner			X				
Sicklefin Chub		X					
Sturgeon Chub		X					
Trout-perch			X				
Largescale Stoneroller				X			
Silver Chub				X			
silvery minnows <i>Hybognathus spp.</i>				X			

Blacknose Shiner *Notropis heterolepis*

Description/Identification: Grows to a length of 3 ½ inches. Compressed body. Black lateral line entire length of body with crescents within it. Olive to straw colored on top with lighter sides and belly. Scales outlined below lateral line.

Status: Resident.

Reason for SGCN Designation: Extirpated from much of its historic range in North Dakota. Populations confined to only a few sites.

Habitat: Primarily found in vegetated pools that are part of a stream system.

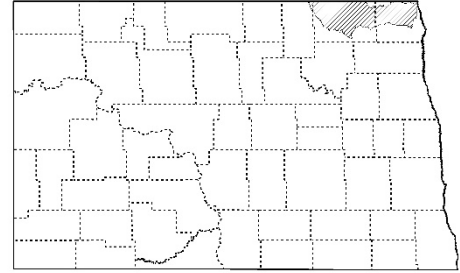
Threats: Degradation of quality habitat is recognized as the leading cause for decline in this species; specifically, loss and destruction of riparian habitat along waterways caused by current land use practices.

Research and Monitoring:

The states rivers and streams are surveyed for species on a 5-year rotating schedule. North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensures affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Blacknose Shiner historical range. Photo Credit: Konrad Schmidt

Blue Sucker *Cycorepus elongatus*

Description/Identification: Body generally compressed and elongated. Head small for body size. Bluish gray in color. Dorsal fin long, falcated. Deeply forked caudal fin. Snout rounded with subterminal mouth. Papillae on lips.

Status: Resident.

Reason for SGCN Designation: Loss of free-flowing stretches of the Missouri River due to impoundment and channelization has reduced suitable habitat for this species.

Habitat: This species is well adapted to living in swift current of large turbid rivers. Found mostly in riffles or narrow chutes. Requires gravel bottoms free of sediment.

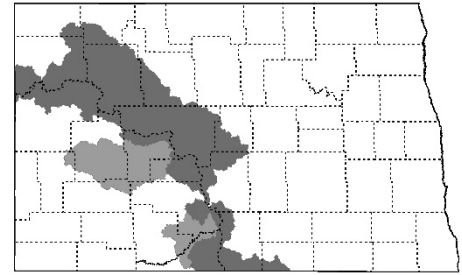
Threats: The loss of suitable habitat caused by a change in the riverine regime is the largest problem affecting this species. Historically, blue suckers were present throughout the entire Missouri River System. The construction of dams and channelization has largely changed the river system. Dams have reduced the sediment load, which in turn has lowered turbidity. The release of cold water from impoundments has lowered the overall temperature of the system making much of the Missouri River too cold for blue sucker. Dams also have fragmented populations by restricting movement throughout the system. The use of water for agricultural, industrial, and municipal purposes along the river may impact blue sucker populations by reducing water levels. Entrainment of fish in irrigation systems, and oil and gas development within the basin are also recognized as threats.

Research and Monitoring:

- The USFWS, USGS, and Montana Fish, Wildlife, and Parks currently track movements of tagged blue sucker in the Yellowstone and Missouri rivers.
- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.
- Locate key spawning areas in the Missouri River system.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.
- Protect key spawning areas within the Missouri River System when identified.



Blue Sucker primary (dark gray) and secondary (light gray) range.
Photo Credit: USFWS

Burbot *Lota lota*

Description/Identification: The only freshwater member of the Cod family. The appearance is a cross between an eel and a catfish, with a flattened head and a single barbel on the underside of the jaw and a slender eel-like tail. The color ranges from a pale green with brown spots to a darker olive.

Status: No Federal Designation.

Reason for SGCN Designation: Biologists believe populations show some cause for concern. Continued data collection is needed to monitor the species.

Habitat: Burbot are found in large river systems and reservoirs.

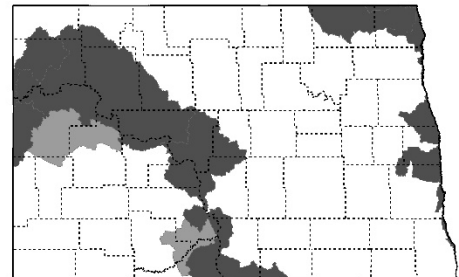
Threats: Impoundments to the Missouri and Red River systems have impeded movement of fish throughout the systems, separating populations and preventing migration.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Burbot primary (dark gray) range and secondary (light gray) range. Photo Credit: NDGF

Carmine Shiner *Notropis percobromus*

Description/Identification: Slender body shape with a sharply pointed head. Grows up to 3 ½ inches in length. Dark on top with a black streak on top of a silver stripe. Body is a bluish sheen. Faint red spot at the base of the dorsal fin. Breeding males have bright red heads.

Status: Resident.

Reason for SGCN Designation: Rare in the Red River drainage. Stream degradation and loss of suitable habitat within its range due to land use practices is the major concern for the decline of this species.

Habitat: Found in pools with some current, or more swiftly flowing stretches adjacent to pools.

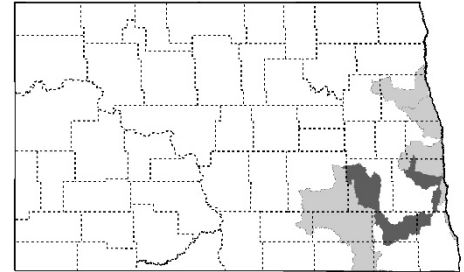
Threats: Degradation of quality habitat is recognized as the leading cause for decline in this species; specifically, loss and destruction of riparian habitat along waterways caused by current land use practices. Additionally, the addition of dams to the Sheyenne River has fragmented habitat and blocked fish movement.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Carmine Shiner primary (dark gray) range and possible (light gray) range. Photo Credit: Konrad Schmidt

Finescale Dace *Phoxinus neogaeus*

Description/Identification: Grows to 4 inches in length. Gray along top of body with olive sides above a gold stripe that runs the length of the body. White/silver belly. Entire body speckled in black.

Status: Resident.

Reason for SGCN Designation: Rare species. The only viable population is believed to be found in the Tongue River. Last documented in 1991.

Habitat: The Finescale dace usually occurs in cool, boggy waters of lakes and ponds, or streams which are 1-3 meters wide and 0.1-0.5 meters deep, with substrates of sand, gravel, or silt.

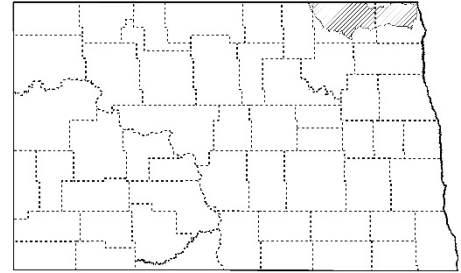
Threats: A decrease in water quality due to a number of land use practices in the Red River basin has contributed to the decline of this species. The addition of dams within the Red River drainage has changed the flow regime of the basin. Impoundments also fragment habitat and blocks migration of fish species.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Finescale Dace historical range. Photo Credit: Konrad Schmidt

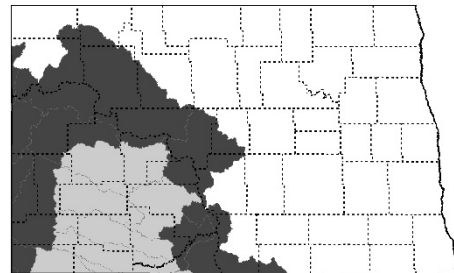
Flathead Chub *Platygobio gracilis*

Description/Identification: The flathead chub is a larger member of the Chub family, reaching a foot in length. It has a broad, flat head, tapering to a point. Its eye appears small compared to body size. Its color is dusky brown on top with silvery sides and has large sickle-shaped dorsal and pectoral fins. The first ray of the dorsal fin extends beyond last ray. It has a barbel in each corner of its mouth.

Status: Resident.

Reason for SGCN Designation: A native species to North Dakota. Major declines over much of its range have been documented. Habitat loss is the main reason for this designation. Impoundment and channelization of the Missouri river system has changed the slow moving, warm, turbid water to reservoir habitat.

Habitat: Found mostly in large turbid rivers with sand or gravel bottoms.



Flathead Chub primary (dark gray) range and possible (light gray) range. Photo Credit: Konrad Schmidt

Threats: The loss of habitat caused by a change in the riverine regime is the largest problem affecting this species. Historically, flathead chub were present throughout the entire Missouri River System. The construction of dams and channelization has largely changed the river system. Dams have reduced the sediment load, in turn lowering turbidity. The release of cold water from impoundments has lowered the overall temperature of the system, making much of the Missouri River too cold for flathead chub. Dams have fragment populations by restricting movement. Flathead chub now only occur in those areas that maintain qualities of the pre-impoundment system.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensures affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.

Hornyhead Chub *Nocomis biguttatus*

Description/Identification: Member of the minnow family growing to 10 inches in length. Olive on top and grows lighter as you move down the body with an iridescent stripe along back. Belly pale yellow. Bright red spot behind eye on males, brassy in females. Males have many small bumps or tubercles on head.

Status: Year-round Resident

Reason for SGCN Designation: Only known to occur in the Forest and Park rivers in North Dakota. Water quality degradation is a concern for the rivers this species inhabits.

Habitat: Found in pools and slow runs of clear, small rivers. In North Dakota the Hornyhead Chub is presently found in the Forest and Park rivers. Historically it was also found in the Turtle, Sheyenne and Maple rivers but has not been documented there recently.

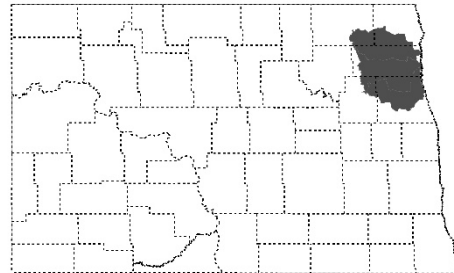
Threats: Degradation of quality habitat is recognized as the leading cause for decline of this species; specifically, loss and destruction of riparian habitat along waterways caused by current land use practices. Impaired water quality also contributed to the decline of this species.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensures affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Hornyhead Chub primary range. Photo Credit: Konrad Schmidt

Lake Sturgeon *Acipenser fulvescens*

Description/Identification: The lake sturgeon is torpedo-shaped primitive fish with a cartilaginous skeleton. It has five rows of large bony plates called scutes on its body. It has a flattened snout with barbels and a protractile mouth. Typically, adult lake sturgeon grow to about 4-6 feet long, weigh 30-80 pounds, and live to be 50-100 years old.

Status: No federal Designation. Was petitioned but not warranted in 2023.

Reason for SGCN Designation: Regionally or Globally Imperiled. NDGF fisheries staff recently reintroduced lake sturgeon to the Pembina River.

Habitat: Large Freshwater Lakes and river ecosystems. They prefer moderately clear water over sand, gravel, or rubble bottoms. Spawning habitat is characterized by gravel, cobble and boulders with interstitial spaces.

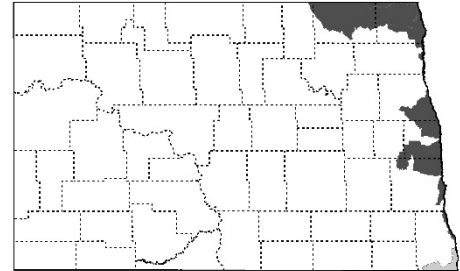
Threats: River barriers reduce access to spawning and rearing habitat.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.
- Lake Sturgeon were reintroduced into the Pembina River in 2023
- All reintroduced fish were marked with PIT tags for monitoring.
- The Pembina River is surveyed for all species 5-year rotation.
- MN DNR has been stocking Lake Sturgeon into the Red River of the North and its MN tributaries since 1997.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.
- Reintroduction into historic drainages of the Red River.
- Regulated Harvest.



Lake Sturgeon primary (dark gray) and possible (light gray) range. Photo Credit: NDGF

Northern Pearl Dace *Margariscus nachtriebi*

Description/Identification: Length up to 6 ½ in. Member of the minnow family. Body generally cylindrical in shape. Back olive in color with a black stripe running along the side. Faded in adults. Silver sides with black specks. Belly yellow, red, white, or a combination of the three.

Status: Year-round Resident.

Reason for SGCN Designation: Degradation of habitat is the main reason for the designation of the Northern Pearl Dace. Critical clear headwater streams used by this species are threatened by a change in land use practices.

Habitat: Found in pools of streams and small rivers, usually with sand or gravel bottom. They may also be found in ponds and lakes. Pearl Dace has not been recorded in many locations in North Dakota. The Tongue River, a small tributary of the Pembina River in northeastern North Dakota, has a population of Pearl Dace. They have also been recently recorded in Beaver and Spring Creek in the Missouri River drainage and Willow Creek in the Souris River drainage. Historically they were present in Goose River but have not been documented recently.

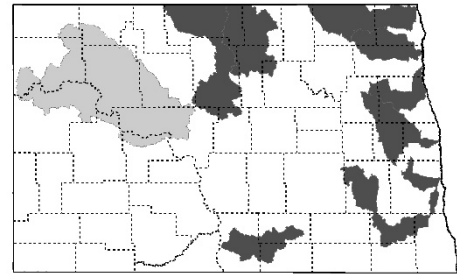
Threats: Degradation of quality habitat is recognized as the leading cause for decline of this species; specifically, loss and destruction of riparian habitat along waterways caused by current land use practices. Impaired water quality also contributed to the decline of this species.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Northern Pearl Dace primary (dark gray) and possible (light gray) range. Photo Credit: Konrad Schmidt

Northern Redbelly Dace *Chrosomus eos*

Description/Identification: Member of the minnow family. Up to 3.5 inches in length. Dark dorsally, with two black lines that run along its side. The upper line is thin and breaks into spots at the tail. The lower line continues the length of the fish. Belly is red, white, yellow or a combination of the three.

Status: Year-round Resident.

Reason for SGCN Designation: Clear headwater streams used by this species are threatened by current land use practices.

Habitat: The Northern Redbelly Dace is reliant on cold, clear headwater streams and can be found in pools and behind dams in those streams. The bottom substrate is normally mud. Northern Redbelly Dace are associated with vegetation in these areas. In the Red River drainage, the Northern Redbelly Dace has been historically documented in the Rush, Green, Goose, Tongue, and Park rivers, and spring-fed pools in the Sheyenne River. A specific area of note is the stretch of Sheyenne River that runs through the Sheyenne National Grasslands and Mirror Pool Wildlife Management Area. This stretch has the only recent documentation in the Red River drainage. Populations have been historically found in the Missouri River drainage, specifically Brush, Apple, Beaver, and Antelope creeks, and the Cannonball, Knife, Heart, and Little Missouri Rivers. Recent surveys appear to show a decline in that distribution.

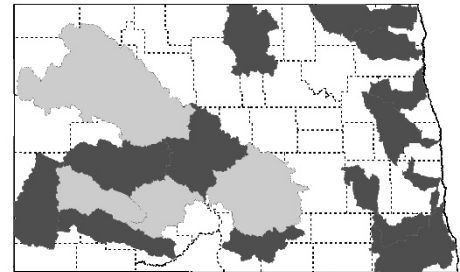
Threats: Degradation of quality habitat is recognized as the leading cause for decline in this species; specifically, loss and destruction of riparian habitat along waterways caused by a change in land use. This species requires clear water and is highly susceptible to increased sedimentation.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Northern Redbelly Dace primary (dark gray) and possible (light gray) range. Photo Credit: Konrad Schmidt

Paddlefish *Polyodon spathula*

Description/Identification: Can grow seven feet in length and weigh over 100 pounds. Large paddle-shaped snout. Smooth skin has no scales. Color ranges from blue gray to nearly black with a lighter underside. Long fleshy gill covers.

Status: Year-round resident.

Reason for SGCN Designation: Loss of river habitat due to channelization and impoundment has caused decline in this species with the state and range wide.

Habitat: In summer months, slack water areas of a river are a preferred habitat for Paddlefish. If this is not available, areas of low flow are sought such as behind sandbars, wing dams, or other structures. In winter Paddlefish move into the deeper water of Lake Sakakawea. Paddlefish spawn in the spring and lay their eggs over silt-free gravel beds. The two most important areas for Paddlefish in North Dakota are the Missouri River from upper Lake Sakakawea to the Montana border, and the Yellowstone River. These two river stretches are used by the Paddlefish as migration routes to their spawning areas.

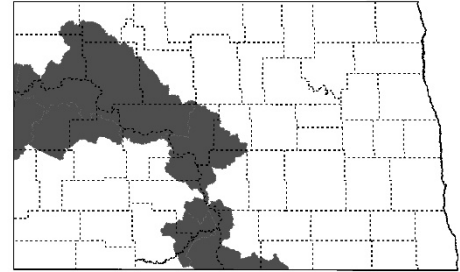
Threats: Impoundments along the Missouri River System have changed the flow regime of the river and cover needed for spawning habitat. Slower flows have allowed silt to cover important gravel beds, making them unusable by spawning fish. As a result, reproduction only occurs in the wild when conditions are favorable in the Yellowstone River. Dams have also impeded the movement of fish throughout the system, separating populations. This brings up concerns about genetic integrity. Over-harvest for the fishes' valuable roe is a concern for this species. The North Dakota Game and Fish Department regulates a controlled harvest for Paddlefish as a sport fish.

Research and Monitoring:

- Currently populations within the Missouri River system are being monitored by use of information obtained from harvested fish and tagging studies. Age, growth rates, and sexual structure of the population are being documented.
- Young-of-the-year surveys are conducted annually on the upper end of Lake Sakakawea.

Management Recommendations:

- Protect rivers, streams, and riparian areas where possible (i.e. easements and/or acquisition).
- Work with partners to ensure Swampbuster provisions are maintained.
- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies (i.e. FAA and FHWA) not covered by Section 404 or Swampbuster to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop minimum in-stream flow recommendations.
- Develop and promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMP's.
- Develop and promote incentive programs for adjacent landowners to improve bank stability through land use changes (e.g. RRRBP).
- Promote non-traditional bank stabilization measures (i.e. root wads, willow waddles, vegetative slope).
- Implement intake conditions or recommendations (i.e. screening and velocity requirements).
- Work with the dam owners for potential removal or modification.
- Cooperate with Fisheries Division on state aquatic nuisance species plan.
- Survey areas of data gaps. Conduct research/surveys to establish baseline information on SCP.
- Continue to work with partners in promoting and distributing educational materials related to river, stream and riparian values and good stewardship.



Paddlefish range. Photo Credit: NDGF

Pallid Sturgeon *Scaphirhynchus albus*

Description/Identification: Grows up to seven feet in length. Light gray in color with a lighter underside. Small black eyes set on a shovel-shaped head. Four barbels on the underside of the head with the two inner barbels shorter than the outer two. This distinguishes it from the common shovelnose sturgeon. The top side of its body is covered in large scales called scutes.

Status: Year-round resident. Abundance: Rare.

Reason for SGCN Designation: Loss of river habitat due to channelization and impoundment has caused declines in this species within the state and range wide. Dams have also fragmented populations.

Habitat:

Pallid Sturgeon are well adapted for life on the bottom of a fast flowing, turbid river. Generally found in stretches of river with 40 to 90 cubic feet per second velocity. Areas at the end of chutes or sandbars are commonly used, most likely for energy conservation and feeding. The range of depths used varies seasonally, with most fish being found shallow in the spring and deeper in the fall. Pallid Sturgeons are most commonly found in the upper Missouri River upstream of Lake Sakakawea, and in the Yellowstone River near the confluence of the two rivers.

Threats:

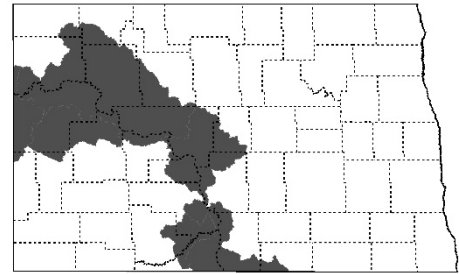
Destruction and alteration of habitats by human modification of the river system is likely the primary cause of declines in reproduction, growth, and survival of Pallid Sturgeon (USFWS 1993). Much of the species' habitat was destroyed when a number of large dams were constructed on the Missouri River, producing a number of large reservoirs. These structures changed the velocity, volume and timing of flows in the river from pre-impoundment. In the system much of the remaining river has been channelized. This has changed the velocity, reduced the width of the river, and prevented water flow into backwater areas important to this species (USFWS 1993).

Research and Monitoring:

- Currently the USFWS tracks a number of fish with radio transmitters. Habitat use, seasonal movement and other information is obtained.
- Captive breeding and rearing of Pallid Sturgeon at Garrison Dam National Fish Hatchery.
- USFWS, USGS, and Montana FWP conduct population surveys of the Pallid Sturgeon in the Yellowstone River and Williston reach of the Missouri River.

Management Recommendations:

- Protect rivers, streams, and riparian areas where possible (i.e. easements and/or acquisition).
- Work with partners to ensure Swampbuster provisions are maintained.
- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies (i.e. FAA and FHWA) not covered by Section 404 or Swampbuster to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop minimum in-stream flow recommendations.
- Develop and promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMP's.
- Develop and promote incentive programs for adjacent landowners to improve bank stability through land use changes (e.g. RRRBP).
- Promote non-traditional bank stabilization measures (i.e. root wads, willow waddles, vegetative slope).
- Implement intake conditions or recommendations (i.e. screening and velocity requirements).
- Work with the dam owners for potential removal or modification.
- Cooperate with Fisheries Division on state aquatic nuisance species plan.
- Survey areas of data gaps. Conduct research/surveys to establish baseline information on SCP.
- Continue to work with partners in promoting and distributing educational materials related to river, stream and riparian values and good stewardship.



Pallid Sturgeon primary range. Photo Credit: NDGF

Pugnose Shiner *Notropis anogenus*

Description/Identification: Grows to 2 inches in length. Olive on top with a thin black line that runs along the upper back. Sides and belly silvery with a black outline around the edge of scales. Mouth on this species is sharply upturned.

Status: Year-round Resident.

Reason for SGCN Designation: Rare in the Red River, possibly extirpated. It has not been collected in 40 years in North Dakota but is present in Red River tributaries in Minnesota.

Habitat: Inhabits pools and small runs in clear streams. Prefers vegetated areas with a firm bottom. This species was last collected in the Forest River in 1964, but it is not known if it is still present. Historically found in the Red and Sheyenne rivers. No key areas have been identified for this species.

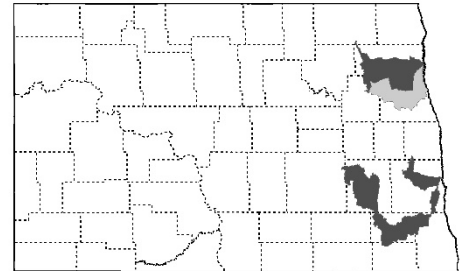
Threats: Degradation of quality habitat is recognized as the leading cause for decline in this species; specifically, loss and destruction of riparian habitat along waterways caused by a change in land use. This species requires clear water and is highly susceptible to increased sedimentation.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Pugnose Shiner Primary (dark gray) range and Possible (light gray) range. Photo Credit: Konrad Schmidt

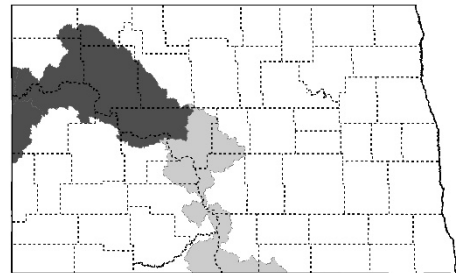
Sicklefin Chub *Macrhybopsis meeki*

Description/Identification: Grows to a length of 4 inches. Member of the minnow family. Light green to brown on dorsal side with a lighter ventral region. Brown and silver spots cover its sides. The snout extends over the mouth, with a barbel in each corner. Similar to the Sturgeon Chub except the dorsal fin has a sickle-shaped edge

Status: Year-round resident

Reason for SGCN Designation: This native species has declined from its historic population numbers. Habitat loss is the main reason for this designation. Impoundment and channelization of the Missouri River System has converted it to a system of large reservoirs.

Habitat: Prefer turbid water such as is present in the upper Missouri and Yellowstone rivers in North Dakota. Found mainly within the main channel of these systems. Prefer water with a turbidity of less than 500 NTU (nephelometric turbidity unit). Sicklefing Chub can be found at most depths within this habitat, but prefer depths between 2 and 5 meters with summer water temperatures in the range of 20°C to 24°C. In North Dakota, populations occur in the Yellowstone and upper Missouri rivers near the confluence of the two rivers.



Sicklefin Chub primary (dark gray) range and possible (light gray) range. Photo Credit: Dave Ostendorf

Threats: The loss of suitable habitat caused by a change in the riverine regime is the largest problem affecting this species. Historically, Sicklefing Chub were present throughout the entire Missouri River system. The construction of dams and channelization has largely changed the river system. Dams have reduced the sediment load, in turn lowering turbidity. The release of cold water from impoundments has lowered the overall temperature of the system, making much of the Missouri River too cold for Sicklefing Chub. Dams also have fragmented populations by restriction movement throughout the system. Entrenchment due to regulated flow control of the Missouri River has increased the rate of flow through the system. Narrowing of the river channel has reduced habitat and changed the natural cycles of the river by reducing over-land flooding. Sicklefing Chub now only occur in those areas that maintain qualities of the pre-impoundment system.

Research and Monitoring:

- Young of the year sturgeon chub are sampled as part of the Pallid sturgeon Population assessment program.
- No dedicated research and monitoring occur for this species.

Management Recommendations:

- Identify and protect important spawning and rearing areas.
- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.

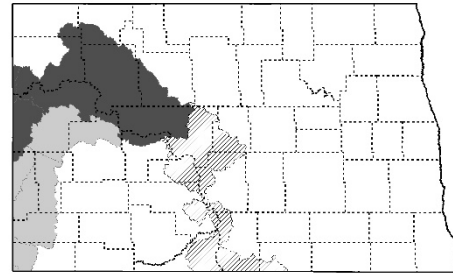
Sturgeon Chub *Macrhybopsis gelida*

Description/Identification: Grows to a length of 4 inches. Member of the minnow family. Light green to brown on dorsal side with a lighter ventral region. Brown and silver spots cover its sides. The snout extends over the mouth, with a barbel in each corner. Similar to the Sicklefin Chub except the dorsal fin has a straight edge.

Status: Year-round resident.

Reason for SGCN Designation: A native species, but found in lower numbers than historically. Habitat loss is the main reason for this designation. Impoundment and channelization of the Missouri River System has changed the slow-moving, warm, turbid water to fast, clear and cold.

Habitat: Prefer turbid water such as is present in the upper Missouri and Yellowstone rivers in North Dakota. Found mainly within the main channel of these systems. Prefer water with a turbidity of less than 500 NTU (nephelometric turbidity unit). Sicklefin Chub can be found at most depths within this habitat, but prefer depths between 2 and 5 meters with summer water temperatures in the range of 18°C to 24°C. In North Dakota, populations occur in the Yellowstone and upper Missouri rivers near the confluence of the two rivers.



Sturgeon Chub primary (dark gray) Possible (light gray) and historical (hatch) range. Photo Credit: Dave Ostendorf

Threats: The loss of suitable habitat caused by a change in the riverine regime is the largest problem affecting this species. Historically, Sicklefin Chub were present throughout the entire Missouri River system. The construction of dams and channelization has largely changed the river system. Dams have reduced the sediment load, in turn lowering turbidity. The release of cold water from impoundments has lowered the overall temperature of the system, making much of the Missouri River too cold for Sicklefin Chub. Dams also have fragmented populations by restriction movement throughout the system. Entrenchment due to regulated flow control of the Missouri River has increased the rate of flow through the system. Narrowing of the river channel has reduced habitat and changed the natural cycles of the river by reducing over-land flooding. Sicklefin Chub now only occur in those areas that maintain qualities of the pre-impoundment system.

Research and Monitoring:

- Young of the year sturgeon chub are sampled as part of the Pallid sturgeon Population assessment program.
- No dedicated research and monitoring occur for this species.

Management Recommendations:

- Identify and protect important spawning and rearing areas.
- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.

Trout-perch *Percopsis omiscomaycus*

Description/Identification: Grows to 7 inches. Light yellow in color with rows of dusky brown spots along the back. Top of head is unscaled. Pearly white spots on the underside of the head. Also has a small fleshy adipose fin near the tail.

Status: Year-round resident.

Reason for SGCN Designation: Imperiled in much of its northern range. Loss of suitable habitat seems to be the largest factor affecting this species.

Habitat: Primarily found in lakes but may be found in deeper pools of rivers and streams. Bottoms substrate is normally sand. In North Dakota found in the Red River system including the Sheyenne River. Recent surveys appear to indicate some expansion from historic distribution. Records also exist from the Souris River.

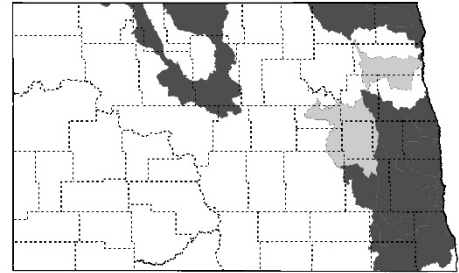
Threats: Land uses, most notably agricultural practices have changed the landscape and reduced the habitat quality for this species. Specifically, the use of ditches to drain wetlands has drastically changed the flow regime and increased the levels of sediment and runoff that enter streams and rivers.

Research and Monitoring:

- The states rivers and streams are surveyed for species on a 5-year rotating schedule.
- North Dakota DEQ staff survey rivers and streams through their Index of Biotic Integrity program.

Management Recommendations:

- Continue to use the Section 404 program to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with other federal agencies not covered by 404 to ensure affected rivers and riparian areas are mitigated to replace form and function.
- Continue to work with NDSWC to develop instream flow recommendations.
- Promote incentive programs to restore riparian areas.
- Continue to work with ND 319 Task Force in prioritizing projects within impaired watersheds and implementing BMPs.
- Implement intake conditions or recommendations.
- Cooperate with NDGFD Fisheries staff on state aquatic nuisance species plans.
- Removal of dams and other barriers.
- Retrofitting dams with fish passage structures.



Troutperch primary (dark gray) range and possible (light gray) range. Photo Credit: Konrad Schmidt