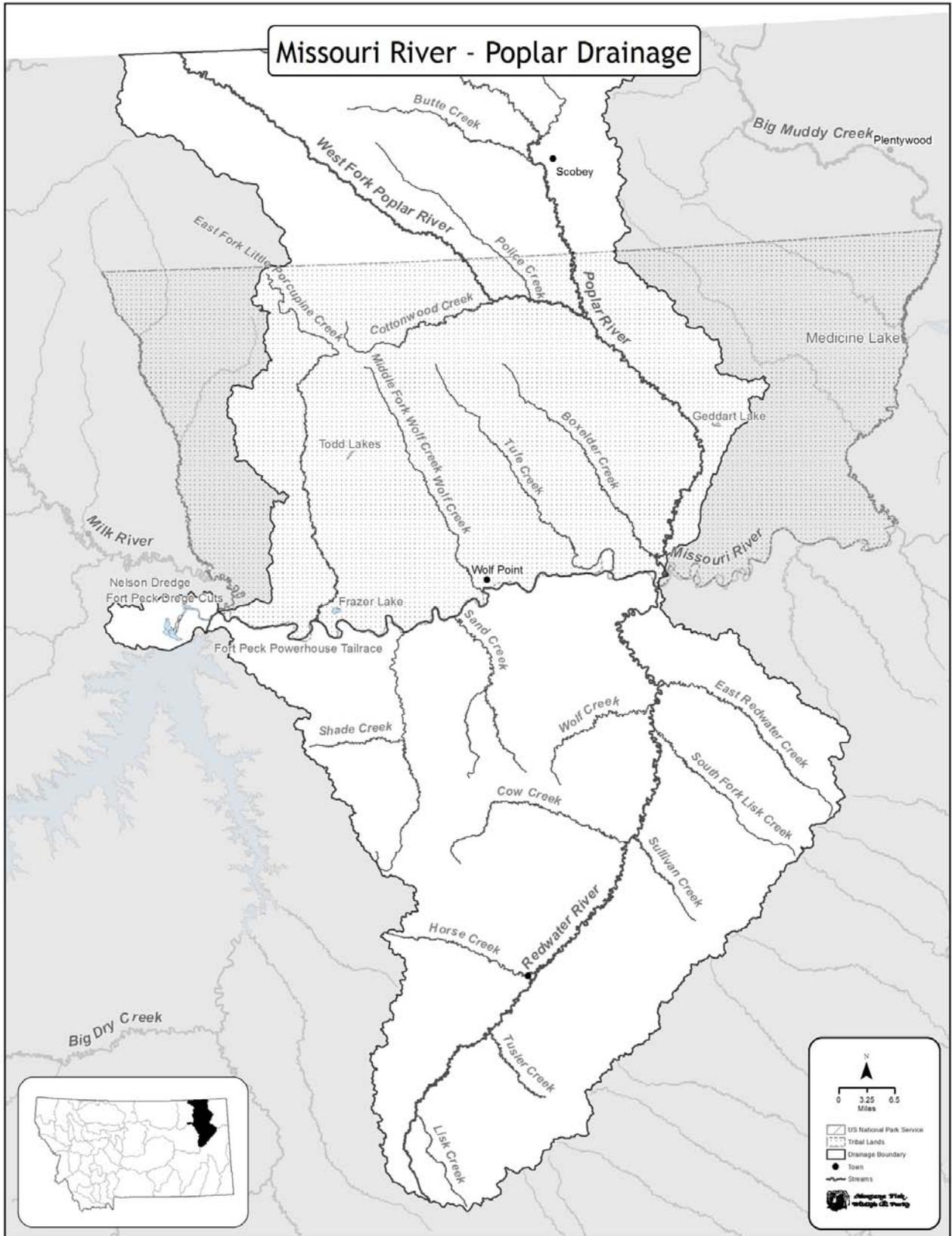


# Missouri River - Poplar Drainage



## **MISSOURI RIVER - POPLAR DRAINAGE**

### **PHYSICAL DESCRIPTION**

The Missouri-Poplar drainage includes the Missouri River from Fort Peck Dam downstream to its confluence with the Poplar River, Prairie Elk Creek, Wolf Creek, Redwater River and the Poplar River. The watershed encompasses approximately 4,000 square miles located in Valley, Roosevelt, Daniels and McCone counties. The watershed includes private, state and federal lands, including the majority of the Fort Peck Indian Reservation. Agriculture dominates the lands north of the Missouri River, with wheat farming being the dominant crop. Irrigated crops such as alfalfa and corn are grown within the valleys of the major rivers and streams. South of the Missouri River is a mix of rangeland dominated by native vegetation and dryland farming.

There are no natural lakes in the drainage that contain a fishery. There are, however, numerous stock ponds and many are managed as fisheries. The Fort Peck Dredge Cuts also have a fishery and are a series of lakes connected to the Missouri River, which were created by the hydrologic dredging that occurred with the construction of Fort Peck Dam. The Missouri, Redwater and Poplar rivers contain sport fisheries that include a host of native and introduced fishes.

### **FISHERIES MANAGEMENT**

The Missouri River downstream of Fort Peck Dam holds a diverse assemblage of both native and non-native fish species. Its proximity to the county seats of Glasgow and Wolf Point make it a popular fishery in northeastern Montana. Native fish species targeted by anglers include sauger, channel catfish, shovelnose sturgeon, burbot and paddlefish. Anglers also pursue a number of nonnative game fish species including walleye, northern pike, and rainbow trout. The Missouri River is managed as a wild fishery, with no stocking of game fish currently taking place.

However, in the past, the Missouri River was stocked with a multitude of species for angling purposes. These past stocking practices in the river, along with current stocking practices in reservoirs, have significantly influenced the current fish assemblage. Currently, water bodies such as Fort Peck Reservoir and smaller ponds that are at times connected to the Missouri River are stocked with **nonnative** species, including, walleye, Chinook salmon, northern pike, yellow perch and largemouth bass. **Today**, this reach of the Missouri River is home to over 50 species of fish, which consists of at least 31 native species and a minimum of 19 nonnative species.

Angling on the Missouri River occurs year-round with the spring and summer months being the most popular. Although ice fishing does occur on the Missouri River, it is limited to a few deepwater holes where good ice forms.

Since the Fort Peck Indian Reservation borders a large proportion of the north side of the Missouri River in this drainage, the Reservation and State have the same harvest regulations. Anglers are allowed one daily bag limit, no matter what side of the river you are fishing, and even if they have a state and tribal fishing license. Special harvest regulations are implemented for paddlefish and rainbow trout. Only one paddlefish can be harvested per year and anglers are required to have a yellow tag to fish in the Missouri River downstream of Fort Peck Dam or the Yellowstone River. An archery season for paddlefish occurs in the Fort Peck Dredge Cuts, where anglers are allowed one fish per year and a blue tag is required. The daily bag limit on rainbow

trout downstream of Fort Peck Dam is two fish, instead of the five that are allowed on other regional waters.

The Redwater River runs south to north through McCone and a portion of Dawson County. The Redwater River enters the Missouri River at river mile 1682, across the river from the town of Poplar, Montana. Game fish present include channel catfish, sauger, northern pike and walleye. The Redwater River hosts 21 native and nine non-native species. Some of the non-native, non-game fish include western silvery minnows, plains minnows, sturgeon chubs, flathead chubs, fathead minnows, northern redbelly dace, river carpsuckers, bigmouth buffalo, smallmouth buffalo, shorthead redhorse, white sucker, goldeye and brook stickleback.

Channel catfish and northern pike are popular game fishes that anglers target in the Redwater River. During the spring and early summer, anglers fish for channel catfish and sauger in the lower portion of the Nickwall Road crossing. This crossing is located approximately one river mile upstream from the confluence and precludes fish passage during most seasons in the majority of years and aggregations of channel catfish and sauger occur below the crossing. Eastern District harvest regulations are in place on all portions of the Redwater River.

The Poplar River drainage is situated on the north side of the Missouri River and encompasses portions of Roosevelt, Daniels and Valley counties, as well as Saskatchewan, Canada. The East Fork meets with the Poplar River near the town of Scobey, while the West Fork enters the Poplar River just south of the Fort Peck Reservation, in Roosevelt County. A dam is located on the mainstem Poplar River just north of the Canadian border and has a great influence on the river's hydrograph. In the years before the dam, sauger and walleye were relatively abundant in the upper portions of the Poplar River. However, angler success has diminished since the construction of the Canadian dam. Current knowledge of the fishery is limited.

Several prairie ponds within the drainage are stocked with game fish to provide fishing opportunities. The deeper ponds have been stocked with game fish such as northern pike, yellow perch, white and black crappie, and largemouth bass; these are meant to be self-sustaining. Shallower ponds that have a tendency to winter kill are often stocked with hatchery-produced rainbow trout that are stocked either annually or biannually.

## **HABITAT**

The construction of Fort Peck Dam significantly altered the habitat of the Missouri River. Fort Peck Reservoir acts as both a sediment and nutrient sink for the Missouri River, and therefore delivers sediment-free and nutrient-poor water to the Missouri River downstream of the dam. The dam prevents all fish from migrating upstream. The dam has also greatly altered the natural flow regime of the Missouri River by holding back spring freshets and discharging higher than natural flows during the winter months. Channel-forming flows have been few and far between since the dam closed off the river in 1937. Fort Peck Dam provides hydroelectric power by drawing reservoir water through its penstocks into the powerhouse. The water that is used for power generation comes from the bottom of Fort Peck Reservoir, which is cold year round. During the spring and summer months, this colder water greatly reduces the water temperature of the Missouri River for approximately 180 river miles. Although water temperature does rise with increasing distance from the dam, average water temperatures in the lower Missouri River near

its confluence with the Yellowstone River are 2° F colder than water upstream of Fort Peck Reservoir.

The altered habitat of the Missouri River due to Fort Peck Dam is evident in the presence and absence, as well as the relative abundance, of native fishes. Several species, such as sturgeon and sicklefin chubs, western silvery minnows, channel catfish and stonecats, become more abundant with distance downstream from Fort Peck Dam. Additionally, the growth rates of fish species like sauger, channel catfish and even pallid sturgeon are slower in the Missouri River near Fort Peck Dam when compared to the lower Missouri or Yellowstone Rivers. For some species like channel catfish, water temperatures may stay too cold to even meet their minimum spawning requirements.

Large irrigation and municipal intakes are located on this section of the Missouri River, both in Valley County and on the Fort Peck Reservation. One intake is located south of Wiota and the second near the town of Frazer and Pickthorn Bay. The effect these intakes on fish populations of the Missouri River is currently unknown. In addition, numerous floating irrigation pumps are located on the river. FWP recommends fish screens for these pumps and these are mandated through the local conservation districts.

Two fish passage barriers on the Redwater River likely block fish passage during normal flow periods. The first barrier is located one mile upstream of the confluence with the Missouri River at the Nickwall Road crossing and the other is upstream at the Redwater Road crossing. Although fish passage routinely does not occur at these sites, the high water of 2011 likely passed fish at the Nickwall Crossing since several large river species were captured upstream of the crossing.

The largest habitat alteration to the Poplar River system has been the construction of a dam for a power plant located in Saskatchewan, Canada. This dam has significantly altered the natural flow regime of the Poplar River. In addition, irrigation withdrawals greatly impact the system. There are several periods throughout the year that the Poplar has little to no water flowing at its mouth.

## **FISHING ACCESS**

The majority of the fishing waters in the drainage are situated on private lands. In addition, a large proportion of the Missouri River's north banks are located on Fort Peck Reservation land. While the Missouri River has five fishing access sites throughout its 180 mile course, public access is very limited due to reservation boundaries and access site spacing. In general, access sites are more than 60 river miles apart, too far for day float trips.

The Redwater River winds through mostly private lands and access is difficult. The main access locations are at county bridge crossing right-of-ways. Similarly, the Poplar River runs through mainly private lands with the majority of access occurring at bridge crossings. A large part of the lower Poplar River is also situated on Fort Peck Reservation lands.

The Fort Peck Dredge Cuts are surrounded by U.S. Army Corps of Engineers land and have good access, including three boat launches. The majority of prairie ponds that FWP stocks within the area are on private land, but landowners allow public access through an agreement with FWP.

## **SPECIAL MANAGEMENT ISSUES**

The pallid sturgeon was listed as endangered in 1990 under the federal Endangered Species Act of 1973. The wild population of pallid sturgeon in the Missouri River downstream of Fort Peck Dam has had no documented natural recruitment since Garrison Dam was closed off in the 1950's. Up until 1998 the entire population was made up of old-aged fish of large sizes. Due to the lack of natural recruitment, propagation efforts commenced in 1997, with the first stocking of pallid sturgeon into the river occurring in 1998. Since that time, thousands of hatchery-reared pallid sturgeon were stocked into the river. The stocking program has been successful in staving off the extirpation of this species in the Missouri River, although habitat alterations to promote natural recruitment have been limited.

The USACE has obligations under the ESA to aid in the recovery of endangered species affected by the operation of Missouri River dams. In the 2000 Missouri River Biological Opinion and the subsequent 2003 amendment to the Biological Opinion, the USFWS listed two Reasonable and Prudent Alternatives that were directed at the operations of Fort Peck Dam relative to pallid sturgeon recovery. One was a spillway test, where warm water would be spilled over Fort Peck Dam's spillway during the spring and early summer to warm the river's water temperature. The second was to examine the potential to selectively withdrawal water out of Fort Peck Dam to increase water temperatures throughout the fish's growing season. Due to a long drought in the Missouri River basin, the reservoir elevations were too low to spill and a test was never accomplished.

However, due to the record setting snowfall on the eastern Montana prairie in the winter of 2010/2011 and the subsequent wet spring, Fort Peck Reservoir filled and the USACE spilled over Fort Peck Dam in 2011. Although this spill event was not designed to elicit a response of pallid sturgeon, it did. During the spring of 2011, up to 40% of the adult pallid sturgeon population moved into the Missouri River in Montana and stayed in the river throughout the spawning season. The migration began to occur when flows were just over 20,000 cfs. During early July an aggregation of adults was found in the Missouri River just downstream of the mouth of the Milk River, which is only one mile downstream of the Spillway channel. A few days later a wild larval pallid sturgeon was collected, which was the first genetically confirmed wild produced pallid sturgeon larvae ever collected in the Missouri River drainage. These results indicate that spring discharge from the Missouri River will trigger wild pallid sturgeon to use the river for spawning and that spawning can be successful.

While successful spawning was confirmed in 2011, it is not known if these fish will recruit to older ages. Past studies have found evidence to support the hypothesis that the drift distance of larval pallid sturgeon could be the limiting factor causing the recruitment bottleneck. Larval pallid sturgeon drift for days after being hatched and with the large reservoirs on the mainstem Missouri, the distance between reservoirs may be too short. However, 2011 was the first time in decades that flows out of the Fort Peck Dam project were sufficient to induce adults to migrate into, and spawn in, the Missouri River, and future discharge events are needed to further evaluate spawning and subsequent recruitment.

### FISHERIES MANAGEMENT DIRECTION FOR MISSOURI RIVER - POPLAR DRAINAGE

Water	Miles/Acres	Species	Origin	Management Type	Management Direction
Missouri River - Fort Peck Dam to the confluence with the Poplar River	92 miles	Pallid sturgeon	Wild/ Hatchery	Conservation	Restore a self-sustaining population of pallid sturgeon in the Missouri River. Work towards modifying operations at Fort Peck Dam that are beneficial for spawning and growth.
		Paddlefish	Wild	Special Regulations	Continue to allow the unique opportunity for paddlefish snagging in the Missouri River. Monitor the fishery.
		Shovelnose sturgeon, Sauger, Channel catfish	Wild	General	Monitor populations to be certain that overexploitation does not occur. Maintain habitat for all life stages. Better understand how operations of Fort Peck Dam and the Missouri River's tributaries influence production, recruitment and population structure of these native game fishes.
		Rainbow trout	Wild	Special Regulations	Monitor population to make sure overexploitation does not occur. Better understand how angling pressure and harvest may be impacting this species.
		Walleye	Wild	General	Allow harvest to keep population size in check to minimize hybridization with native sauger
Fort Peck Dredge Cuts	542 acres	Paddlefish	Wild	Special Regulations	Continue to allow the unique opportunity for bow fishing in the Dredge Cuts. Improve knowledge relating to the population dynamics of these fish.
		Sauger, Channel catfish Walleye, Northern pike, Burbot	Wild	General	Maintain a quality fishery (size and catch rate) for both native and non-native game fishes. Continue to monitor these populations.

Water	Miles/Acres	Species	Origin	Management Type	Management Direction
Redwater River	153 miles	Channel catfish sauger	Wild	General	Maintain numbers.
		Native non- game fishes	Wild	Conservation	Protect habitat for native fishes. Provide fish passage at stream crossings.
Habitat needs and activities: Get functional fish passage for all species at the Nickwall Road crossing.					
Poplar River (Canadian border to mouth)	107 miles	Sauger, Channel catfish Northern pike	Wild	General	Begin to understand fish assemblage, population size of game fishes, identify habitat problems.
Prairie Ponds	Various	Yellow perch, Largemouth bass, Northern pike	Wild	General	Continue to monitor these populations and stock fish when necessary. Look for opportunities to increase the quality of habitat by increasing the depth of reservoirs, building new reservoirs, etc.
		Rainbow trout	Hatchery	Put-Grow-Take	Continue to stock prairie ponds with put, grow and take fisheries. Evaluate angler use and evaluate which ponds should be stocked. Look for opportunities to improve habitat where applicable.

