Fish

By Dennis Skadsen

A total of 66 species of fish have been recorded as occurring in the lakes, streams and rivers located in the northeast South Dakota counties covered by this publication. This total includes fifty-one extant native species, one reintroduced native species (lake sturgeon), two native species that are now extirpated from the area, six hypothetical species, five introduced native species (lake herring, brook, brown, rainbow, and steelhead trout), and one introduced exotic species (common carp).

Most species occurring in this area are categorized as small fish. These include several species of minnows, chubs, shiners, daces, darters, the mudminnow and killifish. While overlooked by most sportsmen, these small and sometimes colorful fish provide food for larger predators desired by fisherman and are important components of a stream or rivers ecosystem. The next largest group occurring in the area are the game or sports fish. These are well known species that include the northern pike, walleye, yellow perch and several species of sunfish. The underused species, or rough fish, include several large species usually not sought by sportsmen. These include the shortnose gar, central quillback carpsucker, golden and shorthead redhorse.

The recent publication "History of Fisheries and Fishing in South Dakota" (Berry et al. 2007) provides a detailed look at the current and past distribution of fish in the state by major watersheds, history of fish stocking, brief descriptions of several species of warm-water and cold-water fish, and many other interesting facts about South Dakota's fisheries.

This list is compiled from the following sources; Bailey and Allum (1962), Burgess and Shearer (2008), Churchill and Over (1933), Dieterman and Berry (1996), Olsen (2007), Vandel and Kreil, Minnesota Dept. of Natural Resources Fisheries Stream Surveys, South Dakota Game, Fish & Parks Statewide Fisheries Surveys, and observations by the author. Taxonomic order, common and scientific names follow Berry et al. (2007). Annotation is provided for some of the more interesting and rare species.

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Fish Observed in Day, Grant, Marshall, and Roberts Counties, South Dakota.

South Fork Yellowbank River (photo by Dennis Skadsen)

❖ Streams and Rivers

The most diverse population of native fish in northeast South Dakota occur in the numerous small streams and medium sized rivers located in Grant and Roberts Counties. The headwaters of these streams and rivers begin in the dozens of coulees located along the eastern edge of the Prairie Coteau that include Munson Gulch, Sica Hollow, Long Hollow, Big Coulee, and Big Springs. Most of these small headwater streams flow to the Jorgenson River or Little Minnesota River before emptying into Big Stone Lake near Browns Valley, Minnesota; or are tributaries of the Whetstone and Yellowbank Rivers that join the Minnesota River east of Big Stone City, South Dakota.

There are some differences in distribution of stream and river species. Some species like the blacknose dace occur upstream in headwaters like those found in Sica Hollow State Park, while other species like the central quillback carpsucker, golden and shorthead redhorse are found only in the downstream reaches of the Yellowbank, Whetstone, and Little Minnesota Rivers. All species but the common carp are considered native creek and river fishes. Attempts were made in the 1960s to introduce brook, brown, and rainbow trout in several northeastern SD streams and rivers including the South Fork of the Yellowbank River in Grant County and Sica Hollow State Park; however, none of these introductions were successful.

Species listed below are based on stream surveys and observations made during the last fifteen years. Recent surveys suggest some species like the northern redbelly dace are declining or possibly extirpated from the region, however most species listed below appear to still be extant in area streams and rivers at the present.

Minnows

Central Stoneroller (photo by Dennis Skadsen)

Central Stoneroller *(Campostoma anomalum)*
Common Carp *(Cyprinus carpio)*
Brassy Minnow *(Hybognathus hankinsoni)*
Common Shiner *(Luxilus cornutus)*

Hornyhead chub (photo by Dennis Skadsen)

Hornyhead Chub *(Nocomis biguttatus)*
Golden Shiner *(Notemigonus crysoleucas)*
Emerald Shiner *(Notropis atherinoides)*
Bigmouth Shiner *(Notropis dorsalis)*

Blacknose Shiner *(Notropis heterolepis)*
Historical records exist for the Little Minnesota River and Lake Traverse (Bailey and Allum 1962). However, these authors reported that by 1962 this fish, once common throughout eastern South Dakota, was becoming quite rare. Reported from the

North Fork of the Yellowbank River in 2004, but no other observations since.

Spottail Shiner *(Notropis hudsonius)*
Carmine Shiner *(Notropis percobromus)*
Eastern Sand Shiner *(Notropis stamineus)*

Northern Redbelly Dace (artwork provided by the New York State Department of Environmental Conservation)

Northern Redbelly Dace *(Phoxinus eos)*
McCoy and Hales (1974) reported finding this species in both North and South Forks of the Yellowbank River in Grant County in 1973, however was not found by Dieterman and Berry (1996) during their survey in 1993 or by Burgess and Shearer (2008) in 2005. May now be extirpated from northeast South Dakota. Observations of this species should be reported to the S.D. Dept. of Game, Fish, and Parks.

Bluntnose Minnow *(Pimephales notatus)*
Fathead Minnow *(Pimephales promelas)*
Western Blacknose Dace *(Rhinichthys obtusus)*
Creek Chub *(Semotilus atromaculatus)*

Suckers

Central Quillback Carpsucker *(Carpiodes cyprinus hinei)*
White Sucker *(Catostomus commersoni)*
Bigmouth Buffalo *(Ictiobus cyprinellus)*
Golden Redhorse *(Moxostoma erytrurum)*
Shorthead Redhorse *(Moxostoma macrolepidotum)*

Catfish

Tadpole Madtom (picture by Konrad Schmidt)

Black Bullhead *(Ameiurus melas)*

Channel Catfish *(Ictalurus punctatus)*

Tadpole Madtom *(Noturus gyrinus)*
One of the smallest members of the catfish family rarely reaches lengths longer than 4 inches and has a body resembling a tadpole. This fish has poisonous glands connected to sharp spines located along the leading edge of its pectoral fins that can cause a painful wound if stuck.

Stonecat *(Noturus flavus)*
Apparently not as common as the tadpole madtom. Historical record for specimens collected in 1952 by Bailey and Allum (1962) from the Whetstone River near Big Stone City, Grant County; and near Milbank in 1975 by B. Schmidt (Schmidt 1975). Collected by the author summer 2012 from Lake Wilcox, an oxbow lake, located along the south shore of Big Stone Lake at Hartford Beach State Park.

Pike

Northern Pike *(Esox lucius)*

Mudminnow

Central Mudminnow (photo by Konrad Schmidt)

Central Mudminnow *(Umbra limi)*
Known only from the Owens Creek drainage in Day and Roberts Counties and from the North Fork of the Yellowbank River in Grant County. Prefers slow-moving streams with soft bottom sediments like Owens Creek. The mudminnow is hard to capture in seines and other types of nets due to its habit of burrowing into the sediment when disturbed.

Stickleback

Brook Stickleback (photo by Konrad Schmidt)

Brook Stickleback *(Culaea inconstans)*

Temperate Bass

White Bass *(Morone chrysops)*

Sunfish

Rock Bass *(Ambloplites rupestris)*
Pumkinseed *(Lepomis gibbosus)*
Green Sunfish *(Lepomis cyanellus)*
Orangespotted Sunfish *(Lepomis humilus)*
Bluegill *(Lepomis macrochirus)*
Largemouth Bass *(Micropterus salmoides)*
White Crappie *(Pomoxis annularis)*
Black Crappie *(Pomoxis nigromaculatus)*

Perch

Blackside Darter (photo by Konrad Schmidt)

The blackside darter pictured below left is one of six darter species currently found in northeast South Dakota lakes and streams. These small fish lack swim bladders and are unable to remain afloat in the water. Due to this fact, the fish can only dart around the lake or stream bottom while swimming or moving with the current. The slenderhead darter has only been found in a small reach of the Whetstone River and may be the rarest of these species. The logperch occurs only in Enemy Swim and Pickerel Lakes. Look for the colorful male Iowa darter (page 7) along the shorelines of Enemy Swim and other lakes in the spring when this species is spawning.

Iowa Darter *(Etheostoma exile)*
Johnny Darter *(Etheostoma nigrum)*

Yellow Perch *(Perca flavescens)*
Blackside Darter *(Percina maculata)*
Slenderhead Darter *(Percina phoxocephala)*
Walleye *(Sander vitreus)*

Drum

Freshwater Drum *(Aplodinotus grunniens)*

Enemy Swim Lake (photo by Dennis Skadsen)

❖ Lakes (Other than Big Stone Lake and Lake Traverse)

As the glaciers retreated and lakes formed in glacial outwash, fish made their way to these new waterbodies through meltwater channels connected to the Big Sioux, and possibly the Minnesota and Red River systems. It is hard to say what native species populated these lakes originally. Archeological sites give some clues as to what species were consumed by Native Americans. Fish bones identified from an archeological site located on the Waubay National Wildlife Refuge in 1983 include white sucker, northern pike, walleye, and yellow perch. All these species could easily have been speared, netted or caught by the first inhabitants of this area. One of the first surveys of northeast South Dakota fisheries was published in 1926 by W.H. Over. His account provides us with some idea of the species of fish that probably occurred naturally in area lakes before settlers and state agencies began full scale stocking and introduction programs. Over listed the following species for Clear Lake (Marshall Co.) - largemouth bass, black crappie, walleye, and green sunfish; and for Pickerel Lake (Day Co.) - walleye, northern pike, yellow perch, black crappie, largemouth bass, bluegill, white bass, and white sucker.

The extreme droughts of the 1930s likely devastated native fish populations in most northeast South Dakota lakes. It was reported that the only lakes in the area that had enough water to support fisheries in 1933 were Enemy Swim, Pickerel, Blue Dog and Roy Lakes. It was after this event that full-scale stocking begin to re-establish and increase populations of native species and introduce new species. One native species that did not occur naturally in the glacial lakes is the smallmouth bass. This species was introduced to most northeast South Dakota lakes beginning in the early 1980s.

The following list of species is based on recent fisheries surveys of area lakes by the S.D. Dept. of Game, Fish, and Parks, and the author's observations and collections.

Minnows

Common Carp *(Cyprinus carpio)*
Common Shiner *(Luxilus cornutus)*
Golden Shiner *(Notemigonus crysoleucas)*
Emerald Shiner *(Notropis atherinoides)*
Spottail Shiner *(Notropis hudsonius)*
Fathead Minnow *(Pimephales promelas)*

Spottail Shiner (photo by Dennis Skadsen)

Suckers

White Sucker *(Catostomus commersoni)*

Catfish

Black Bullhead *(Ameiurus melas)*

Channel Catfish *(Ictalurus punctatus)*
Enemy Swim Lake was stocked with channel catfish in 1952. A recent proud angler flathead catfish reported from this lake was no doubt a misidentified channel catfish. Also reported from Blue Dog Lake.

Pike

Northern Pike *(Esox lucius)*

Mudminnow

Central Mudminnow *(Umbra limi)*
Has only been recorded from Blue Dog Lake.

Trout

Rainbow Trout *(Oncorhynchus mykiss)*
An introduced species currently being stocked in Hunter's Quarry located in Grant County.

Salmon

Lake Herring *(Coregonus artedi)*
Escaped from Blue Dog Fish Hatchery, caught occasionally in Blue Dog and Waubay Lakes.

Killifish

Western Banded Killifish (photo by Konrad Schmidt)

Western Banded Killifish *(Fundulus diaphanous)*
The only current records from northeast South Dakota are for several specimens collected from South Waubay Lake by the author in 1986. Historical records for the Whetstone River and Big Stone Lake by A.J. Wollman in 1896 were reported by Bailey and Allum (1962). Observations of killifish should be reported to the S.D. Dept. of Game, Fish, and Parks.

Stickleback

Brook Stickleback *(Culaea inconstans)*

Temperate Bass

White Bass *(Morone chrysops)*

Sunfish

Orangespotted Sunfish (photo by Konrad Schmidt)

Rock Bass *(Ambloplites rupestris)*
Pumpkinseed *(Lepomis gibbosus)*

Orangespotted Sunfish *(Lepomis humilus)*
Our smallest sunfish seldom exceeds 4 inches in length is rarely caught by hook and line. Found in Enemy Swim Lake, but more common in streams located in Grant and Roberts Counties.

Bluegill *(Lepomis macrochirus)*
Smallmouth Bass *(Micropterus dolomieu)*
Largemouth Bass *(Micropterus salmoides)*
White Crappie *(Pomoxis annularis)*
Black Crappie *(Pomoxis nigromaculatus)*

Perch

Iowa Darter (photo by Dennis Skadsen)

Iowa Darter *(Etheostoma exile)*
Johnny Darter *(Etheostoma nigrum)*
Yellow Perch *(Perca flavescens)*
Logperch *(Percina caprodes)*
Walleye *(Sander vitreus)*

❖ Lake Traverse and Big Stone Lake

Lake Traverse, Big Stone Lake, and the Minnesota River lie in a channel formed approximately 10,000 years ago by the prehistoric River Warren. The River Warren was the southern outlet of a huge glacial meltwater lake called Agassiz that covered 175,000 square miles, and at times stretched from northeast South Dakota north into Canada. After Lake Agassiz drained, the Little Minnesota River formed a large delta of silt near Browns Valley, Minnesota that eventually divided the old River Warren channel into two separate drainages. The river valley located north of Browns Valley became Lake Traverse. This area drains to the north through the Bois de Sioux and Red Rivers. Big Stone Lake formed south of Browns Valley and drains into the Minnesota River flowing south.

Due to these two lakes connections to the Red and Minnesota River systems, their fish assemblages are more diverse than any other northeast South Dakota lake. The shortnose gar, central quillback, and freshwater drum are just a few of the species unique to these two lakes. Several species that once occurred in Big Stone Lake are now extirpated; these include the bowfin, American eel, and skipjack herring. Declining water quality and/or the construction of downstream dams that may have blocked movement of these river species upstream to Big Stone Lake probably account for their disappearance. An unsuccessful attempt was made in 1916 to stock Big Stone Lake with steelhead trout.

The following list is compiled from recent fisheries surveys conducted by the Minnesota Department of Natural Resources (Olson 2007), and personal observations by the author.

Sturgeons

Lake Sturgeon (Acipenser fulvescens) Listed as hypothetical for Big Stone Lake by Bailey and Allum (1962). However, the Minnesota DNR at Ortonville has a record of a 6 ft. 75 lb. lake sturgeon found dead along the shores of Big Stone Lake in 1946 (Olson 2007) Severeid (1935) gives an account in his book Canoeing with the Cree of an encounter on Big Stone Lake with a 6-foot-long sturgeon in 1930. An old newspaper account (no date) pictures a 6-foot 110 lb. sturgeon speared near the old mill dam located below Big Stone City on the Minnesota River. These fish probably migrated to the upper reaches of the Minnesota River including Big Stone Lake during pre-settlement times (and possibly during the post-glacial period through the River Warren channel), and due to this fish's longevity of nearly 100 years, the species may have persisted into the mid-1900s. The construction of dams and degrading water quality post-settlement no doubt led to the species extirpation. Beginning the summer of 2014, the SD Dept. of Game, Fish, and Parks, and the Minnesota DNR released several hundred fingerling lake Sturgeon in a joint effort to reintroduce the species to Big Stone Lake and the Upper Minnesota River drainage.

Gars

Shortnose Gar (photo by Konrad Schmidt)

Shortnose Gar *(Lepisosteus platostomus)*

Minnows

Central Stoneroller *(Campostoma anomalum)*
Common Carp *(Cyprinus carpio)*
Brassy Minnow *(Hybognathus hankinsoni)*
Common Shiner *(Luxilus cornutus)*
Hornyhead Chub *(Nocomis biguttatus)*
Emerald Shiner *(Notropis atherinoides)*
River Shiner *(Notropis blennius)*
Bigmouth Shiner *(Notropis dorsalis)*
Spottail Shiner *(Notropis hudsonius)*
Eastern Sand Shiner *(Notropis stramineus)*
Bluntnose Minnow *(Pimephales obtusus)*
Fathead Minnow *(Pimephales promelas)*
Western Blacknose Dace *(Rhinichthys obtusus)*
Creek Chub *(Semotilus atromaculatus)*

Suckers

Central Quillback Carpsucker *(Carpiodes cyprinus)*
White Sucker *(Catostomus commersoni)*
Bigmouth Buffalo *(Ictiobus cyprinellus)*
Golden Redhorse *(Moxostoma erytrurum)*
Shorthead Redhorse *(Moxostoma macrolepidotum)*

Catfish

Black Bullhead *(Ameiurus melas)*
Yellow Bullhead *(Ameiurus natalis)*
Brown Bullhead *(Ameiurus nebulosus)*
Channel Catfish *(Ictalurus punctatus)*
Stonecat *(Noturus flavus)*

Pike

Northern Pike *(Esox lucius)*

Stickleback

Brook Stickleback *(Culaea inconstans)*

Temperate Bass

White Bass *(Morone chrysops)*

Sunfish

Rock Bass *(Ambloplites rupestris)*
Green Sunfish *(Lepomis cyanellus)*
Pumpkinseed *(Lepomis gibbosus)*
Orangespotted Sunfish *(Lepomis humilus)*
Bluegill *(Lepomis macrochirus)*
Largemouth Bass *(Micropterus salmoides)*
White Crappie *(Pomoxis annularis)*
Black Crappie *(Pomoxis nigromaculatus)*

Perch

Iowa Darter *(Etheostoma exile)*
Johnny Darter *(Etheostoma nigrum)*
Yellow Perch *(Perca flavescens)*
Walleye *(Sander vitreus)*

Drum

Freshwater Drum *(Aplodinotus grunniens)*

❖ Endangered and Threatened Species

State Endangered
Western Banded Killifish *(Fundulus diaphanous)*
Blacknose Shiner *(Notrophis heterolepis)*

State Threatened
Northern Redbelly Dace *(Phoxinus eos)*

The following species are tracked by the South Dakota Natural Heritage Program managed by the SD Dept. of Game, Fish, and Parks.

Observations and populations of these species should be reported to Game, Fish, and Parks personnel.

Blacknose Shiner
Blackside Darter
Carmine Shiner
Central Mudminnow
Central Quillback Carpsucker
Hornyhead Chub
Golden Redhorse
Logperch
Northern Redbelly Dace
River Shiner
Western Banded Killifish

❖ Extirpated Species

Northern Hog Sucker *(Hypentelium nigricans)*
Bailey and Allum (1962) report a specimen was collected by J.C. Underhill from the Yellowbank River in Grant County. No other observations or collections have been reported for this species in northeast South Dakota.

Trout-Perch *(Percopsis omiscomaycus)*
Historical records for the Little Minnesota River and Big Stone Lake by A.J. Wollman in 1896 were reported by Bailey and Allum (1962). No other observations or collections have been reported for this species in Day, Grant, Marshall, or Roberts Counties.

❖ Hypothetical Species

Silver Lamprey *(Ichthyomyzon unicuspis)*
Status unclear. A silver lamprey was in the collection of a retired Sisseton science teacher that was collected at the White Rock Dam (no date) (Wagner et al. 2015). This specimen is now in the SDSU fish collection. The Sisseton Wahpeton Oyate obtained a photo of an unidentifiable lamprey snagged by fishermen at the White Lake Dam in 2012 (at right). Both chestnut and silver lampreys occur in the northern Red River. The Bois De Sioux is the southernmost tributary of the Red River.

Longnose Gar *(Lepisosteus osseus)*
Hypothetical, reported by Churchill and Over (1938) as occurring in Big Stone Lake, however no other historical or recent observations found. May have been misidentified since the shortnose gar is currently caught in Big Stone Lake.

Unknown lamprey species from Bois de Sioux River in 2012 (photographer unknown)

Bowfin *(Amia calva)*
Hypothetical reported by Churchill and Over (1938) as generally occurring in the streams and lakes of eastern South Dakota. Bailey and Allum (1962) presumed the species occurred in Big Stone Lake based on the species distribution in Minnesota. These authors surmise the severe droughts of the 1930s caused the species extirpation from the northeast corner of state. No actual specimen records exist.

American Eel *(Anguilla rostrata)*
Hypothetical, reported by Churchill and Over (1938) as occurring in Big Stone Lake, however no specimen records or other historical or recent observations reported.

Skipjack Herring *(Alosa chrysochloris)*
Hypothetical, Bailey and Allum (1962) reported this species formerly occurred in Big Stone Lake but is now extirpated. No specimen records reported.

Blackchin Shiner *(Notropis heterodon)*
Hypothetical, a historical record for the Whetstone River by A.J. Wollman in 1896 was reported by Bailey and Allum (1962)

however these authors questioned the specimen's identification.

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