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Endangered and Threatened Fishes of South Dakota

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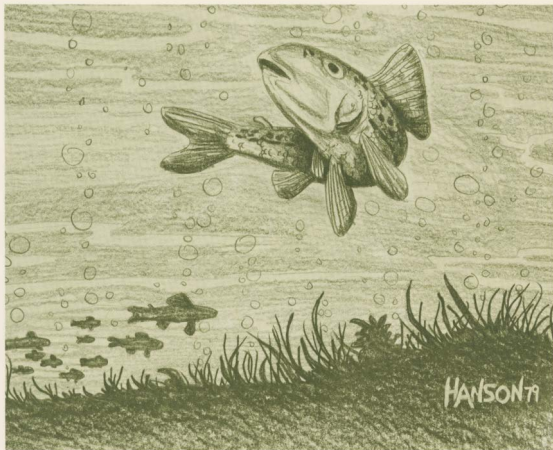


ENDANGERED SPECIES

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ENDANGERED AND THREATENED
FISHES
OF SOUTH DAKOTA



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ENDANGERED AND THREATENED FISHES OF SOUTH DAKOTA

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An average person might know seven or eight of the approximately 100 fish species found in South Dakota. Once he had named the walleye, largemouth bass, northern pike, and other common sport fishes, he'd quickly lump the remaining ones into broad, unimportant categories.

He might name the sucker. In reality, there are at least 11 species of suckers present in the state.

He'd list "minnow." But there are at least 36 minnow species in the state and many other small fishes that people call "minnows."

Being too small to catch or not good to eat should not label a fish as being unimportant. We should not arbitrarily consign any species to extinction by mismanaging or ignoring it simply because the species appears to have no practical value to us today.

All fish species are dependent upon the amount of habitat available to them. The amount of adequate habitat determines how many and where fishes are found.

Fishes such as the black bullhead, fathead minnow, and white sucker have always been common throughout the state. Others, such as the largemouth bass and bluegill, were originally found in South Dakota, but due to man's activities (pond building and stocking), their numbers and distributions have increased.

Others, such as the carp, are not native to South Dakota but can be found in almost any of our ponds, lakes, and streams.

All of these fishes are common because the aquatic habitats that they can utilize are abundant in the state.

A second group of South Dakota fishes is not as fortunate. Either the state historically has had little habitat that they could utilize or the habitats they did use have been altered by man.

The endangered and threatened fishes of South Dakota fall into this second group. Some were never found in large numbers in the state. South Dakota waters may fall at the extreme edge of their range or usable habitats might be widely dispersed in the state. Some fishes were once found in greater numbers and with wider distributions than they are today. They might be large river forms whose habitat has been altered by reservoirs. Others may have required clear, gravel bottomed prairie streams and could not survive in silt laden ditches.

Man's activities can affect fishes in many ways. Industrial, agricultural, and domestic pollution in the form of toxic chemicals, pesticides, herbicides, and fertilizers can affect fishes. Deforestation, overgrazing, channelization, excessive removal of ground water, damming of rivers, and even introduction of new (exotic) fishes can also have adverse impacts. Any action that modifies a body of water can affect the fishes inhabiting that aquatic system.

In 1978 the state of South Dakota, in accordance with federal law, established a list of endangered and threatened fishes. Three are currently listed as endangered and eight as threatened. None of these fishes are on the list of federally endangered or threatened species.

Endangered and threatened fishes of South Dakota.

Endangered

Central mudminnow, *Umbra limi*
Pearl dace, *Semotilus margarita*
Banded killifish, *Fundulus diaphanus*

Threatened

Pallid sturgeon, *Scaphirhynchus albus*
Sturgeon chub, *Hybopsis gelida*
Sicklefin chub, *Hybopsis meeki*
Northern redbelly dace, *Phoxinus eos*
Finescale dace, *Phoxinus neogaeus*
Longnose sucker, *Catostomus catostomus*
Trout-perch, *Percops is omiscomaycus*
Plain topminnow, *Fundulus sciadicus*

Endangered

Central Mudminnow

The central mudminnow is found throughout the central region of North America. South Dakota is at the western edge of its range. In South Dakota the central mudminnow has only been collected from Roberts, Deuel, and Brookings counties.

The Brookings County collection was made in 1947. Recent attempts to collect the mudminnow at that location have been unsuccessful, and it's possible that the fish is no longer present there. The Roberts County population was not found until 1977.

Man's activities (ditching, draining, dredging, and increased siltation) have adversely affected



Central Mudminnow
Umbra limi

this fish. It is probable that the central mudminnow was more widespread in South Dakota prior to agricultural activities, since this fish utilizes clear water with slow or no current. Bottoms of organic debris and muck are preferred.

The central mudminnow is a small fish, usually 4 inches or less in length. It feeds on small invertebrates and, under some conditions, small fishes.

It can be difficult to capture; it burrows into the bottom muck when alarmed.

Pearl Dace

The pearl dace prefers cool bog ponds, creeks, and lakes and is found throughout most of Canada and the northern United States. The only published record of this fish in South Dakota is from Todd County.

It appears that little suitable habitat is available in the state for this fish. Like many of our rarer fishes, it is probable that this fish is present at other state locations but has not been collected.

The pearl dace averages about 3½ inches in length and feeds on small aquatic invertebrates and plant material.



Pearl Dace
Semotilus margarita

Banded Killifish

The banded killifish is at the western edge of its range in South Dakota. It is found as far east as the Atlantic Coast. It has been collected only from the eastern edge of the state at a few locations

Throughout its range it has been reported in habitat types ranging from muddy streams with no vegetation to clear lakes with abundant vegetation. It can grow to 4 inches, but most adults are between 2 and 3 inches long. This fish feeds on small invertebrates.

Drainage of wetlands may have affected this fish's population in the state. It's also possible that climatic conditions or other factors may prevent this fish from being widespread in South Dakota.

The distribution of fishes is unlike that of many other organisms because of the need for interconnecting waterways to reach suitable habitats. This factor may limit the range of the banded killifish in South Dakota.



Banded Killifish
Fundulus diaphanus

Threatened

Pallid Sturgeon

The pallid sturgeon is found in the Mississippi and Missouri rivers and their larger tributaries. In South Dakota and over all of its range the pallid sturgeon is an uncommon fish.

Large specimens have weighed as much as 68 pounds, but most weigh less than 10.

Because it is rare, little is known about this fish. It is, however, a bottom dweller in large, turbid rivers [a good description of the natural Missouri River in South Dakota]. It prefers strong water currents and a firm, sand or gravel bottom. The building of the Missouri River mainstem reservoirs probably had a negative impact on this fish.

Other factors also appear to affect the pallid sturgeon since it is rare even in rivers which have not been dammed. It feeds on aquatic insects and small fishes.

Sturgeons are slow growing fishes that reach sexual maturity at a late age.

Sturgeon Chub

The sturgeon chub is found in the Missouri River drainage from Montana to the Mississippi River and in the Mississippi River drainage from the Missouri to Ohio rivers. It inhabits channels of large, silty rivers and occurs in swift current, preferably over gravel bottoms. In South Dakota it



Pallid Sturgeon
Scaphirhynchus albus

has been found in the Missouri, White, Cheyenne, Grand, and Little Missouri rivers.

The sturgeon chub has never been collected in large numbers. It has, no doubt, been affected by the construction of the Missouri River impoundments, but other factors have probably also played a role in the small numbers and distribution of this species. The sturgeon chub probably evolved in the Missouri River system when there was a greater abundance of gravel bottomed areas.

It is a small fish that reaches a maximum size of about 3 inches. It is well adapted for life in turbid waters. Its eyes are reduced in size, and it has abundant taste buds located on the head, body, and fins.



Sturgeon Chub
Hybopsis gelida

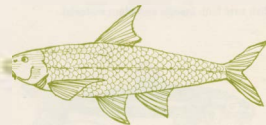
Sicklefin Chub

The sicklefin chub has approximately the same North American distribution as the sturgeon chub. Throughout its range this is a rare fish. In South Dakota it has only been captured from the Missouri River.

The sicklefin chub is confined to channels of large, turbid rivers with strong current and sand or gravel bottoms. This fish has probably been

affected by reservoir construction since reservoirs lack strong current and turbidity in them is reduced. Other naturally changing factors have also probably affected this fish.

The eyes of the sicklefin chub are even smaller than the sturgeon chub's and are partly covered by skin. The sicklefin chub reaches about 4 inches in size.



Sicklefin Chub
Hybopsis meeki

Northern Redbelly Dace

The northern redbelly dace is distributed through the northern United States into Canada. In South Dakota it has been collected at a few locations in the Big Sioux, Minnesota, Niobrara, and Crow Creek drainages.

In South Dakota it prefers spring-fed streams. Its food consists mainly of plant material, but it also eats aquatic invertebrates. It is a small fish that seldom grows to over 2 inches in length.

This fish is probably more widely distributed in South Dakota than reported but only under very localized conditions. Any activities which would affect spring-fed streams would adversely affect the northern redbelly dace.



Northern Redbelly Dace
Phoxinus eos

Finescale Dace

The finescale dace is widely distributed in the glaciated area of southern Canada and northern United States. There are only isolated populations in South Dakota, Nebraska, Colorado, and Wyoming. These isolated populations are confined to cool spring waters.

In South Dakota the only records for this fish are from a few lakes and streams near Spearfish; however, it may also be present in the Sand Hills area of South Dakota. Its need for a specific habitat type makes it rare in the state.

The finescale dace has an average body length of about 3 inches, and studies suggest that this fish eats both insects and plant material.



Finescale Dace
Phoxinus neogaeus

Longnose Sucker

The longnose sucker is found throughout Canada, northern North America, and into Siberia. South Dakota populations are on the edge of its range.

It has been reported only from cool, spring-fed creeks in the Belle Fourche River drainage north of the Black Hills. It is apparent that the Belle Fourche population was stranded in that area by climatic and ecological changes that have altered the range of this fish.

The longnose sucker is usually 12 to 14 inches in length. Its food is highly variable; it eats a variety

of invertebrates and plant materials. Like most suckers, the longnose is adapted for bottom feeding.

Further deterioration in habitat quality of the South Dakota streams where the longnose sucker occurs could result in the loss of this species.



Longnose Sucker
Catostomus catostomus

Trout-Perch

This is a widely distributed fish in northern North America. It occurs most abundantly over clean sand or gravel bottoms in both lakes and streams.

In South Dakota it has been reported from only the Big Sioux and Minnesota river drainages. It is probable that this fish was found in larger numbers in our state before agricultural practices modified our streams and lakes.

Most adults are from 3 to 5 inches in length. They feed primarily upon aquatic insects and invertebrates taken from the bottom and are most active at night.

The trout-perch is an odd little fish that resembles both the perch and the trout.



Trout-Perch
Percopsis omiscomaycus

Plains Topminnow

The plains topminnow ranges from South Dakota to Oklahoma in streams of the Great Plains. In



Plains Topminnow
Fundulus sciadicus

South Dakota it has been collected from isolated areas in the Vermillion, James, Cheyenne, and Missouri drainages. It also has been reported from Todd County. It prefers clear water streams that have aquatic vegetation.

The plains topminnow was formerly rather common in clear streams in southern South Dakota. Agricultural practices have reduced the habitat available to this fish.

It is a surface feeding fish that as an adult is usually $1\frac{1}{4}$ to $2\frac{1}{2}$ inches in length. Nothing is known about its food habits.

Summary

These are the fishes listed as endangered and threatened in South Dakota. There are other state fishes that could have been included. (In 1971 there were 38 South Dakota fishes preliminarily listed as endangered, rare, or depleted.)

One thing seems evident. With increased pressure upon the aquatic resources of the state we can expect other fish species to become endangered and threatened. Also, as we increase our knowledge of fish distribution, we can expect to find fishes presently not reported within the state's boundaries and further distribution records for those already reported.

Unfortunately we will never know the original ranges of many of our fishes because habitat alteration and other factors have already changed their original distributions and numbers.

Hopefully we can retain populations of all native fishes. The advantages of biological diversity are many. These fishes are indicators of changes in the aquatic habitats in the state; in many cases, these are deteriorating habitats. This deterioration is not only harmful to these fishes but also to the people of the state. Factors that adversely affect fish will also adversely affect us.