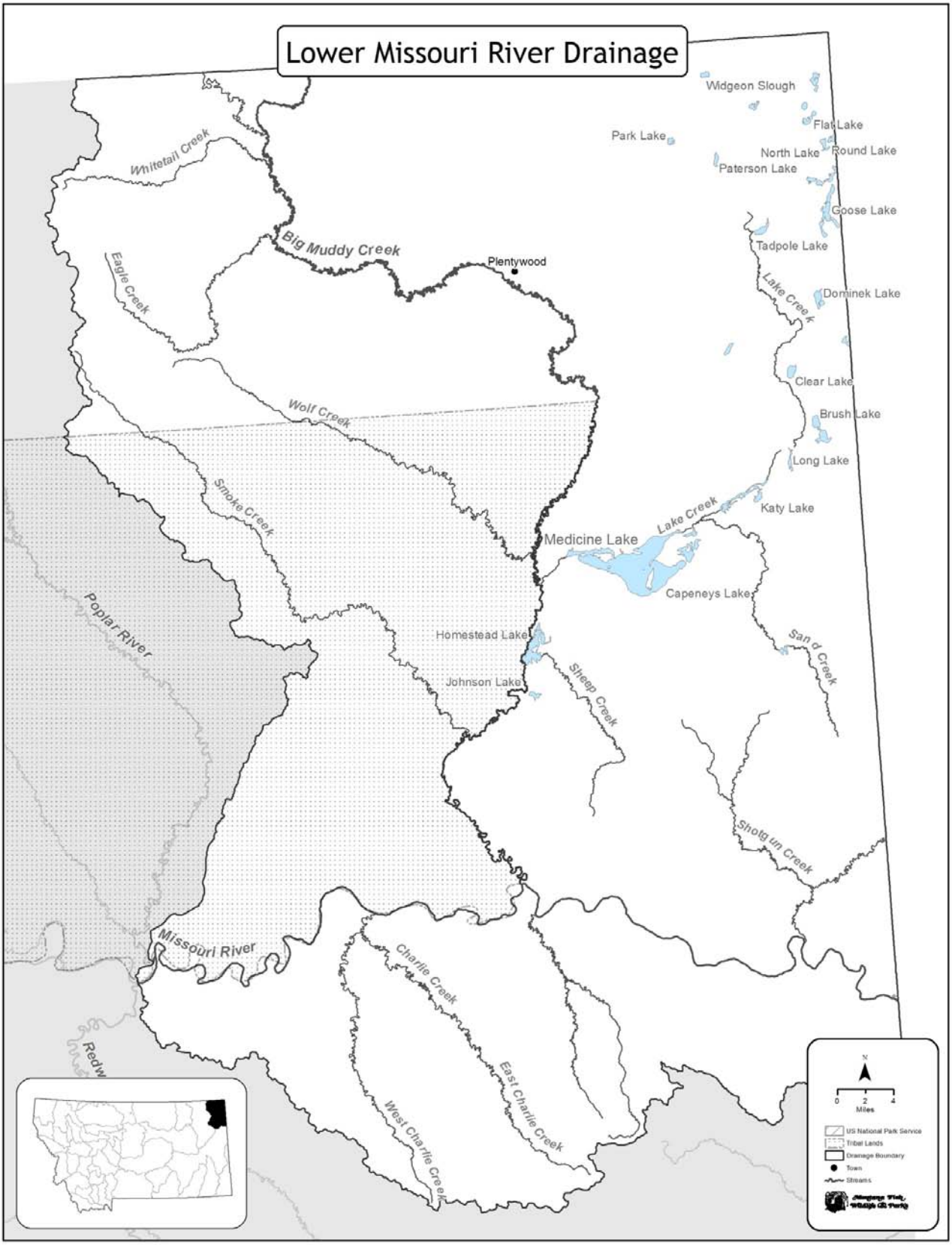
Lower Missouri River Drainage
Widgeon Slough
Park Lake
Flat Lake
North Lake
Round Lake
Paterson Lake
Goose Lake
Tadpole Lake
Dominek Lake
Lake Creek
Clear Lake
Brush Lake
Long Lake
Katy Lake
Lake Creek
Medicine Lake
Capeneys Lake
Homestead Lake
Johnson Lake
Sheep Creek
Sand Creek
Shotgun Creek
Whitetail Creek
Big Muddy Creek
Plentywood
Eagle Creek
Wolf Creek
Smoke Creek
Poplar River
Missouri River
Charlie Creek
East Charlie Creek
West Charlie Creek
Redw
N
0 2 4
Miles
US National Park Service
Tribal Lands
Drainage Boundary
Town
Streams

LOWER MISSOURI RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Missouri-Big Muddy drainage encompasses approximately 3,750 square miles of land in Roosevelt, Richland, Sheridan and Daniels Counties. The main artery of the drainage is the Missouri River from the confluence of the Poplar River to the North Dakota Border, about 94 river miles. The largest tributary to the Missouri River within the drainage is Big Muddy Creek, which flows from north to south through Sheridan and Roosevelt counties and forms the eastern boundary of the Fort Peck Reservation. Agricultural lands dominate the landscape in the northern portions of the drainage, with grain being the dominant crop. To the south of the Missouri River in its furthest downstream portions, sharp breaks in vegetation occur. Throughout the river bottomlands, irrigated agriculture occurs intermixed with intact cottonwood riparian zones.

Box Elder and Whitetail Reservoirs are the two largest and most fished flatwater fisheries in the drainage and are both located in Sheridan County. Box Elder Reservoir is situated just north of the town of Plentywood, while Whitetail Reservoir is located at the town of Whitetail near the Canada border. Various other smaller prairie ponds located mainly on private land are located within the drainage.

FISHERIES MANAGEMENT

The lower Missouri River, while significantly altered due to the influence of Fort Peck Dam upstream, holds a more naturalized fish assemblage than portions in closer proximity to the dam. Native game fishes such as channel catfish, sauger and shovelnose sturgeon are abundant, as are native non-game cyprinids including sicklefin and sturgeon chubs. The lower Missouri River is an important juvenile rearing area for several species of fish that spawn further upstream in the system. This is the only area of the Missouri River downstream of Fort Peck Dam where young-of-the-year sauger, shovelnose sturgeon and channel catfish are routinely found.

Both wild and hatchery-produced pallid sturgeon are found in higher densities within this section of the Missouri River, when compared to upstream areas. After stocking, hatchery-reared juvenile pallid sturgeon tend to congregate in the lower sections of the Missouri River, most likely due to the higher abundance of native forage fish and more natural temperature and suspended sediment loads. Growth rates of pallid sturgeon and other native fishes are likely higher in this section due to the increased summer water temperatures.

The Missouri River is managed as a wild fishery, with no stocking of game fish currently taking place. However, both past and current stocking practices (in Fort Peck Reservoir) have significantly influenced the current fish assemblage. In the past, upper portions of the Missouri River below Fort Peck Dam were stocked with a multitude of species for angling purposes and many of those fish have colonized the river, including the downstream portions. Today the Missouri River is home to over 50 species of fishes, which consists of at least 31 native species and a minimum of 19 introduced species. Due to the more natural habitat of the lower Missouri River, introduced fishes are less abundant than in portions of the river closer to Fort Peck Dam.

Fishing regulations for the lower Missouri River are similar to that of the upper portions of the river below Fort Peck Dam with general Eastern District regulations in place for the majority of species. Special regulations are in place for the reach of the Missouri River from Fort Peck Dam to the mouth of the Milk River. These regulations are in place to protect the limited coldwater fishery that resides in this tailwater reach. Angling on the lower Missouri River occurs year round with the spring and fall months being the most popular. Although ice fishing does occur it is limited to a few deepwater holes where good ice forms.

Big Muddy Creek hosts a wide variety of native and introduced fishes. Little fisheries data have been collected on Big Muddy Creek over the past few decades. Game fish including channel catfish, sauger and walleye are all found in the lower sections of the creek that are connected to the Missouri River. The upper portions of Big Muddy Creek are home to pearl dace, a Montana Species of Concern that is rare in Montana.

Box Elder Reservoir, also known as Bolster Dam hosts a walleye, northern pike, yellow perch and black bullhead fishery. In the past decade several hundred thousand walleye have been stocked into Box Elder Reservoir. While walleye were abundant, the yellow perch fishery crashed to a low in 2009. For the past couple of years walleye stocking has been stopped to try and reestablish the yellow perch fishery. Several thousand adult yellow perch have been transferred into Box Elder Reservoir since 2010 to try and restart the population. A special daily bag limit of 25 yellow perch has been implemented on Box Elder Reservoir.

Anglers fish for walleye in the spring and summer months, while northern pike are currently the main target during the winter. Anglers harvest the occasional trophy northern pike through the ice and often use a spear to do so.

Whitetail Reservoir is a relatively shallow reservoir with maximum depths less than 15 feet. It is prone to winter kill when snow accumulates, and did have a large die off in the winter of 2010/2011. While northern pike were still abundant, yellow perch, channel catfish and rainbow trout were stocked during 2011 to try to rebound from the large winter kill.

Several prairie ponds within the drainage are stocked with game fishes to provide fishing opportunities. The deeper ponds have been stocked with game fish that are meant to be self-sustaining, such as northern pike, yellow perch, white or black crappie, and largemouth bass. 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

While still highly altered from the presence and operations of Fort Peck Dam, the section of the Missouri River in this drainage is much more natural in its physical and chemical properties when compared to upstream reaches. This more natural appearance is mostly due to tributary influence, bank erosion along the river's course and solar radiation. As such, the lower section of the Missouri River is appreciably warmer during the summer and carries much more suspended sediment than its upstream sections. A more natural fish assemblage exists and consists of several native fish that are uncommon closer to the dam.

The lower sections of the Missouri River are the most important juvenile rearing areas for several native game fish within the Missouri River. For that reason, it is important to protect

these areas by providing the oil and gas industry with up-to-date information which will assist in making informed decisions of how to minimize negative impacts to the aquatic environment. Numerous floating irrigation pumps are located along the river. Fish screens on these pumps are recommended by FWP and mandated through the local conservation districts. Recently, applications are being processed to sell water (market water) to oil companies to be used in the process known as fracking. Fracking involves injecting 1-3.5 million gallons of pressurized water into each oil well to shatter the shale and allow the oil to flow freely. Cumulative impacts of water extraction from the Missouri River will be monitored.

Several road crossing occur along the length of Big Muddy Creek. Documenting these crossings and understanding how they may affect fish migrations is of importance. Irrigation withdrawals also impact the habitat of Big Muddy Creek, and during various periods within the year the creek has limited water.

FISHING ACCESS

The north side of the Missouri River from the Milk River to the mouth of Big Muddy Creek is on the Fort Peck Reservation. Off the reservation and further downstream, limited public land is situated adjacent to the river, with a few exceptions of State lands and lands administered by the Bureau of Land Management. Only two public fishing access sites can be found in this 94 mile stretch of the Missouri River, the Culbertson Bridge FAS and the Snowden Bridge FAS. Both sites had boat launches; however during the floods of 2011 the Snowden site was severely damaged and the boat launch is no longer there.

The majority of Big Muddy Creek flows through private land and the western banks of the lower portion are bordered by the Fort Peck Reservation. Access can be found at a few State sections and at county road crossings.

Box Elder and Whitetail Reservoirs are both readily accessible to the public. Box Elder Reservoir is owned by Sheridan County and has two concrete boat ramps. The local Walleyes Unlimited chapter is placing two handicapped accessible fishing piers in the reservoir in the summer of 2012. Whitetail Reservoir is a State FAS and has a gravel boat ramp.

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, which includes the Missouri-Big Muddy Drainage, 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 have been 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 Missouri River within the Missouri-Big Muddy Drainage is critical habitat for rearing pallid sturgeon of all life stages. It has been shown that if pallid sturgeon are going to be able to successfully recruit to the system, the lower portions of the Missouri River will likely be the

nursery habitat. In addition, hatchery-reared juvenile pallid sturgeon that have been stocked into the system are found in greater abundance in this section of the river than in its upstream counterparts. The greater abundance of native cyprinids also makes this an important area for juvenile and adult pallid sturgeon. With a larger food supply and higher summer water temperatures, this is the best place on the river for pallid sturgeon to make a living.

Several native Missouri River fishes including pallid and shovelnose sturgeon, paddlefish and sauger have evolved with a strategy of drifting for several days after being hatched. This life-history strategy coupled with spawning on hard surfaces such as gravel or cobble, make the lower Missouri River the most important rearing area for these fishes. Since very little hard substrate occurs in the lower portion of the river, many native fishes migrate upstream to reaches that contain the desired hard substrates to lay their eggs on. Once their eggs hatch, their larvae drift downstream where they begin freely swimming and feeding. The lower Missouri River has been identified as having the highest densities of young-of-the-year shovelnose sturgeon and sauger. In addition, the lower river is the only place where abundant young-the-year burbot have only been found, further supporting the belief that this is a critical rearing area.

Although this is a critically important area of the Missouri River for pallid sturgeon as well as numerous other native fishes, modifications to Fort Peck Dam will need to occur for the river to come closer to reaching its natural carrying capacity. Water temperatures are warmer in the downstream sections, nevertheless they are still colder during the summer months than river temperatures above Fort Peck Dam. Warmer water temperatures would increase the productivity of the system in several ways. Warmer water would likely increase macroinvertebrate production, which is a key food group for numerous species of fish. Additionally, warming up the river would likely extend the fish growing season, which would positively benefit most all of the native species present. Lastly, warmer water would likely increase the survival rates of fishes, since they would spawn earlier and their progeny would go into winter at larger sizes with better condition.

Channel maintaining flows are also needed in the lower Missouri River to create more natural habitats that native fishes utilize. Currently, very few high water events occur in the Missouri, which reduces the complexity of the river which inherently affects native fishes. Spring flows would not only create habitat, but would also elicit a migration and spawning response of many native fishes that currently do not get that trigger often enough.

FISHERIES MANAGEMENT DIRECTION FOR LOWER MISSOURI RIVER DRAINAGE

Water	Miles/Acres	Species	Origin	Management Type	Management Direction
Missouri River - Confluence of Poplar River to North Dakota border	94 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.
		Walleye	Wild	General	Allow harvest to keep population size at levels which will minimize hybridization with native sauger
		Native non-game fishes	Wild	Conservation	Monitor the native non-game fishes to better understand how operations of Fort Peck Dam and tributaries influence these populations.
Big Muddy Creek (Canadian border to mouth)	194 miles	Channel catfish Sauger	Wild	General	Maintain numbers. Inventory habitat issues, such as fish passage barriers and unscreened diversions.
		Native non-game fishes	Wild	Conservation	Protect habitat for native fishes. Provide fish passage at stream crossings.
Box Elder Reservoir	77 acres	Yellow perch, Walleye, Northern pike	Wild/ Transfer	General/ Special Regulations	Continue to monitor these populations. Evaluate the yellow perch transfers and the discontinued walleye stocking. Limit harvest of yellow perch until the fishery rebounds.
Whitetail Reservoir	25 acres	Yellow perch, Northern pike	Wild	General	Continue to monitor populations. Stock fish after winter kills. Evaluate balance between yellow perch and northern pike.

Water	Miles/Acres	Species	Origin	Management Type	Management Direction
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.