

MARIAS RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Marias River is the largest tributary of the Missouri River between Canyon Ferry and Fort Peck dams. This north-central prairie stream drains about 7,100 square miles of the Rocky Mountain Front and Lewis Mountain ranges. The Marias begins 12 miles north of Valier (elevation 3,280 feet) and flows 170 miles east and south to its confluence with the Missouri River near Loma (elevation 2,550 feet). Major tributaries include the Two Medicine River, Cutbank, Badger, and Birch creeks. The Teton River joins the Marias about 1 mile upstream from the Marias River's mouth, and is discussed in its own section. Within this geographic area there are 40 lakes or reservoirs, totaling 24,227 surface acres.

The upper Marias River basin is situated in the mountainous area of the Lewis and Clark National Forest and Glacier National Park. Its upper tributaries originate at an elevation of about 10,000 feet and flow out onto the prairie. There is little development in the foothill transition zone between the mountains and prairie. The Marias originates at the confluence of the Two Medicine River and Cutbank Creek about 35 miles east of the mountain zone. The upper mainstem reach flows 60 miles before entering the headwaters of Tiber Reservoir (Lake Elwell). Within this reach, the Marias flows through a rolling prairie landscape while entrenched in a well-defined valley about 1 mile wide. Soft shale and sandstone bluffs flank the river, rising 200 to 400 feet above the valley floor. The riparian vegetation consists of deciduous woodlands dominated by an overstory of cottonwoods and an undergrowth of willows, rose, and buffalo berry. The overall stream gradient is 5 feet/mile and varies from 11 feet/mile in the upper portion to less than 2 feet/mile in the lower end of the reach. Channel substrate consists primarily of cobbles and gravel with moderate amounts of siltation.

The lower Marias mainstem extends from Tiber Dam and flows for 78 miles to its confluence with the Missouri River. It lies in the semi-arid prairie lands at elevations between 3,000 and 4,000 feet. This area is moderately dissected with drainages that collect lowland runoff chiefly from March through June. With the exception of the Teton River, there are no perennial tributary streams joining the Marias. In fact, due to water management upstream, the lower Teton River has also not been perennial in most recent years. Flow regimens of the lower Marias River are completely regulated by the operations of Tiber Reservoir. Tiber Dam was completed in 1955 and is operated by the BOR. This reservoir stores the high spring runoff and augments base flows of the lower river.

Throughout its entire course, the lower Marias is entrenched in a well-defined river valley. The valley is about 3/4 mile wide at the upper and lower ends, and narrows in the middle to form a scenic canyon less than 400 yards wide. Shale and sandstone bluffs border the river and rise 200 to 400 feet above the narrow floodplain. The riparian vegetation is dominated by older cottonwood trees with a moderate undergrowth of rose and buffalo berry. Islands and lower floodplain areas support stands of willow. The floodplain throughout the lower river is in a static condition because of the regulated flows and the absence of regular flooding events. This has limited the abundance of early-aged cottonwood stands and other riparian vegetation dependent

on flooding. The overall stream gradient is 3.5 feet/mile and varies only slightly from 3.0-4.5 feet/mile. Channel substrate is mostly composed of cobbles and gravel. Siltation increases in a downstream progression from Tiber Dam.

Land uses in the Marias River drainage are fairly diverse. In the forested areas of the upper basin, a considerable portion is in designated wilderness that includes the Bob Marshall Wilderness Area and Glacier National Park. Forest Service lands outside the Bob Marshall Wilderness Area are managed for semi-primitive recreation, livestock grazing, and minor amounts of timber harvest. A significant part of the upper basin is contained within the Blackfeet Indian Reservation, where fisheries resources are managed by the Blackfeet Tribe in cooperation with the USFWS. Grain and hay production and livestock grazing are principal uses which occur in the prairie lands of the upper and lower basins. Most of the land in this area outside the Blackfeet Reservation is privately owned. There are a few scattered parcels of federal land managed by either the BLM or BOR. These lands are primarily located along the perimeter of Tiber Reservoir and areas adjacent to the lower Marias River. The river and surrounding lands are important recreation areas. Fishing, hunting, picnicking, and floating are popular activities associated with the river environment.

FISHERIES MANAGEMENT

The headwaters of the Marias River include Cutbank Creek and the Two Medicine River, which join to form the Marias River just south of Cutbank, Montana. Cutbank Creek, from where it leaves the Blackfeet Reservation and forms the eastern reservation boundary, is primarily a coldwater stream with rainbow and brown trout and mountain whitefish in its lower 19 miles. However, chronic dewatering limits its fisheries potential. The Two Medicine River flows approximately 40 miles from west to east, much of it on the Blackfeet Reservation. The Two Medicine River drainage contains larger tributaries, which are Badger, Birch, and Dupuyer creeks, and consists of about 773 miles of perennial streams. Approximately 123 perennial streams are named within the Two Medicine subbasin. The headwater tributaries to the Two Medicine River are generally cold and unproductive with low densities of trout.

The headwater drainage currently supports approximately 240 miles of stream inhabited by brook trout, 194 miles that support rainbow trout, 41 miles that support genetically unaltered westslope cutthroat trout in 12 streams, and 33 miles of stream containing genetically altered (hybridized) WCT in 11 streams. The brook and rainbow trout are managed as recreational fisheries with consumptive harvest, while the unaltered WCT are being managed to maintain or enhanced their populations to reduce the risk of extinction. The genetically altered populations are managed to maintain or enhance their populations as well, although harvest of robust populations is acceptable. The long-term goal of cutthroat conservation in the Marias River Drainage is to have approximately 20% of the historically occupied habitat restored to secure conservation populations of cutthroat trout. See Part 1: Trout: Westslope and Yellowstone Cutthroat Trout for details.

The reach of the Marias River above Tiber Reservoir includes both coldwater and warmwater species and becomes primarily a warmwater fishery near Tiber Reservoir (Lake Elwell) where walleye are the most abundant game fish. Coldwater game fish, including rainbow trout and mountain whitefish, also inhabit this reach, but in lower numbers. Northern pike, yellow perch, and burbot are other resident fish species of interest to many anglers. In addition, non-game fish

present include common carp, flathead chub, lake chub, emerald shiner, fathead minnow, longnose dace, and Rocky Mountain sculpin, as well as mountain, white, and longnose suckers. Walleye use the upper Marias for spawning and a segment of the population remains in the river throughout the summer. Young-of-the-year walleye have been sampled during the summer, indicating that the river also provides rearing habitat. Larger-sized rainbow trout are found in the river mainly in the spring and early summer. The upper Marias River has only a moderate fishery. Fishing pressure has averaged 1,602 angler days from 2001-2009.

Below Tiber Dam 21 miles downstream to Highway 223 (Circle Bridge), the coldwater releases from the dam have altered the aquatic environment to favor coldwater salmonid species. Mountain whitefish exist in high numbers and are the most abundant game fish in the reach. Rainbow and brown trout occur in fair numbers, exhibiting excellent growth rates. Warmwater game fish, including sauger, walleye, northern pike, and burbot also inhabit this reach, but in lower numbers. Fourteen species of non-game fish have been sampled in this reach, including goldeye, common carp, flathead chub, lake chub, emerald shiner, Western silvery minnow, fathead minnow, longnose dace, river carpsucker, shorthead redhorse, longnose sucker, white sucker, yellow perch, and Rocky Mountain sculpin. The reach has a good fishery primarily because of improved water management by the BOR, which maintained minimum instream flows. This tailwater fishery is the only trout stream within a 50-mile radius, and it receives a moderate amount of angler use. Because of limited natural reproduction, spawning is supplemented by stocking trout.

The reach of the Marias River from Highway 223 (Circle Bridge) 57 miles downstream to the mouth contains a warmwater fishery in which sauger are the most abundant resident game fish. Walleye occur in fair numbers and are more numerous in the lower portion of the reach. Channel catfish are found in moderate numbers throughout the lower Marias. Game fish that migrate from the Missouri River into the Marias to spawn are shovelnose sturgeon, sauger, walleye, and channel catfish. Shovelnose sturgeon have been sampled throughout this reach during their spawning period, late-May through June. A moderate population of mountain whitefish, and an occasional brown trout, are the coldwater game fish found throughout the lower river. Sizes of sauger and walleye are about average for Montana river populations. The sizes reported for shovelnose sturgeon are for only the adult spawning segment; however, the maximum sizes found here surpass most other records and underscore the value of this high quality population. Sixteen resident non-game fish species have been sampled in the lower Marias River, including goldeye, common carp, flathead chub, lake chub, emerald shiner, plains minnow, western silvery minnow, fathead minnow, longnose dace, river carpsucker, shorthead redhorse, longnose sucker, white sucker, mountain sucker, stonecat, and Rocky Mountain sculpin. Blue sucker, smallmouth buffalo, bigmouth buffalo, and freshwater drum are the migratory species found in the river during their spawning seasons, but they reside in the Missouri River during the rest of the year. This reach of the Marias, mostly the lower 6 miles, receives intensive angling pressure during the spring spawning season (April through mid-July). During the rest of the season, there is a moderate amount of angler use. The entire reach below Tiber Dam to the mouth averaged 3,495 angler days per year from 2001-2009.

Both Lake Frances and Tiber Reservoir support fisheries where anglers focus angling on walleye, yellow perch and northern pike. Fisheries monitoring is focused on these species and forage species in an effort to provide an adequate forage base for the top-level predators. While

the Lake Frances fishery requires stocking biannually to maintain walleye numbers, Tiber Reservoir walleye have provided adequate recruitment through wild reproduction after stocking that occurred back in the early 1970s and again in 1986 and 1988. The frequency of stocking in Lake Frances is being evaluated in an effort to provide high walleye growth rates and a desirable size structure. Angler use has average 12,313 angler days per year on Lake Frances and 17,878 angler days on Tiber Reservoir for the 27-year period from 1982-2009.

HABITAT

Long-term USGS flow records are available for the Marias River near Shelby (river mile 140.6) and below Tiber Dam near Chester (river mile 78.3). The mean annual flow near Shelby for a 108-year period of record (103 years of data) from 1903-2011 was 885 cfs; the peak flow was recorded in 1964 at 241,000 cfs and was associated with a dam failure in a flood year (1964). The mean annual flow below Tiber Dam for a 65-year interrupted period of record (58 years of data) between 1945-2011 was 800 cfs. Extreme flows since Tiber Dam was completed in 1955 have ranged from a low of nearly zero to a high of 10,400 cfs. A shorter period of record (13 years) for the Marias River near the mouth at Loma between 1960-72 showed a mean annual flow of 977 cfs, with a low of 45 cfs and a high of 10,800 cfs.

The largest user of water in the Marias Basin is irrigated agriculture. A total of 206,696 acre-feet or 34% of the average annual flow was consumed during 1980, a fairly typical year. Including Tiber Reservoir, four other reservoirs in the basin have storage capacities greater than 1,000 acre-feet. All except Tiber are used primarily for irrigation. These reservoirs have an estimated total storage capacity of 1,542,158 acre-feet.

Water temperatures downstream of Tiber are also affected by the operation of the dam. Deep cold water releases from the reservoir significantly reduced the river's summer temperatures at least 20 miles below the dam. The 7.5MW hydroelectric generating facility added to Tiber Dam in 2005 mitigates these temperature modifications to some extent.

FISHING ACCESS

Access to the 138 miles of river is generally limited to seven bridge crossings, including: the Loma Bridge FAS; BLM's Sullivan Bridge, Pugsley Bridge, and Moffat Bridge Recreation Areas; 2 miles of public river frontage, one immediately upstream from Tiber Reservoir and the other downstream from the dam; and FWP's Marias River Wildlife Management Area (WMA), a 5,845 acre parcel that includes 16.9 river miles between its upper and lower boundaries. The WMA is located between Sullivan Bridge Road and I-15 in the reach above Tiber Reservoir. Although the river is usually navigable, the distances between bridges in the upper river and most portions of the lower river generally require more than a day's travel and are becoming a more popular recreational float. Many reaches of the Marias River receive only light fishing pressure primarily due to its remote and relatively inaccessible location. Most of the private landowners allow access with permission; however, the terrain bordering the river is fairly rugged making physical access difficult.

SPECIAL MANAGEMENT ISSUES

FWP continues to cooperate with the Blackfeet Fish and Wildlife Department on fisheries issues, particularly projects involving native westslope cutthroat trout on streams that traverse both reservation and adjacent public lands.

FWP will also continue to provide technical advice and work with the BOR to manage flows downstream from Tiber Dam to maintain a more natural hydrograph designed to benefit the native fish assemblage and migratory fishes in the Marias below the dam and in the Middle Missouri River downstream of the Marias River.

FISHERIES MANAGEMENT DIRECTION FOR THE MARIAS RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
So. Fork Two Medicine River – Headwaters to	15.5 miles	Rainbow trout	Wild	General	Manage as recreational fishery with consumptive harvest. Promote harvest.
Blackfeet Reservation Boundary		Westslope cutthroat trout hybrids	Wild	Conservation	Maintain population to reduce extinction risk. Manage to prevent additional hybridization.
Boundary		Mountain whitefish (N)	Wild	General	Maintain population within historic levels.
Habitat needs and	activities: Main	tain habitat and instream flows of	16 cfs. Evaluat	e sites for a major barrier.	· · · · · · · · · · · · · · · · · · ·
Birch Creek – Swift Reservoir to Highway 358	43 miles	Brook Trout	Wild	General	Maintain a recreational fishery with consumptive harvest.
Habitat needs and	activities: Main	tain habitat and instream flows of	64 cfs.		
South Fork Dupuyer Creek	8.8 miles	Brook trout	Wild	General	Manage as recreational fishery with consumptive harvest.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance populations to reduce extinction risk.
Habitat needs and	activities: Main	tain habitat and instream flows of	6 cfs.		
North Fork Dupuyer Creek	10.5 miles	Brook trout	Wild	General	Manage as recreational fishery with consumptive harvest.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce extinction risk. Monitor to ensure hybrids do not ascend barrier at high magnitude flows.
Habitat needs and	activities: Main	tain habitat and instream flows of	12 cfs. Evaluat	e possible modification of	barrier to maintain isolation at all flows.
Dupuyer Creek	37.4 miles	Brook trout, Rainbow trout	Wild	General	Manage as recreational fishery with consumptive harvest.
Habitat needs and	activities: Main	Mountain whitefish (N) tain habitat and instream flows of	Wild 12 cfs.	General	Maintain population within historic levels.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
South Badger Creek	10.9 miles	Brook trout, Rainbow trout	Wild	General	Manage as recreational fishery with consumptive harvest. Prevent competition or hybridization with WCT.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain population to reduce extinction risk. Monitor to ensure non-natives do not ascend barrier at high magnitude flows.
Habitat needs and	activities: Main	tain habitat and instream flows of	40 cfs.		
North Badger Creek	20 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain population to reduce extinction risk. Monitor to ensure non-natives are not illegally introduced.
Habitat needs and	activities: Main	tain habitat and instream flows of	14 cfs.		
Badger Creek- from Confluence of North and South Badger Creeks to Blackfeet Reservation Boundary	6.5 miles	Brook trout, Rainbow trout, Westslope cutthroat trout hybrids	Wild	General	Manage as recreational fishery with consumptive harvest.
Habitat needs and	activities: Main	tain habitat and instream flows of	60 cfs.		
Cut Bank Creek – From the Blackfeet	19 miles	Rainbow trout, Brown trout	Wild	General	Manage as recreational fishery with consumptive harvest.
Reservation Boundary to the Mouth		Mountain whitefish (N), Burbot (N)	Wild	General	Maintain population within historic levels.
Habitat needs and	activities: Main	tain habitat and instream flows of	75 cfs.		
Brook trout Streams in Two Medicine River Basin	240 miles	Brook trout	Wild	General	Manage for a consumptive harvest.

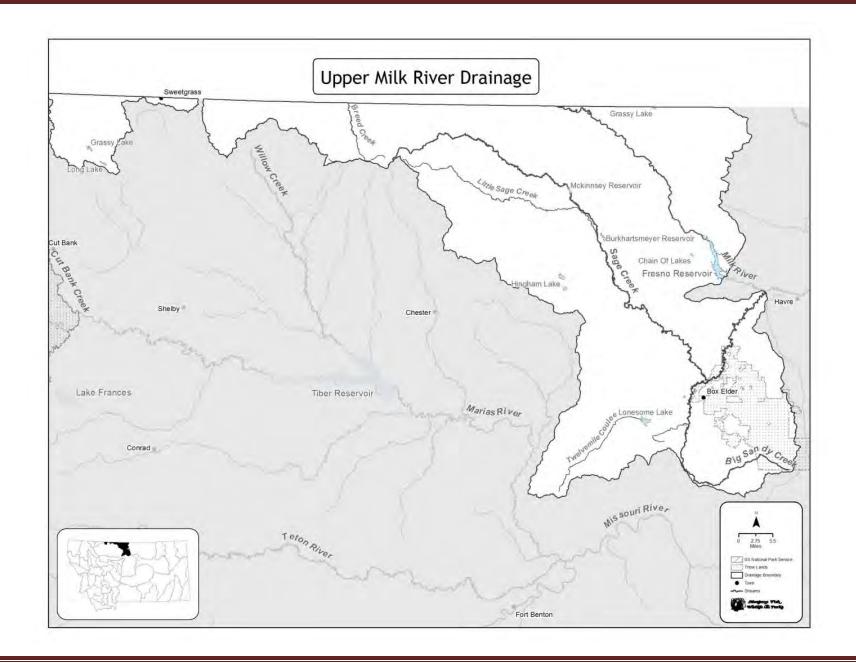
Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Swift Reservoir	450 acres	Rainbow trout	Wild	General	Marginal fishery with low fishing pressure and split jurisdiction with the Blackfeet Reservation. Maintain wild population for a recreational fishery with some consumptive harvest.
Marias River – Confluence of Two Medicine	60 miles	Rainbow trout, Northern pike	Wild	General	Maintain a recreational fishery for consumptive harvest.
River & Cutbank Creek to the Headwaters of		Mountain whitefish (N)	Wild	General	Maintain populations within historic levels.
Tiber Reservoir		Burbot (N)	Wild	General	Maintain populations within historic levels.
		Walleye	Wild	General	Maintain a recreational fishery for consumptive harvest and maintain access for adfluvial spawning populations within historic levels.
		Yellow perch	Wild	General	Maintain populations within historic levels with some consumptive harvest.
Habitat needs and	activities: Maint	ain habitat and instream flows of	200 cfs.		
Tiber Reservoir (Lake Elwell)	14,842 acres	Walleye	Wild	General	Manage for a consumptive harvest with an opportunity for a trophy fish. Manage based on the biology of the fishery. Emphasize natural recruitment.
		Yellow Perch	Wild	General	Maintain population within historic levels and provide a major component of the forage base and contribute to recreational fishery.
Continue next page		Cisco	Wild	General	Maintain population within historic levels and provide a major component of the forage base for large predatory species in Tiber.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Lake trout	Wild	General	Manage for a consumptive harvest.
		Northern pike	Wild	General	Manage for a consumptive harvest with the potential for a trophy fish.
		Burbot (N)	Wild	General	Manage for a consumptive harvest.
		Rainbow trout	Wild	General	Manage as an occasional species available for a consumptive harvest.
		Shovelnose sturgeon (N)	Wild	General	Maintain existing small population present. Consider potential for reestablishing a larger population.
Marias River – Tiber Dam to Highway 223	21 miles	Brown trout, Rainbow trout	Wild/ Hatchery	General	Maintain a recreational fishery with some consumptive harvest.
(Circle Bridge)		Mountain whitefish (N)	Wild	General	Maintain population within historic levels.
		Burbot (N), Walleye, Northern pike	Wild	General	Maintain population within historic levels.
Habitat needs and	activities: Maint	tain habitat and instream flows of	500 cfs.		
Lake Frances	3,618 acres	Walleye	Hatchery/ Wild	General	Manage for a consumptive harvest based on biology of the fishery. Continue to evaluate the contribution of biannual walleye plants and adjust if necessary to maintain a balance with the forage base.
		Northern pike, Burbot (N)	Wild	General	Manage for a consumptive harvest.
		Yellow perch	Wild	General	Maintain population within historic levels to provide a major component of the forage base
Continue next page	l		<u> </u>		and contribute to recreational fishery. Prohibit

Miles/acres	Species	Recruitment Source	Management Type	Management Direction
				as a species in any fishing contest to optimize forage reproductive potential.
	Rainbow trout	Wild	General	Manage as an occasional species available for a consumptive harvest.
57 miles	Sauger (N)	Wild	Restrictive Regulations	Maintain and enhance the population while maintaining a recreational fishery with some consumptive harvest.
	Mountain whitefish (N)	Wild	General	Maintain population within historic levels.
	Shovelnose sturgeon (N)	Wild	General	Maintain spawning run population within historic levels.
	Walleye, Channel catfish (N) Burbot (N), Brown trout	Wild	General	Maintain population within historic levels.
	Smallmouth bass	Wild	General	Maintain existing population levels if no observed impacts to native species.
activities: Maint	ain habitat and instream flows of	560 cfs.		
41 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance populations to reduce extinction risk.
	activities: Mana 57 miles	Rainbow trout activities: Manage forage base using the forage sp 57 miles Sauger (N) Mountain whitefish (N) Shovelnose sturgeon (N) Walleye, Channel catfish (N) Burbot (N), Brown trout Smallmouth bass activities: Maintain habitat and instream flows of	Rainbow trout Wild activities: Manage forage base using the forage species currently 57 miles Sauger (N) Wild Mountain whitefish (N) Shovelnose sturgeon (N) Wild Walleye, Channel catfish (N) Burbot (N), Brown trout Smallmouth bass Wild activities: Maintain habitat and instream flows of 560 cfs.	Rainbow trout Wild General activities: Manage forage base using the forage species currently present. 57 miles Sauger (N) Mountain whitefish (N) Shovelnose sturgeon (N) Wild General Walleye, Channel catfish (N) Burbot (N), Brown trout Smallmouth bass Wild General activities: Maintain habitat and instream flows of 560 cfs.

STATEWIDE FISHERIES MANAGEMENT PLAN

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction				
Habitat needs and a	Habitat needs and activities: Maintain or improve habitat and explore suitable sites for barriers or reducing fragmentation of WCT occupied habitat.								
Westslope Cutthroat Trout Genetically Altered Conservation Population Streams (11 Streams)	32.9 miles	Westslope cutthroat trout & hybrids (Mixed populations)	Wild	Conservation	Maintain or enhance populations. Allow harvest in robust populations.				



UPPER MILK RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Upper Milk River flows approximately 105 miles through Alberta before re-entering Montana in Hill County, approximately 34 miles upstream of the Fresno Reservoir headwaters. This section of the Milk River consists of badlands, native grasses, sagebrush, and shrub/forest landscapes located primarily on federal lands. The Upper Milk area encompasses approximately 2,100 square miles. Sage Creek is one of two major tributaries to the Milk River, flowing from the headwaters near the Sweetgrass Hills and coursing through Liberty and Hill counties approximately 60 miles southeast to the junction with Big Sandy Creek. Stream-side vegetation consists mainly of native grasses, rose, and sagebrush. Surrounding lands are privately owned pasture and cultivated croplands. Big Sandy Creek begins in the Bear Paw Mountains and flows approximately 52 miles northeast through Choteau and Hill counties to its confluence with the Milk River downstream of Fresno Reservoir. Surrounding lands consist of timbered mountains, prairie pastures, and cultivated croplands located on private lands and the Rocky Boy Indian Reservation.

There are numerous reservoirs constructed on ephemeral streams located throughout this area. Most of these reservoirs are too shallow for fisheries and are primarily used for stock water and irrigation. The largest reservoirs are Fresno and Bailey, both of which receive high fishing pressure and other recreational use. Fresno is managed as an irrigation storage facility by the BOR and experiences considerable annual water level drawdowns.

FISHERIES MANAGEMENT

Fresno Reservoir is managed primarily for walleye. Management efforts are focused on working with the BOR on water-level management that benefits the resident fish community during critical spawning and rearing periods. Fresno Reservoir and the Milk River upstream of Fresno Dam supports a number of fish species including, walleye, yellow perch, lake whitefish, northern pike, black crappie, burbot, sauger, rainbow trout, stonecat, white sucker, longnose sucker, emerald shiner, spottail shiner, Rocky Mountain sculpin, fathead minnow, brook stickleback, lake chub, northern redbelly dace, longnose dace, western silvery minnow, and western silvery/plains minnow. Many of these species are also found in Sage and Big Sandy creeks. Species such as black bullhead, bluegill, smallmouth bass, largemouth bass, Iowa darter, and brassy minnow are found in the smaller impoundments and tributaries. Brook trout are found in the headwaters of Big Sandy Creek.

Fresno Reservoir has been stocked with 100,000 walleye fingerlings annually with little consideration given to wild walleye production, forage fish abundance and habitat quantity and quality. Stocking frequency and the number of walleye fingerlings planted are now being evaluated with the goal of improving walleye growth rates and size structure, while maintaining a favorable forage base. The forage base (yellow perch, black crappie, and spottail shiner) will be closely monitored with regard to current spawning success, water conditions, and predator densities.

Smaller reservoirs located throughout the area are managed for warm and cool water species diversity. Trapping and transport of warm-water species such as yellow perch, bluegill, black crappie, and fathead minnows will be implemented to establish new fisheries, promote kids fishing, and establish forage fish populations or to supplement existing game fish populations. Hatchery-reared rainbow trout, brook trout, and largemouth bass will continue to be stocked into those ponds with sufficient water depth and good overwinter survival. Ponds and reservoirs will be re-stocked immediately following severe drought events or winterkills if favorable habitat conditions exist. Windmill aeration systems will be maintained on those ponds with marginal depths and low winter dissolved oxygen levels.

Very little information has been obtained identifying species composition, densities, specific interactions, and habitat use of native and non-native fishes within the Milk River above Fresno Reservoir. Therefore, development and implementation of a standardized sampling program targeting multiple habitats is currently being developed.

Angling opportunities occur year-round, with anglers targeting the rivers and streams during the spring, shifting to the ponds and reservoirs from late spring through the winter months. Shore, boat, and ice fishing opportunities exist throughout the area, with anglers using a variety of methods to catch multiple species. Anglers need to be aware of the no live bait fish restriction on Fresno Reservoir and the Milk River above Fresno Reservoir.

HABITAT

Flows on the Upper Milk River are highly variable and can range from intermittent pools (no flow) to flows exceeding 5,000 cfs depending on the time of year and precipitation. Flows are augmented annually through the transbasin diversion from the St. Mary River and canal system with up to 650 cfs during the irrigation season (April-September). Fresno Reservoir is a mainstem irrigation storage facility located on the Milk River with annual water fluctuations of more than 21 feet. Extreme reservoir drawdowns have negative impacts to the fishery and can result in poor spawning conditions, poor rearing habitat, poor overwinter water conditions, and increased fish entrainment downstream. Although uncommon, there have been years in which recreationists were unable to launch boats due to low reservoir water conditions.

Fish passage issues exist in the Upper Milk drainage, but little work has been done to identify these and determine passage enhancement opportunities. Plans are being developed to identify areas of impaired passage and implement safe water crossings which emphasize fish passage and habitat connectivity. Recommending best management practices for improving bank stabilization and riparian habitats, while opposing land use activities that further degrade habitat and water quality will be emphasized.

Riparian habitats associated with smaller reservoirs vary depending on rotational grazing plans and fencing. Water quality varies as well based on surrounding land use practices, water depth, and seasonal climate variables. Efforts are underway to work with land management agencies and private landowners to improve riparian health through a variety of treatments.

FISHING ACCESS

The Upper Milk River is surrounded by federal lands, but access to those lands is limited. One access site is off a county road approximately 10 miles upstream of the Fresno Reservoir

STATEWIDE FISHERIES MANAGEMENT PLAN

headwaters. Access to Fresno Reservoir is good (primarily BOR ownership), with campgrounds provided and managed by the Fresno Chapter of Walleyes Unlimited, and primitive camping available throughout the lower half of the reservoir. There are two concrete boat ramps located near the dam and in Kremlin Bay.

Bailey Reservoir, a popular youth fishery and important regional fishery is the only State Fishing Access Site located in this area. Amenities at Bailey Reservoir include a fishing pier, pavilion, and boat ramp.

The FWP Region 6 pond guide will continue to be updated and distributed to anglers to increase awareness on local pond opportunities. Access and opportunity will continue to be a major emphasis throughout the area.

SPECIAL MANAGEMENT ISSUES

Fishing Tournaments

Currently, one open water walleye tournament and one ice fishing tournament are held on Fresno Reservoir annually. Tournament dates must be finalized with the BOR prior to completion of the permit application issued by MFWP. Tournaments will be reviewed on an individual basis. Evaluation of proposed tournaments will include potential biological and social impacts. Each tournament undergoes a 30-day public review and comment period. Tournament directors will be required to report post-tournament catch-rate information in a standardized format.

Milk River and Fresno Reservoir Water Management

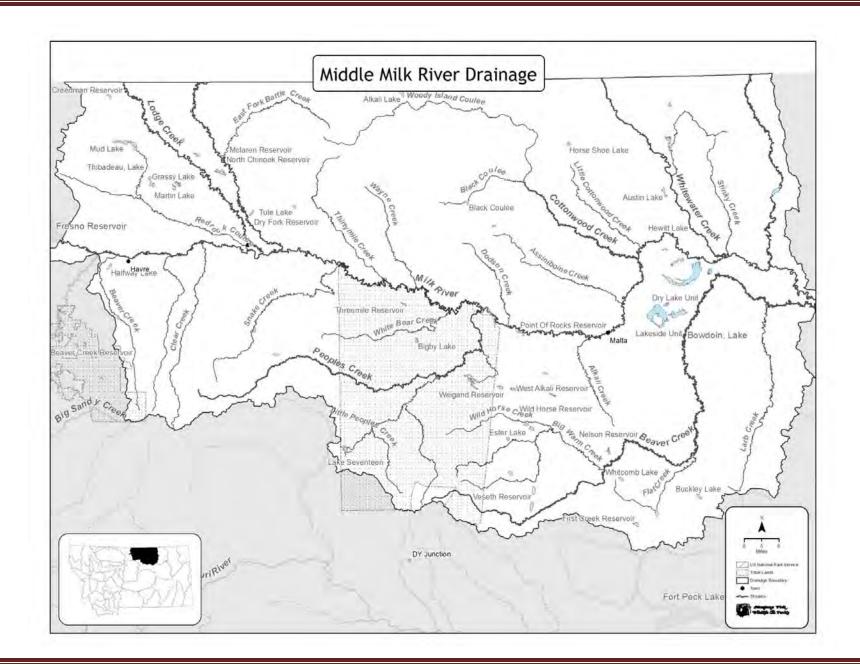
The St. Mary canal and existing infrastructure is approaching 100 years of age and is in need of major repairs. The St. Mary's Working Group is working on a plan to update and repair the existing infrastructure to ensure supplemental water continues to provide irrigation water to agricultural producers throughout the Milk River watershed. The BOR recently completed a transbasin water analysis study that identified potential climate change related impacts to the watershed. Anticipated impacts include highly variable water supplies that have the potential to limit all water uses over the next 40-year time period.

FISHERIES MANAGEMENT DIRECTION FOR UPPER MILK RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Milk River - Canadian border to Fresno	34 miles	Walleye, Northern pike	Wild	General	Develop and implement a standardized sampling program.
Reservoir headwaters		Sauger (N), Burbot (N)	Wild	General/ Conservation	Develop and implement a standardized sampling program. Work with Alberta Sustainable Resource Development to collect sauger genetics in the upper Milk River.
		Native non-game fishes (N)	Wild	Conservation	Develop and implement a standardized sampling program.
		current and historic habitat limitation to address any habitat issue identifie	•	winter flows, fish productio	n, and rearing habitat. Work with the BOR, the local
Fresno Reservoir	5,700 acres	Walleye, Northern pike, Yellow perch, Black crappie, Lake whitefish	Wild/Hatchery	General/ Put, Grow and Take	Continue to evaluate and manage the fish community in regards to reservoir water management. Implement walleye and yellow perch stocking strategies based on water management and current population densities.
		Sauger (N), Burbot (N)	Wild	General/ Conservation	Monitor populations to detect changes in species composition and abundance.
water management	should target stea		ring critical spawr		o Reservoir to benefit the resident fisheries. Optimal une). It should also target favorable overwinter pool
Big Sandy Creek	52 miles	Walleye, Northern pike, Yellow perch, Black bullhead	Wild	General	Begin to understand fish assemblage and population size of game fishes.
Continue next page		Native non-game fishes (N)	Wild	Conservation	Protect habitat and provide passage where applicable.
Habitat needs and a	ctivities: Identify	habitat issues and work closely with l	ocal conservation	districts, county road crews	, and landowners to implement safe water crossings

STATEWIDE FISHERIES MANAGEMENT PLAN

Water	Miles/acres	Species	Recruitment	Management Type	Management Direction
			Source		
which emphasis fish	passage and water	er connectivity.			
Sage Creek	60 miles	Northern pike,	Wild	General	Begin to understand fish assemblage and
		Yellow perch			population size of game fishes.
		Native non-game fishes	Wild	Conservation	Protect habitat and provide passage where
					applicable.
Habitat needs and a	ctivities: Identify l	nabitat issues and work closely with lo	ocal conservation	districts, county road crews	and landowners to implement safe water crossings
which emphasis fish	passage and wate	er connectivity.			
Bailey Reservoir	70 acres	Northern pike,	Wild	General	
		Yellow perch,			
		Black crappie			
		Walleye	Hatchery	Put, Grow and Take	Stock 10,000 walleye fingerlings on alternate years.
Habitat needs and a	ctivities: Seek opp	ortunities to increase reservoir habita	at with use of arti	ficial structures.	



MIDDLE MILK RIVER DRAINAGE

PHYSICAL DESCRIPTION

This drainage is located in north central Montana in Hill, Blaine, and Phillips counties and encompasses approximately 8,700 square miles. The landscape is diverse with cottonwood galleries and irrigated crop and hay lands along the Milk River and major tributaries, dry-land agriculture and rangeland throughout the area, and two island mountain ranges (Bear Paws and Little Rockies). Landownership in this area consists of federal, state, and private lands, including the Fort Belknap Reservation and a portion of the Rocky Boy Reservation. In this drainage, the Milk River flows for 302 miles from Fresno Reservoir downstream to Hinsdale. There are several major tributaries to the Milk River located in this reach. Lodge, Battle, and Frenchman Creeks all originate in Alberta and Saskatchewan, Canada; whereas Beaver (Hill), Clear, Peoples, and Little Boxelder Creeks originate in the Bear Paw Mountains and Beaver Creek (Phillips) originates in the Little Rocky Mountains.

There are numerous reservoirs located throughout this area. Most of these reservoirs are generally too shallow to support perennial fisheries and are primarily used for stock and irrigation. The largest reservoirs by surface acreage are Nelson, Dry Fork, Beaver Creek, Anita, and Ester Reservoirs which receive high numbers of visitors for fishing and other recreational activities. Nelson Reservoir is managed as an irrigation storage facility by the BOR and can experience considerable drawdowns during prolonged drought cycles.

FISHERIES MANAGEMENT

This area is home to a number of fish species including, walleye, yellow perch, northern pike, black crappie, burbot, sauger, lake whitefish, goldeye, shorthead redhorse, smallmouth buffalo, bigmouth buffalo, black bullhead, bluegill, pumpkinseed, green sunfish, smallmouth bass, channel catfish, largemouth bass, Iowa darter, brassy minnow, stonecat, white sucker, longnose sucker, common carp, emerald shiner, spottail shiner, fathead minnow, brook stickleback, lake chub, northern redbelly dace, longnose dace, western silvery minnow, and western silvery/plains minnow. Species such as rainbow trout, brown trout, brook trout, and mountain sucker are found in the headwaters of Clear Creek and Beaver Creek. Brook trout are also found in some of the headwater streams located in the Little Rockies.

Nelson Reservoir is managed primarily for walleye but also contains a good northern pike and yellow perch population. This reservoir will continue to be managed as a multi-species fishery with an emphasis on walleye management that promotes healthy walleye growth and adult densities.

Very little information has been obtained identifying the species composition, densities, interactions, and habitat use of native and non-native fishes within the Middle Milk River. Therefore, development and implementation of a standardized sampling program targeting multiple habitats with maximum efficiency will aid in addressing some of these questions.

Smaller reservoirs located throughout the area are managed for diversity and monitored every one to five years, based on angler use. Trap and transport of warm-water species such as yellow

perch, bluegill, black crappie, and fathead minnows is used to establish new fisheries, promote kids fishing, establish a forage base, or to supplement existing populations. Hatchery reared rainbow trout and largemouth bass are stocked into those ponds that have traditionally received them and exhibit good overwinter water conditions. Ponds and reservoirs will be re-stocked following severe drought events or winterkills. Windmill aeration systems are maintained on those ponds with marginal depths and low winter dissolved oxygen levels.

Angling opportunities occur year-round with anglers typically targeting the rivers and streams during the spring, and shifting to ponds and reservoirs from late spring through winter. Shore, boat, and ice fishing opportunities exist throughout the area with anglers using a variety of methods to catch multiple species.

HABITAT

The Middle Milk is one of the most impacted sections of river in Montana. There are eight instream dams/diversions used to divert water for irrigation and municipal use that are barriers to fish passage. Fish passage issues also exist in the larger tributaries as with a dam located on Frenchman Creek (Frenchman Dam). There are plans to identify those areas that restrict fish passage and promote stream crossing designs that provide aquatic connectivity. Implementing best management practices for improving bank stabilization and riparian habitats while opposing land use activities that further degrade habitat and water quality is emphasized as a general management strategy.

Nelson Reservoir is an off-stream storage facility that draws water from the Milk River and has water levels that are relatively stable, except during extreme drought, compared to other reservoirs within the area. Ensuring stable or rising reservoir levels during critical spawning and rearing periods allows this fishery to maintain balanced predator-prey densities and good growth rates.

Riparian habitats associated with smaller reservoirs vary depending on current rotational grazing plans and fencing. Water quality also varies based on surrounding land practices, depth, and seasonal climate. Working with federal agencies (e.g., BLM) to implement riparian fencing and off-site watering projects for livestock improves riparian habitats and increases the aesthetic values surrounding these small reservoirs.

FISHING ACCESS

Public access to the Middle Milk River is limited due to the predominance of private land along the river. There are three FWP Fishing Access Sites (Fresno Tailwater, Alkali Creek, and Bjornberg Bridge) and a number of bridges that anglers can use to access the Milk River and streams located throughout the area. Access to Nelson Reservoir is good with much of the adjacent land owned and managed by the BOR. Camping areas and two concrete boat ramps are located near the dam and east shoreline of the reservoir. There are also FASs located at Bear Paw Lake, Cole Ponds, and Faber Reservoir, giving anglers a diverse fishing opportunity on some smaller bodies of water. Local pond opportunities on state, federal, and private lands is also available throughout the area, and information can be found in the Region 6 pond guide. Access and opportunity will continue to be a major emphasis throughout the area.

SPECIAL MANAGEMENT ISSUES

Fishing Tournaments

Currently, one ice fishing tournament are held on Nelson Reservoir annually. Tournament dates must be finalized with the BOR prior to completion of the permit application issued by MFWP. Tournaments will be reviewed on an individual basis. Evaluation of proposed tournaments will include potential biological and social impacts. Each tournament undergoes a 30-day public review and comment period. Tournament directors will be required to report post-tournament catch-rate information in a standardized format.

Milk River and Nelson Reservoir Water Management

The St. Mary canal and existing infrastructure is approaching 100 years of age and is in need of major repairs. The St. Mary's Working Group is working on a plan to update and repair the existing infrastructure to ensure supplemental water continues to provide irrigation water to agricultural producers throughout the Milk River watershed. The BOR recently completed a transbasin water analysis study that identified potential climate change related impacts to the watershed. Anticipated impacts include highly variable water supplies that have the potential to limit all water uses over the next 40 year time period.

FISHERIES MANAGEMENT DIRECTION FOR MIDDLE MILK RIVER DRAINAGE

Water	Miles/Acres	Species	Recruitment Source	Management Type	Management Direction
Milk River - Fresno Reservoir tailwaters to Hinsdale	302 miles	Walleye, Northern pike, Yellow perch, Black crappie, Lake whitefish, Sauger (N), Channel catfish (N), Burbot (N)	Wild	General	Develop and implement a standardized sampling program to monitor sport fish populations. Better understand entrainment losses of all fishes through diversion canals and intake structures.
		Native non-game fishes (N)	Wild	Conservation	Monitor populations to detect changes in species composition and abundance.
		Rainbow trout	Hatchery	Put, Grow and Take	Continue to stock 4,000 rainbow trout into the Fresno Tailwaters annually.
		k with local, state, and federal age	encies along with I	andowners to implement	best management practices that improve or
maintain natural ri					
Beaver Creek	12 miles	Brook trout,	Wild	General	Manage for self sustaining brook trout fishery.
Section 03 and		Rainbow trout			Develop and implement a standardized
04- Bear Paw					sampling program to understand fish
Lake headwaters					assemblage and population size.
to East Fork Dam					
tailwaters	l]		
	activities: Work	with Beaver Creek County Park t	o implement best	management practices th	nat improve or maintain natural riverine and
riparian habitats.					
Beaver Creek	8 miles	Brown trout	Hatchery	Put, Grow and Take	Stock 2,000 brown trout annually for put and
Section 02-					take trout fishery.
Beaver Creek					
Reservoir		Rainbow trout,	Wild	General	Develop and implement a standardized
headwaters to		Brook trout,			sampling program to understand fish
Bear Paw Lake	l	Walleye,]		assemblage and population size.

Water	Miles/Acres	Species	Recruitment Source	Management Type	Management Direction
tailwaters.		Northern pike,			
		Yellow perch,			
	l	Smallmouth bass	J		
	activities: Work	k with Beaver Creek County Parks	to implement bes	t management practices t	that improve or maintain natural riverine and
riparian habitats.	T	T	T	T	
Bear Paw Lake	45 acres	Rainbow trout	Hatchery	Put, Grow and Take	Stock 20,000 rainbow trout annually for put and take trout fishery.
		Brook trout,	Wild/Hatchery	General/	Consider increasing daily combined trout limit
		Smallmouth bass	, vine, naterier,	Restrictive Regulations	from 3 to 5 fish. Manage for self-sustaining smallmouth bass population.
		Walleye	Hatchery	Put, Grow and Take	Stock walleye fingerlings as biological control
					of white sucker on an as-needed basis.
Beaver Creek	22 miles	Brown trout	Hatchery	Put, Grow and Take	Stock 3,000 brown trout annually for put and
Section 01-					take trout fishery.
Confluence of					
Milk River to		Rainbow trout,	Wild	General	Develop and implement a standardized
Beaver Creek		Brook trout,			sampling program to understand fish
Reservoir		Walleye,			assemblage and population size.
tailwaters.		Northern Pike,			
		Yellow Perch,			
	l	Smallmouth bass	J		
		k with local, state, and federal age	encies along with I	andowners to implement	best management practices that improve or
maintain natural ri	ı	I	T		
Beaver Creek	160 acres	Rainbow trout,	Hatchery	Put, Grow and Take/	Stock 50,000 rainbow trout annually for put
Reservoir		Walleye		Restrictive Regulations	and take trout fishery. Consider increasing
					daily combined trout limit from 3 to 5 fish.
					Evaluate current walleye stocking programs
					success. Implement a walleye stocking
					strategy that optimizes stocked walleye
Contract					recruitment and relative abundance while
Continue next page	<u> </u>		J		maintain a good forage base.

Water	Miles/Acres	Species	Recruitment Source	Management Type	Management Direction
Habitat needs and	activities: MEW	Northern pike, Yellow perch, Smallmouth bass, Brook trout	Wild	General	Continue to monitor these populations as well as evaluate the biological and social impacts regarding a black crappie introduction into the reservoir. ng during the spring spawning period (April-
May).	detivities. IVII VV	Thas requested that reservoir we	ater levels remain	stuble to slightly increasing	ing during the spring spawning period (April
Clear Creek	40 miles	Walleye, Northern pike, Yellow perch, Sauger (N)	Wild	General	Better understand fish assemblage and population size of game fishes.
		Native non-game fishes (N)	Wild	Conservation	Protect habitat and provide passage where applicable.
		Brook trout	Wild	General	Manage for self-sustaining brook trout fishery.
		tify habitat issues and work closel sh passage and water connectivit	•	rvation districts, county r	oad crews, and landowners to implement safe
Lodge Creek, Battle Creek	62 miles, 70 miles	Walleye, Northern pike, Black bullhead, Sauger (N), Yellow Perch	Wild	General	Better understand fish assemblage and population size of game fishes.
		Native non-game fishes (N)	Wild	Conservation	Protect habitat and provide passage where applicable.
		-	y with local conse	rvation districts, county r	oad crews, and landowners to install safe water
		ssage and water connectivity.			
Peoples Creek	70 miles	Walleye, Northern pike, Black bullhead,	Wild	General	Better understand fish assemblage and population size of game fishes.
Continue next page		Yellow perch			

Water	Miles/Acres	Species	Recruitment Source	Management Type	Management Direction
		Native non-game fishes (N)	Wild	Conservation	Protect habitat and provide passage where applicable.
		Brook trout	Wild	General	Manage for self-sustaining brook trout fishery.
		•		rvation districts, county r	oad crews, and landowners to implement safe
water crossings wl	hich emphasis fis	sh passage and water connectivity			
Dry Fork	350 acres	Walleye	Hatchery	Put, Grow and Take	Stock 10,000 walleye fingerlings annually.
Reservoir		Northern pike, Yellow perch, Black crappie	Wild	General	Maintain a quality fishing experience for all species. Continue to monitor the population.
Habitat needs and	activities: Look	to minimize irrigation impacts or	pool elevations.	J	·L
Ross Reservoir	6 acres	Yellowstone cutthroat trout	Hatchery	Put, Grow and Take	Maintain current harvest opportunity
Faber Reservoir	38 acres	Rainbow trout	Hatchery	Put, Grow and Take	Manage for put and take rainbow trout fishery. Get feedback from anglers on possibly introducing black crappie.
Brookie Pond	4 acres	Brook trout	Hatchery	Put, Grow and Take	Maintain current harvest opportunity
Habitat needs and	activities: Main	tain windmill aerator.			
Frenchman Creek	78 miles	Walleye, Northern pike, Black bullhead, Yellow perch	Wild	General	Better understand fish assemblage and population size of game fishes.
		Native non-game fishes (N)	Wild	Conservation	Protect habitat and provide passage where applicable.
		tify habitat issues and work closel sh passage and water connectivity	•	rvation districts, county r	oad crews, and landowners to implement safe
Beaver Creek (Phillips County)	78 miles	Walleye, Northern pike, Black bullhead,	Wild	General	Better understand fish assemblage and population size of game fishes.

Water	Miles/Acres	Species	Recruitment Source	Management Type	Management Direction		
		Yellow perch					
		Native non-game fishes (N)	Wild	Conservation	Protect habitat and provide passage where applicable.		
		Brook trout	Wild	General	Manage for self-sustaining brook trout fishery.		
Habitat needs and	activities: Ident	ify habitat issues and work closel	y with local conse	rvation districts, county ro	oad crews, and landowners to implement safe		
	water crossings which emphasis fish passage and water connectivity.						
Nelson Reservoir	4,331 Acres	Walleye, Northern pike, Yellow perch, Black crappie, Lake whitefish, Smallmouth bass, Channel catfish (N)	Wild/Hatchery	General/ Put, Grow and Take	Evaluate current cost/benefits of our walleye stocking program as it relates to walleye abundance, growth, and condition. Manage for sustainable walleye, northern pike, and yellow perch fishery year-round. Evaluate the rising smallmouth bass densities and its effects on the existing fish community.		
Trout Ponds- Located throughout Hill, Blaine, and Phillips Counties	Various	Rainbow trout, Brook trout	Hatchery	Put, Grow and Take	Monitor water conditions and impacts from winterkill. Stock trout based on current 6-year stocking plan.		
Habitat needs and activities: Work with Bureau of Land Management and landowners to increase riparian habitats and aesthetic landscapes surrounding the ponds. Maintain windmill aeration systems on ponds with marginal depths.							
Warm water Reservoirs and Ponds- Located throughout Hill, Blaine, and Phillips Counties	Various	Largemouth bass, Northern pike, Walleye, Smallmouth bass, Channel catfish (N), Black crappie, Yellow perch, Bluegill	Wild/Hatchery/ Transfer	General/ Put, Grow and Take	Manage as self-sustaining fisheries. Supplement populations with hatchery stocking and wild fish transfers as needed. Monitor water conditions and impacts from winterkill.		
Habitat needs and activities: Work with Bureau of Land Management and landowners to increase riparian habitats and aesthetic landscapes surrounding the							
ponds. Maintain windmill aeration systems on ponds with marginal depths.							



LOWER MILK RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Lower Milk River drainage covers approximately 2,644 square miles, including the Milk River from Hinsdale downstream to its confluence with the Missouri River. The vast majority of the district is situated within Valley County, with the exception of the northwest most portion which lies within Phillips County. Significant tributaries include Rock Creek from the north and Willow creek from the south. Although the Milk River bottoms are mostly in private ownership, areas to the north and south include large tracks of BLM land as well as private lands. Along the Milk River irrigated croplands dominate the landscape with intact cottonwood galleries intermixed throughout. The areas to the north are a mix of dry land grain farming and native grass communities. Areas to the south also have dry land grain farming and native sagebrush habitats.

FISHERIES MANAGEMENT

The Milk River from Hinsdale to Vandalia Dam is greatly influenced by the complete fish barrier that Vandalia Dam has created. The richness of native fishes is greatly reduced when compared to sections downstream of Vandalia (Missouri River influence). One native species (channel catfish) and two introduced species (walleye and northern pike) dominate the fishery in this section. Other introduced game fishes including yellow perch, black crappie, bluegill and smallmouth bass are also found in this section. Although not considered a lake or a reservoir, Vandalia Dam backs water up to Hinsdale and boat fishing and water-based recreation is popular.

The fish populations of the Milk River downstream of Vandalia Dam are interconnected to the Missouri River, with high native and nonnative species richness. The abundance of both native and introduced fish can greatly vary on a seasonal or yearly basis depending on the river's discharge and the number of fish migrating upstream from the Missouri River. Game fish that occur in this section include channel catfish, sauger, walleye, shovelnose sturgeon, northern pike, burbot, lake whitefish, smallmouth bass and paddlefish. Non-game fish include (but are likely not limited to) pallid sturgeon, bigmouth and smallmouth buffalo, river carpsucker, blue sucker, white and longnose sucker, shorthead redhorse, freshwater drum, goldeye, stonecat, black bullhead, flathead chub, sicklefin chub, sturgeon chub, sand shiner, emerald shiner, spottail shiner, fathead minnow, brassy minnow, western silvery minnow, plains minnow and common carp.

The lower Milk River is a very important tributary to the Missouri River for fish recruitment. Studies have found that when the Milk River is flowing during the spring and early summer, countless fish of several species are produced and drift into the Missouri River. Paddlefish production in the lower Milk River occurs in years that the Milk has spring and early summer flows. In addition, blue suckers are known to enter the Milk River when flows are near 1,000 cfs and spawn, while in years where relatively little flow occurs blue suckers don't even enter the river. Furthermore, higher flows are required to scour silt from the bottom of the river into suspension and expose the many gravel bars--allowing fish like sauger and paddlefish to attach

their eggs. The importance of the Milk River is just becoming known and with the recent migrations of pallid sturgeon into the river, further study is warranted.

Fishing regulations in the lower Milk River are similar to that of the rest of the Eastern District, with the exception of paddlefish. Although paddlefish use the lower Milk in the spring and early summer, no fishing is allowed. This is because the size of the population and the amount of fishing pressure it can withstand is not fully understood. Furthermore, there is very limited public access on this portion of the river and spawning is sporadic and dependent on river discharge. Limited access not only makes fishing difficult, but limits effective law enforcement.

Rock Creek is a relatively large tributary that enters the Milk River northwest of Hinsdale. Although the majority of angling likely occurs at its confluence with the Milk River, Rock Creek it has at least 14 species within the drainage, 12 of which are native species.

Several prairie ponds that provide public access 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

The upper section of the Milk River from Hinsdale to Vandalia Dam is shallower and has faster moving water, while the lower section consists of relatively deep slow moving water, because of the influence of Vandalia Dam. The upper section has intact cottonwood galleries with intermixed agricultural fields to the rivers banks.

The section downstream of Vandalia dam is very sinuous with a cottonwood gallery lining the majority of river with patches of agriculture adjacent to the river banks. Throughout most of the year the rivers bed is laden with silt substrate, but when the river flows increase in the spring, those sediments are put into suspension and gravel bars are exposed.

During the flooding of 2011 it was apparent how important an intact riparian zone is on the lower Milk River. Bank sloughing occurred at accelerated rates on lands butting up to agricultural field, with several areas witnessing severe erosion. Conversely, soils with intact riparian vegetation stayed relatively intact.

The largest single factor limiting the lower Milk River is the availability of water during the spring and early summer period. During years of drought, the lower Milk River is often stagnant, with flows approaching zero. From past research there is a good understanding of the relationship between spring and early summer flows and production of several species of native fishes, including game fishes like sauger and paddlefish. During wet years when the Milk River flows for extended periods, several species benefit by running up into the river from the Missouri River and spawning. The duration of flow is critical since once a fish has laid its eggs flows are needed to keep those eggs oxygenated. If flows cease when eggs are incubating, silt will fall back out of the water column and can suffocate the eggs.

FISHING ACCESS

The majority of the lower Milk River flows through privately owned lands. However, some public lands do occur, particularly in the town of Hinsdale and at Vandalia Dam. From Vandalia Dam to its mouth, public access is mostly limited to county bridges. Addressing the lack of public access to the lower Milk River is a priority for FWP.

The prairie ponds within the district occur on a mix of private and public land. Private ponds stocked by FWP are accessible to the public by gaining permission from landowners. A region-wide pond booklet was published in 2011 that provides recreationists with a guide to all ponds managed by FWP in Region 6. This booklet will be updated every two years.

SPECIAL MANAGEMENT ISSUES

During 2010 and 2011, both wild adult and hatchery-reared pallid sturgeon migrated into the lower Milk River from the Missouri River. Although the significance of this in terms of helping with pallid sturgeon recovery is unclear, it is apparent that future studies are warranted.

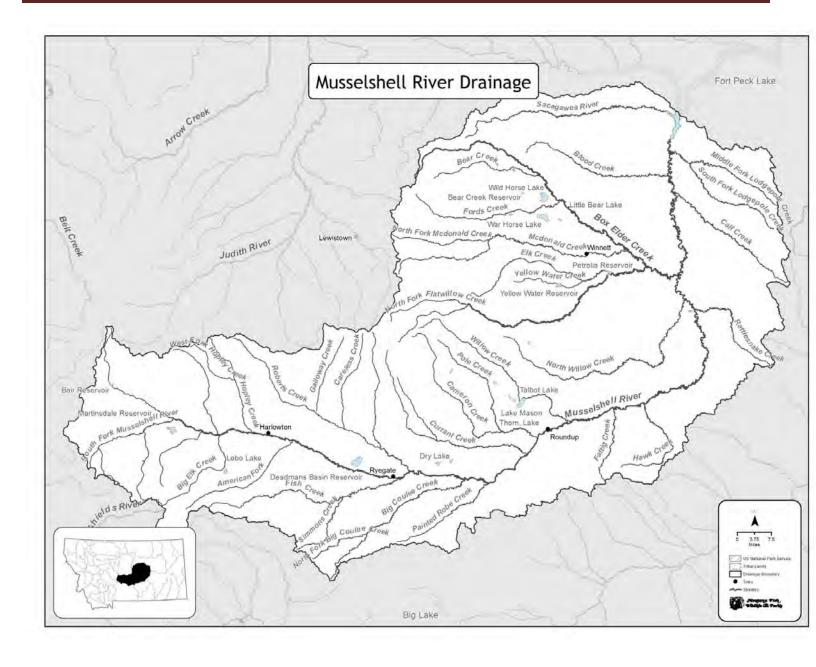
The Milk River greatly influences the temperature and suspended sediment load of the Missouri River during high flows, due to the fact that low volumes of cold, clear water are typically released out of the reservoir at these times. These physical changes in the Missouri River were observed during 2010 when the Milk River had flows of approximately 6,000 cfs for two extended periods during the spring into the early summer. These flows not only produced fish like paddlefish and sauger in the Milk River, but also contributed to the largest year class of shovelnose sturgeon produced in the Missouri River in recent history. Similarly, during the historic water year of 2011, at least five adult wild pallid sturgeon migrated up the Milk River. This was the second year in a row that adult pallid sturgeon were in the Milk River and during 2011 they were present in the spawning season. Although at this point, the Milk River is not believed to be a spawning river for pallid sturgeon, its effects on the physical nature of the Missouri River are believed to be very important. Therefore, water management in the Milk River could be a reasonable alternative for managing the restoration of pallid sturgeon in the Missouri River.

FISHERIES MANAGEMENT DIRECTION - LOWER MILK RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Milk River (Hinsdale to Vandalia Dam)	16 miles	Channel catfish (N), Sauger (N), Walleye, Northern pike	Wild	General	Monitor populations for sport fishing. Continue to better understand channel catfish population dynamics.
		Native non-game fishes (N)	Wild	Conservation	Monitor populations to detect changes in species composition and abundance.
Milk River (Vandalia Dam to Missouri River)	117 miles	Channel catfish (N), Sauger (N),	Wild	Conservation	Monitor populations to be certain that over exploitation does not occur. Maintain habitat for all life stages. Study channel catfish population dynamics. Better understand spawning requirements of sauger.
		Paddlefish (N)	Wild	Restrictive Regulations	Better understand spawning requirements of paddlefish.
		Northern Pike, Walleye, Smallmouth bass, Yellow perch, Black crappie	Wild	General	Low level effort to monitor populations through native game fish surveys. Allow sustainable harvest.
		Native non-game fishes (N)	Wild	Conservation	Monitor populations to detect changes in species composition and abundance. Better understand the relative contribution of Milk River fishes to the Missouri River
Rock Creek Continue next page	93 miles	Channel catfish (N), Sauger (N)	Wild	General	Maintain numbers. Inventory habitat issues, such as fish passage barriers and unscreened diversions.

STATEWIDE FISHERIES MANAGEMENT PLAN

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Native non-game fishes (N)	Wild	Conservation	Protect habitat for native fishes. Provide fish passage at stream crossings.
Prairie Ponds	Various	Yellow perch, Largemouth bass, Northern pike	Wild/ Transfer	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 and Take	Continue to stock prairie ponds with put and take fisheries. Evaluate angler use and which ponds should be stocked. Look for opportunities to improve habitat where applicable.



MUSSELSHELL RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Musselshell River headwaters start at approximately 9,200 feet elevation and converge with the Missouri River and Fort Peck Reservoir at 2,200 feet. The Musselshell flows from the confluence of the North and South forks (near the Wheatland and Meager county border) for nearly 340 miles. The North Fork flows nearly 32 miles, and the South Fork flows nearly 31 miles. The drainage area covers approximately 8,000 square miles and includes 7,601 surface acres of lakes or reservoirs within 36 individual waterbodies. Detailed fisheries studies from 1979 through 1986 divided the Musselshell into three zones, coldwater, transitional, and warmwater. The coldwater zone extends from the confluence of the North and South forks of the Musselshell near Martinsdale, to Barber (river mile 336 to 256). The transitional zone begins at Barber and extends to Roundup (river mile 256 to 180). The warmwater zone begins at Roundup and extends to its confluence with the Missouri River (river mile 180 to 0). Additionally, the tributaries in the coldwater zone are almost all dominated with coldwater fish species, while tributaries in the transitional and warmwater zones often start out with coldwater species then transition to warmwater species in the lower reaches.

Coldwater Zone

The coldwater zone of the Musselshell River is influenced by several tributaries in addition to the North and South forks. Major tributaries on the North Fork include Checkerboard and Spring creeks. Major tributaries to the South Fork include Alabaugh and Cottonwood creeks. Cottonwood Creek is a popular trout fishery on USFS lands with a fairly accessible mountain lake (Forest Lake). Tributaries downstream from the forks include Daisy Dean, Little Elk, Haymaker, Big Elk, Hopely, Antelope, Lebo, and American Fork creeks along with several smaller creeks. The average width of the Musselshell River in this zone in 1979 was reported to be 60 feet with a gradient of 20.5 feet per mile. Musselshell River substrates are dominated by gravels and cobble in this zone. This zone contains several irrigation storage reservoirs, which alter the natural hydrograph. Major reservoirs include, Bair Reservoir on the North Fork, Martinsdale, an off-channel reservoir on the South Fork, and Deadmans Basin an off channel reservoir on the mainstem. These three reservoirs store a combined volume of approximately 106,616 acre feet of water at full pool. Eleven irrigation diversions are found in the North Fork, South Fork, and mainstem of the Musselshell River, and are capable of diverting a total of 1,400 cfs. of water. Uncounted stock dams, smaller diversion dams and other obstructions are found in the tributary streams in this zone. The physical alterations to the river from water storage practices and irrigation infrastructure have been both beneficial and detrimental to fish populations in this reach. Some structures prevent upstream passage for fish and others, while passable, remove large quantities of water which severely limit in-channel water downstream of the diversions. Conversely, the storage reservoirs often deliver water back to the river for irrigation demands in the summer, which can help maintain some fisheries in periods of drought. Water quality is sometimes a concern in the Musselshell. Land use is dominated by grazing mixed with hay and crop land, and some riparian areas are severely degraded with loss of willow and cottonwood. Agricultural runoff and irrigation returns can increase salinity, nutrient levels

and sediment load, which increase water temperature and turbidity, and decrease dissolved oxygen. Water chemistry data indicate these influences occur throughout the Musselshell watershed starting in the upper reaches and are compounded downstream.

Transition Zone

The transition zone of the Musselshell is influenced by several tributaries including Fish, Careless, Big Coulee, Painted Robe, Dean, Currant, Goulding, Pole, and Halfbreed creeks. The tributaries in this reach are prone to dewatering and are normally dry or intermittent during irrigation season. The average width of the Musselshell River in this zone in 1979 was reported as 85 feet with a gradient of 6.6 feet per mile. The gradient is about a third of that in the coldwater section. Substrate in this section is characterized by gravels, sand, silt, and isolated sandstone rock slabs along sandstone cliffs.

Storage reservoirs are not found in this zone, although water releases from Deadmans Basin via a canal ultimately returns water into Careless Creek which is part of this zone. At least 10 irrigation diversions are found in this zone (four major diversions have been reported to be capable of diverting a total of 200 cfs), and several additional rock weirs appeared to be in place to raise the river stage for irrigation pumps. A few of the larger diversions were breached or flanked during the 2011 flood, with several still not repaired or replaced in spring of 2012. The physical alterations in this zone may seasonally preclude fish passage, and because the diversions lack screens, many fish are carried onto fields each year or trapped in canals and siphons when they are dewatered each fall. Water quality issues exist in this zone due to irrigation returns that increase salinity (sodium sulfate) and cause nutrient enrichment. Changes in operational releases of water from Deadmans Reservoir through Careless Creek have reduced, but not eliminated, these effects. The dewatering for irrigation purposes in this zone reduces the fishery potential by reducing available habitat.

Warmwater Zone

The warmwater zone of the Musselshell River is influenced by several tributaries: Willow, Flatwillow, Box Elder, Fattig, Hawk, Rattlesnake, Calf, and Lodgepole creeks, in addition to several small intermittent drainages. The average width of this zone in 1979 was reported as 100 feet, with an average gradient of 3 feet per mile, which is half of the transition zone's average gradient. Substrates in this zone are dominated by silt and sand, with some interspersed gravels and bedrock. Five major irrigation diversions have been reported to be capable of diverting a total of 418 cfs. Flatwillow Creek is the largest tributary in the warmwater zone. Petrolia Reservoir, an on-stream irrigation reservoir on Flatwillow Creek that has approximately 9,000 acre feet of storage, severely limits flow immediately downstream in Flatwillow Creek during low-water periods. At least seven dams can be found from Roundup to the Davis/Korenco Dam, three miles downstream of the town of Musselshell. No other major dams or diversions are known on the river from this point to the confluence with the Missouri River. Physical alterations to the river by diversion dams and check dams have fragmented the river during the periods outside of spring high flows. The Delphia Melstone Dam at Musselshell and the Davis/Korenko Dam downstream have been shown to preclude fish passage on a regular basis. Channel catfish and smallmouth bass were documented moving upstream of the Delphia Melstone Dam, but the movements were made during higher than average water events and population surveys have not

found substantial populations of game fish species above this dam. Other upstream dams also have the ability to reduce upstream passage of fish into the transition zone.

FISHERIES MANAGEMENT

Over 42.5 million fish were stocked in the Musselshell watershed by FWP from 1928 to 2009. The most commonly stocked species has been rainbow trout with over 27 million individuals totaling more than 1 million pounds stocked. Many of these have been stocked in major reservoirs in the drainage such as Martinsdale, Bair Reservoir, Deadman's Basin, Lebo, and Yellow Water. Essentially all stocking of trout directly into the river was halted by 1980. Stream stocking accounted for many of the rainbow trout from 1928 through 1982. Most rainbow trout recently found in the river are from reservoir stockings. Westslope cutthroat trout stocked into Bair Reservoir recently were found pioneering the river below the dam.

Coldwater Zone

The coldwater zone and associated tributaries support many species of fish such as brook trout, brown trout, rainbow trout, Yellowstone and westslope cutthroat, mountain whitefish, longnose dace, Rocky Mountain sculpin, longnose, shorthead redhorse, white, and mountain suckers, occasional fathead minnows, flathead chubs, common carp, stonecat, lake chub, northern redbelly dace, and northern redbellyxfinescale dace hybrids. The mainstem supports a good population of brown trout (comprising about 96% of the total trout) and mountain whitefish, while the tributaries support brook trout (about 56% of the total trout), and lesser numbers of rainbow and brown trout, mountain whitefish, and both species of cutthroat trout. Brown trout are also the most common species in much of the North and South forks. Arctic grayling (native to Montana, but not the Musselshell watershed) were stocked in the upper reaches of the South Fork of the Musselshell in two separate ponds in 1961; however, records indicate neither introduction became self -reproducing.

Brown trout population estimates have been completed at the Selkirk Fishing Access Site on an irregular basis since 1984. Current management plans are to conduct population estimates at this site once every 3 years. Many of the estimates attempted in the 2001-2008 time period were not completed, as recapture rates were low and the population consisted of a few larger adults and more abundant, but still relatively few juveniles. The poor population structure during this time was related to poor in-stream flow conditions during a drought. Brown trout population estimates ranged from a low of 17 total fish caught in an electrofishing effort to estimates of 890 brown trout per mile in 1992, which was attributed to a good spawn in 1991. Average density for all years is approximately 300 fish per mile, with about 150 of quality size and the remainder consisting of yearling fish.

Angling pressure in this zone is low. In 2009, the FWP Angler Survey indicated the Musselshell River in the cold zone received 1,750 angler days, with an additional 1,200 angler days in the North and South forks of the river.

Transition Zone

The transition zone supports at least 17 species of fish, but the abundance of sport fish is generally reported as low. Documented species include stonecat, several minnow species (carp, fathead minnow, flathead chub, lake chub, longnose dace, and western silvery minnow), several

sucker species (longnose, mountain, river carpsucker, and shorthead redhorse), smallmouth bass, brown trout and mountain whitefish. Additionally Deadmans Basin Reservoir in this zone contains stocked populations of rainbow trout, kokanee salmon, and tiger muskie. Atlantic salmon and coho salmon have also been stocked into Deadmans Basin, however those species are no longer in the reservoir or river. It is likely some catfish and sauger (at times of high water) are in this zone near Roundup, but they have not been reported in any survey from 1979 to present. Discussions with longtime anglers indicated sauger and catfish were more common in the 1950's and 1960's as far up as Lavina. Brown trout are found in the upper transition zone along with an occasional rainbow trout however in numbers much lower than those in the coldwater zone.

Warmwater game fish densities in this zone may be attributed to irrigation diversions inhibiting movements. The warmer river sections would likely provide good habitat for channel catfish if they could migrate upstream past existing barriers. Sauger would likely be found in this zone each spring, migrating back to the warmwater zone and Missouri River by midsummer if existing dams were passable. Food is not likely limiting, as forage fish populations found in this section of river are strong enough to support higher abundances of predatory fish than are currently found.

Smallmouth bass were stocked from 1977 to 1981 from Lavina to Roundup. This population didn't expand very quickly, and many of these stocked bass were later found downstream of the transition zone in the warmwater zone. Nonetheless, limited recruitment was documented, and the bass that were found in the transition zone were documented as some of the fastest in Montana. Reports by anglers indicate smallmouth bass have been caught as far up as Lavina, but good populations are not found until Roundup. These reports indicate several dams create barriers with water depletions compounding the effects and limiting upstream expansion. In combination with several barriers to upstream movement, warm water temperatures in the fall likely limit populations of smallmouth bass.

Deadmans Basin Reservoir is included in the transition zone because return water enters in the transition zone through the Barber Canal and Careless Creek. Any fish that move out of the reservoir could reach the river, however notable populations of rainbow trout, kokanee salmon, and tiger muskie have not been documented in the transition zone. The reservoir provides habitat for white, shorthead redhorse, and longnose suckers, carp, as well as a limited number of minnow species that enter the reservoir through the Deadmans canal. The Deadmans fishery relies heavily on a stocking program for rainbows, kokanee and tiger muskie. Without stocking, this reservoir would provide a limited fishery for brown trout that come from the coldwater zone via the Deadmans canal system.

In 2009, the FWP Angler Survey estimated that Deadmans Basin Reservoir received 9,702 angler days; 8,885 were from resident anglers. The reservoir ranked statewide as the 82nd most fished water out of over 1,430 different waters reported. The Musselshell River in the transition zone and warmwater zone received 3,647 angler days of use.

Warmwater Zone

Despite severe dewatering problems, high temperatures and poor water quality, the warmwater zone still contains a nearly intact native fish ecosystem. The warmwater zone has been

documented to support at least 31 species of fish. This species list includes catfish (black bullhead, channel catfish, and stonecat), minnows (brassy minnow, carp, emerald shiner, fathead minnow, flathead chub, longnose dace, plains minnow, sand shiner, spottail shiner, and western silvery minnow), suckers (longnose sucker, blue sucker, mountain sucker, river carpsucker, shorthead redhorse, smallmouth buffalo, bigmouth buffalo and white sucker), walleye, sauger, black crappie, bluegill, green sunfish, smallmouth bass, burbot, freshwater drum, goldeye, and northern pike. Many of these species are not found at Roundup, but most are found below the Delphia-Melstone Diversion Dam at the town of Musselshell. Unverified reports of paddlefish being found in a field near Melstone were made as the flood waters of 2011 receded. FWP reported angling pressure of 2,360 angler days for the lower 80 miles of river in 1963. In 2009, the pressure was estimated to be 3,647 angler days.

HABITAT

Habitat issues requiring attention are habitat fragmentation from irrigation structures, meander cutoffs from railroad and road projects, and near dewatering of the Musselshell River. Channel instability due to a railway bed and highway projects cutting off meander bends has caused loss of habitat for fish. The flood of 2011 changed many sections of river by creating cutoffs and, in some cases, breaching the abandoned railroad berm, re-establishing some bends as well as flanking and bypassing several irrigation structures which reopened fish passage. Recent downcutting of the channel has reduced channel length in the Musselshell River by about 8% for its full length and about 21% below Flatwillow Creek. Channel widening associated with the 2011 flood will strongly influence fish habitat. Dozens of miles of abandoned channel may also play an important role in the prairie stream and riparian ecosystem.

Over the past decade, the water judge, the Musselshell Distribution Project, and efforts of the Musselshell Water Coalition, have resulted in more water being conveyed in the main channel compared to the transition and warmwater zones. Additional water rights for instream flow would further improve conditions.

Coldwater Zone

Wetted perimeter analysis above Harlowton determined that 80 cfs is necessary to sustain a consistently high-quality wild brown trout fishery in the coldwater section. Bankfull flow near Martinsdale was approximated to be 1,060 cfs at a two-year recurrence interval, which typically occurs in June. The 1.25 year recurrence flow was reported as 514 cfs. These studies recommended a flow of 1,060 cfs be allowed to occur for at least 24 hours in June, with the remainder of June at 514 cfs to maintain channel habitat for trout production. As a minimum, observations at flows of 42.8 cfs indicated many riffles were exposed, and fish habitat along the banks was dewatered, leaving fish in cover-limited pools.

Transition Zone

Wetted perimeter analysis in a reach just downstream of the city of Roundup determined that a flow of 80 cfs is needed for fishery maintenance. In the 1980's, TFWP found some gravel bars were exposed at 76.7 cfs but determined that this flow still provided moderate fish habitat. The 2 year and 1.25 year recurrence flows were not reported for this zone. These values are important

to determine because they represent flows that typically maintain habitat and transport and redistribute silts and other sediments.

Warmwater Zone

Wetted perimeter analysis at the Mosby Bridge resulted in a recommendation of 70 cfs to be met year round for fishery maintenance. In the 1970's, bank-full discharge for 2-year flood was estimated at 4,080 cfs, and 1.25-year flood was estimated at 1,860 cfs. It was recommended that these flows be provided annually during runoff, with 4,080 cfs for 24 hours and 1,860 cfs for several weeks after the high flow to help maintain fish habitat.

Studies determined that the Davis/Korenco Dam and Delphia-Melstone Dam create barriers for fish most of the time, but catfish and bass were able to bypass these structures during some high water events. Sauger and walleye were not documented passing these diversion dams. Because of tremendous overbank flooding in 2011, it is probable sauger, walleye and other species, if present, were able to bypass these dams. One burbot and a freshwater drum were caught below the Davis Dam in 1981 by FWP and a second burbot was reported by an angler as far up as Shawmut. These fish likely migrated from the Missouri River during spring flows. Good fishing can occur in the warmwater zone, but it is impaired due to erratic discharges and dams. If the Davis and Delphia-Melstone dams became passable to fish, it is likely other upstream dams would become the limiting factors to upstream fish movements during most flows. However, those upper dams represent less of a fish passage challenge than the lower two dams. FWP studies have also determined that the channel catfish in the warmwater zone often migrate between the Musselshell and the Middle Missouri Rivers.

FISHING ACCESS

The four FASs in this watershed are: Martinsdale Reservoir, Selkirk, Harlowton, and Deadmans Basin Reservoir, all in the Coldwater Zone. Other limited access can be found on Forest Service, BLM, state, county and city lands, and with permission by private landowners. Additional public access is needed throughout the basin, particularly in the warmwater zone. Recreation infrastructure on Bair Reservoir is in extremely poor condition.

SPECIAL MANAGEMENT ISSUES

The flood of 2011 created extensive opportunity in much of this management area to improve the river for fish and wildlife use. Water managers have improved instream flow conditions over the past decade with the Musselshell River Distribution Project. It is important that FWP continue to support this project. This area provides a great potential for developing and improving native sauger and channel catfish populations, and already supports a very good assemblage of native minnows and suckers that would benefit from additional habitat enhancement.

FISHERIES MANAGEMENT DIRECTION FOR MUSSELSHELL RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction		
North Fork Musselshell - Headwaters to Bair Reservoir	11 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels		
	activities: Main	tain flows of 3 cfs for habitat.	.L	J	J		
Bair Reservoir	221 acres	Rainbow trout, Westslope cutthroat trout	Hatchery	Put, Grow and Take	Continue stocking at current rates		
		Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest.		
North Fork Musselshell – Bair Reservoir to	16.5 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels		
South Fork		Brown trout	Wild	General	Evaluate population and potential for reproduction and harvest.		
		Westslope cutthroat trout	Wild	General	Hatchery fish from Bair Reservoir		
Habitat needs and	activities: Main	tain flows of 16 cfs for habitat.					
Checkerboard Creek	6.5 miles	Brook trout, Brown trout, Rainbow trout	Wild	General	Manage all as a recreational fishery at historic levels		
Habitat needs and	activities: Main	tain flows of 6 cfs for habitat.		·	·		
Spring Creek	12 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels		
Habitat needs and	Habitat needs and activities: Maintain flows of 8 cfs for habitat.						
South Fork Musselshell River	30 miles	Brook trout, Brown trout, Rainbow trout	Wild	General	Manage all as a recreational fishery at historic levels		
		tain flows of 30 cfs for habitat.	I				
Alabaugh Creek	9 miles	Brook trout,	Wild	General	Manage all as a recreational fishery at historic		

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Brown trout,			levels
]	Rainbow trout]
Habitat needs and	activities: Main	tain flows of 12 cfs for habitat.			
Cottonwood	10.8 miles	Brook trout,	Wild	Liberal Regulations	Manage as a recreational fishery at historic
Creek		Brown trout,			levels
		Rainbow trout,			
		Westslope cutthroat trout			
]	hybrids]
Habitat needs and	activities: Main	tain flows of 16 cfs for habitat.			
Martinsdale Reservoir	947 acres	Rainbow trout, Westslope cutthroat trout	Hatchery	Put, Grow and Take	Continue stocking at current rates
		Brown trout	Wild	General	Manage all as a recreational fishery with consumptive harvest.
		tain connectivity work through proin flows of 80 cfs for habitat.	ograms to impr	ove riparian area and stre	eam habitat. Continue to support Musselshell
Musselshell River	53 miles	Brook trout,	Wild	General	Maintain and enhance populations
Coldwater Zone		Rainbow trout,			
(Confluence of		Brown trout,			
North and South		Mountain whitefish (N)			
Forks to Barber)					
American Fork	34 miles	Brook trout, brown trout	Wild	General	Manage as a recreational fishery at historic levels.
Lebo Creek	32 miles	Native minnows (N)	Wild	Conservation	
Lebo Lake	309 acres	Tiger muskie, Rainbow trout, Brown trout	Hatchery	Put, Grow and Take	Not currently managed. Former Private Pond/Public Fishing pond. Would like to re- establish access and manage for species indicated.
Big Elk Creek	25 miles	Brook trout, Brown trout	Wild	General	Manage as a recreational fishery at historic levels.
Daisy Dean Creek	28 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Habitat needs and	activities: Worl	k with USFS for solutions to reduce	e/prevent impa	cts on riparian area from	ATV traffic on Daisy Dean.
Chief Joseph Pond	2 acres	Rainbow trout	Hatchery	Put and Take/ Family Fishing water	Continue stocking at current rates
Forest Lake	21 acres	Cutthroat Hybrids	Wild	General	Evaluate periodically. Manage as a recreational fishery at historic levels
Haymaker/ East Fork Haymaker	30 miles	Yellowstone & Westslope cutthroat trout	Wild	General	Manage as a recreational fishery at historic levels
Deadmans Reservoir	2,120 acres	Tiger muskie	Hatchery	Put, Grow and Take/ Quality	Continue stocking at current rates, limit harvest to 1 over 40". Used to reduce sucker population in reservoir to improve trout and salmon growth.
		Rainbow trout, Kokanee salmon	Hatchery	Put, Grow and Take	Stock at current rates
Musselshell River Transition Zone (Barber to	138 miles	Smallmouth bass	Wild	General	Evaluate 1970/1980's stocking to maintain fishery
Roundup)		Channel catfish (N)	Wild	Conservation	Reintroduce/enhance population and expand to Deadmans Diversion. Consider potential for fish transfers and stocking to accomplish.
		Sauger (N)	Wild	Conservation	Consider expanding population to Deadmans Diversion. Consider potential for fish transfers And stocking to accomplish.
		Native minnow assemblage (N)	Wild	General	Improve or maintain habitat and water conditions

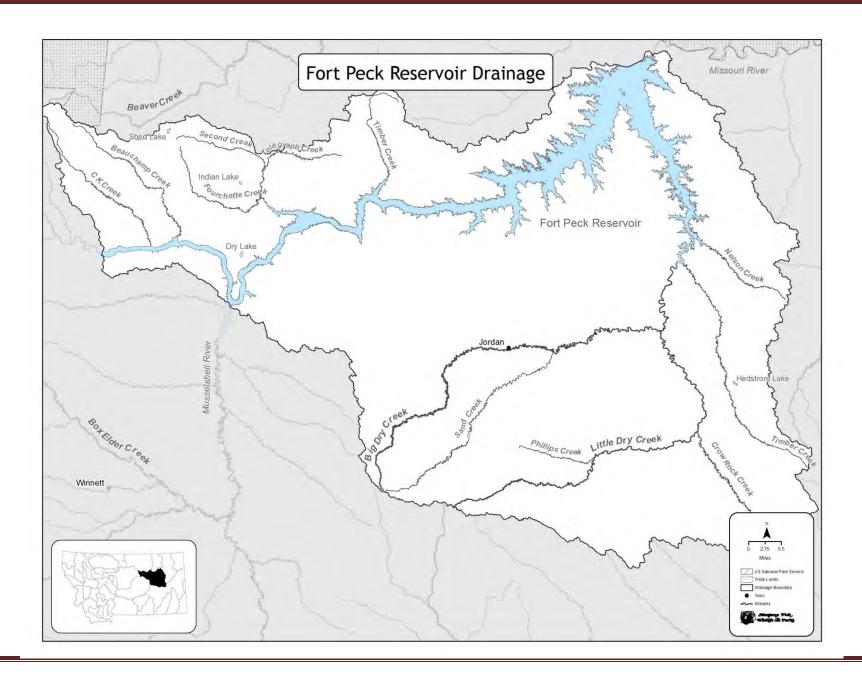
Habitat needs and activities: Improve habitat to support ecosystem function and production of trout, whitefish, and native minnow and sucker populations. Maintain flows of 80 cfs for habitat in the Musselshell River

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Fish Creek	86 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels.
		Native minnow assemblage (N)	Wild	Conservation	Improve or maintain habitat and water conditions
Careless Creek and Little Careless Creek	68 miles	Native minnow and sucker populations (N)	Wild	Conservation	Improve and maintain fish passage this tributary has one of the best native minnow populations in the area.
Big Coulee	51 miles	Native minnow and sucker species (N)	Wild	Conservation	Improve or maintain habitat and water conditions
Painted Robe Creek	38 miles	Native minnow and sucker species (N)	Wild	Conservation	Improve or maintain habitat and water conditions
Swimming Woman Creek	33 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels.
		Native minnow and sucker species (N)	Wild	Conservation	Improve or maintain habitat and water conditions
Currant Creek	60 miles	Native minnow and sucker species (N)	Wild	Conservation	Improve or maintain habitat and water conditions
Musselshell River Warm water Zone	151 miles	Smallmouth bass	Wild	General	Manage as a recreational fishery at historic levels.
(Roundup to Confluence with Missouri River)		Channel catfish (N)	Wild	Conservation	Manage as a recreational fishery at historic levels.
		Sauger (N)	Wild	Conservation	Limited population consider stocking and wild fish transfers from other waters
Continue next page		Native minnow assemblage (N)	Wild	Conservation	Improve or maintain habitat and water conditions

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Drum (N)	Wild	Conservation	Maintain viable population
		Rainbow trout	Hatchery	Put, Grow and Take	Continue stocking reservoirs annually
		Burbot (N)	Wild	Conservation	Evaluate population, improve fishery
		Walleye	Wild	General	Evaluate population movements and influence on other fish consider increasing harvest
		· · · · · · · · · · · · · · · · · · ·		Maintain instream flow o	f 70 cfs on the Musselshell downstream of the
Musselshell Divers	ion dam for hab	itat. Establish additional gage stat	ions.		
Willow Creek	71 miles	Brook trout	Wild	General	Maintain viable population
		Native minnow and sucker species (N)	Wild	Conservation	Improve or maintain habitat and water conditions
Flatwillow Creek	118 miles	Brook trout, Brown trout,	Wild	General	Manage all as a recreational fishery at historic levels
		Native minnow and sucker species (N)	Wild	Conservation	Improve or maintain habitat and water conditions
Habitat needs and	activities: Main	tain flows of 15 cfs for habitat. Ad	ditional access	s is needed upstream of hi	ghway 87.
South Fork Flatwillow Creek	23 miles	Brook trout	Wild	General	Manage all as a recreational fishery at historic levels
North Fork Flatwillow Creek	25 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels
Tributaries to Flatwillow and Box Elder Collar Gulch and Halfmoon Creek	5 miles	Westslope cutthroat trout (N)	Wild	Conservation	Enhance and protect populations. Continue to work on project to expand westslope cutthroat trout in the Judith Mountains.
Habitat needs and	activities: Main	tain flows of 0.6 cfs for habitat in 0	Collar Gulch Cr	eek.	

STATEWIDE FISHERIES MANAGEMENT PLAN

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Petrolia	518 acres	Walleye,	Hatchery	Put, Grow and Take	Manage as a recreational fishery with
Reservoir		Rainbow trout			consumptive harvest
		Northern pike,	Wild	General	Manage as a recreational fishery at historic
		Yellow perch			levels.
Jakes Reservoir	18 acres	Sauger (N)	Wild	General	Evaluate options for additional stocking of sauger such as via wild fish transfer.
		Yellow perch	Wild	General	Manage as a recreational fishery with consumptive harvest
Numerous BLM		Largemouth bass,	Hatchery	Put, Grow and Take	Maintain stocking at current rates Manage
Ponds		Crappie,			recreational fisheries with consumptive harvest
		Rainbow trout			
Habitat needs and	activities: Coor	dinate with BLM for water level ma	anagement, da	m repair and habitat cond	cerns.
Numerous		Largemouth bass,	Hatchery	Put, Grow and Take/	Maintain stocking at current rates
Private Ponds		Rainbow trout		Family Fishing Waters	
allowing Public					
Fishing					



FORT PECK RESERVOIR DRAINAGE

PHYSICAL DESCRIPTION

Fort Peck Reservoir is formed by a large earth-filled dam located on the Missouri River in the northeastern part of Montana. Completed in 1937, it is the largest body of water in the state, with 246,000 surface acres and 1,520 miles of shoreline at full pool. The reservoir is 134 miles in length and has a maximum depth of 220 feet when full. Major tributaries to Fort Peck Reservoir include the Missouri River, the Musselshell River, and Big Dry Creek. The Musselshell and Missouri rivers are discussed in their own drainage plans. The habitat at the mouths of these streams is closely tied to Fort Peck Reservoir levels; several stream miles are inundated at normal to high pool levels. This watershed encompasses a drainage basin of 57,500 square mile basin and is located within Phillips, Valley, Fergus, Petroleum, Garfield, and McCone counties. Administration of all land and water within the executive boundary of the Charles M. Russell (CMR) National Wildlife Refuge is shared by the U.S. Fish & Wildlife Service and the U.S. Army Corps of Engineers (USACE) in accordance with a Memorandum of Agreement. The reservoir is operated by the Corp of Engineers to provide water for power, flood control, irrigation, navigation and recreation.

FISHERIES MANAGEMENT

The fishery in Fort Peck Reservoir is diverse with 47 different fish species, most of which are native to the Missouri River. Sixteen species, mostly game fish, have been introduced by FWP to develop sport-fishing opportunities. Walleyes and northern pike were both introduced in 1951 followed by lake trout in the mid 1950's. Smallmouth bass were introduced in 1981 and chinook salmon in 1983. During the 1980's spottail shiners and cisco were also introduced to supplement the existing forage base. Additionally, native game fish including burbot, channel catfish, paddlefish, and sauger are sought by anglers throughout the reservoir. Because of the diversity and world class fishery that Fort Peck Reservoir has to offer, it is ranked number one in the region in number of angler days, and within the top ten on a statewide level.

The quality multi-species fishery found in the reservoir is the result of ongoing management efforts by FWP. Key to this effort is an understanding of the variable nature of fish populations. Specifically, natural reproduction is largely influenced by reservoir water levels and environmental conditions at time of spawn. As a result, extensive stocking programs for walleye and chinook salmon are in place to reduce population variability. These introductions were carefully analyzed to determine the long-term benefits to the fishery. Evaluation of management success is done through standardized monitoring combined with angler surveys. This basic monitoring program allows estimates of catch rates, size of fish, and overall angler satisfaction .

HABITAT

Fort Peck Reservoir, much like other storage reservoirs, typically has annual varial zones where annual water level fluctuations produce a suite of impacts to the aquatic environment and associated terrestrial environment. This unstable zone is subject to loss of aquatic and terrestrial plants and associated populations of phytoplankton and benthic organisms. Lack of submerged vegetation causes a decline in the overall productivity of the entire fish population by reducing

food supply, spawning habitat, and rearing cover. Submerged vegetation also provides protective cover for forage fish and young game fish species. Additionally, varial zones may provide areas for successful colonization of aquatic invasive species such as Eurasian Watermilfoil, a submerged aquatic weed discovered in 2010, because there is no healthy native aquatic plant community to provide competition.

During the late 1950's and early 1960's rising water levels on Fort Peck Reservoir inundated vegetation and produced an outstanding fishery for northern pike, crappie, and yellow perch. In addition, walleye abundance improved after increases in reservoir elevation and high flows in the Big Dry Arm during the late 1970's. Higher reservoir elevations and increased flows allowed adult walleye to access suitable spawning substrate in the Big Dry Arm. Water level management to promote successful walleye spawning was not possible. As a result, this high quality fishery was maintained with stocking. Recommendations from FWP to enhance and maintain the Fort Peck fishery are submitted annually to the USACE for inclusion into the Annual Operating Plan process. Montana requests are coordinated with other Missouri River states through the Missouri River Natural Resource Committee.

Attempts by local sportsman groups to improve spawning habitat to enhance the fishery have been undertaken in the form of spawning fences and Christmas tree reefs. However, due to the vastness of the reservoir, no measurable benefits to the fishery have been noted. Cobble or rock spawning reefs have been considered to aid natural reproduction of walleye, but cost is prohibitive and long-term effectiveness is uncertain due to siltation and water level fluctuations.

FISHING ACCESS

Fort Peck Reservoir is surrounded by public access within the CMR National Wildlife Refuge. However, due to the size of the reservoir and poor condition of roads/trails, access opportunities are somewhat limited. A total of 13 public access sites (12 boat ramps) are located around the reservoir, which are administered by USACE. These recreation sites are managed privately or by federal government natural resource agencies. Specific recreation sites managed by FWP include Duck Creek FAS near Fort Peck, Rock Creek FAS on the Big Dry Arm of the reservoir, and Hell Creek Recreation Area north of Jordan, which is managed by the FWP Parks Division. Various projects have been implemented over the years to improve access to Fort Peck Reservoir through the joint efforts of five counties, federal agencies, and FWP. Various local, state and federal funds were used to accomplish this work. The projects included work on access roads and boat ramp facilities at the Duck Creek FAS, Pines recreation area, Hell Creek, Crooked Creek, Flat Lake/Spillway, and Nelson Creek Recreation areas. Efforts by six surrounding counties, US Fish and Wildlife Service, USACE, BLM, and FWP resulted in additional improvements on access routes to Hell Creek, Crooked Creek, McGuire Creek, the Pines, and Fourchette Bay.

SPECIAL MANAGEMENT ISSUES

The 2012-2022 Fort Peck Reservoir Fisheries Management Plan was completed in December of 2011. The Plan reflects the public's desire for a high quality, cost effective, multi-species fishery in Fort Peck Reservoir. Additionally, this plan represents the on-going evolution of fisheries management on Fort Peck Reservoir. Of principal importance is to efficiently develop scientifically sound sampling methods that quantify the essential metrics needed to gain additional insight into the Fort Peck Reservoir fishery. The following is a synopsis of the plan.

Walleye Stocking

FWP will aim to stock a minimum of 3.0 million walleye fingerlings annually in Fort Peck Reservoir. Fingerling stocking will be augmented with fry as conditions and availability allow.

Walleye fingerling production at the hatcheries will depend on quality and quantity of eggs collected, egg hatching success and pond production. If fingerling production exceeds 3 million, biological and environmental conditions (listed below) will be reviewed to determine if stocking additional walleyes is justified. Stocking rates may be reduced if biological and environmental conditions are unfavorable to maintaining a high quality walleye fishery. Continue to evaluate walleye fingerling and fry survival and recruitment. Walleye stocking rates will be guided by reservoir water levels, physical condition of the existing walleye population, and forage fish abundance. The goal of this plan is to maximize hatchery production of walleye to ensure that biologically based stocking rates are met.

Walleye Catch Rates

FWP will work to achieve angler catch rates of 0.4 walleye per hour during periods of the summer creel on Fort Peck Reservoir. The highest documented angler catch rate for walleye on Fort Peck Reservoir occurred in 2008, with 0.28 fish per hour. The goal of 0.4 fish per hour will likely not occur throughout the reservoir but seasonally in regions of the reservoir. For example, walleye catch rates of 0.5 fish per hour were observed in July during the 2008 Fort Peck creel survey. Walleye fisheries in surrounding states and provinces throughout the Midwest, which have limited natural reproduction, like Fort Peck, consistently have lower catch rates. Walleye catch rates exceeding 0.3 fish per hour are generally considered excellent. The goal of this plan is to maximize walleye angler catch rates while ensuring a sustainable walleye fishery.

Tournaments

Angling tournaments continue to grow in popularity on Fort Peck Reservoir. In 2001, the first year of the previous Fort Peck fisheries management plan, three walleye tournaments and one smallmouth bass tournament were permitted. In 2011, 13 tournaments were proposed consisting of eight walleye, three smallmouth bass, one northern pike, and one salmon/lake trout tournament. The increase in proposed tournaments in 2011 on Fort Peck Reservoir led to the denial of one tournament entry because management plan stipulations under the old plan stated that no more than 12 open water tournaments will be held per year. The management plan further stated that preference will be given to applicants who held previous tournaments on Fort Peck Reservoir. This structure has led to inequality for non-established tournaments because established tournaments occupy the 12 available slots.

Because of the increasing number of tournaments and scheduling conflicts with holiday weekends on Fort Peck Reservoir, the 2011 open water season had a tournament scheduled every weekend during the months of June and July minus the holiday weekends. Non-tournament anglers have expressed frustration with the lack of tournament-free weekends during peak summer months and state that impacts associated with tournament pre-fishing needs to be addressed. The goal of the current plan is to reduce conflict between non-tournament anglers while ensuring the tradition of tournament fishing continues. The following list of criteria will be used to meet this goal.

Fort Peck Reservoir Management Plan Tournament Guidelines

- 1. A maximum of 16 tournaments will be permitted per calendar year.
 - a. No more than 12 open water and 4 ice tournament will be permitted per calendar year.
 - b. No more than 6 tournaments will be permitted from June 1st through July 30th.
 - c. No tournaments will be permitted for the weekends of Memorial Day, Father's Day, Fourth of July, or Labor Day.
 - d. Only one tournament per weekend will be permitted.
 - e. Established Fort Peck tournaments of 10 consecutive years or more will be given preference.
 - f. Applicants will be required to list first, second and third choice tournament dates on applications.
 - g. In years where more applications are received than available tournament dates, applications will be entered in a lottery.
 - h. Unsuccessful applicants will receive one bonus point. Tournament applications will be entered into the lottery in subsequent years and bonus points will be applied (e.g. if an applicant has accumulated one bonus point, that application will be entered into the lottery two times).
- 2. Tournaments will be reviewed on an individual basis. Evaluation of proposed tournaments will include potential biological and social impacts. Proposed tournaments will undergo a 30-day public review and comment period.
- 3. All catch and release tournaments with weigh-in type format will be limited to cool weather periods: May-June 15, or after September 15.
- 4. Tournament boundaries must be clearly defined in the application. Proposed boundary size should be minimized in an effort to reduce tournament related fish mortality caused by fish being held in live-wells for extended periods of time and/or traveling long distances.

Tournament directors will be required to report post-tournament catch-rate information in a standardized format.

FISHERIES MANAGEMENT DIRECTION FOR FORT PECK RESERVOIR DISTRICT

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Fort Peck Reservoir (Headwaters Downstream to Fort Peck Dam)	246,000 acres	Walleye	Hatchery/ Wild	General	Continue to place the primary management emphasis on walleye. Adhere to stocking guidelines of the Fort Peck Reservoir Fisheries Management Plan.
		Northern pike, Smallmouth bass	Wild	General	Continue to monitor populations. Rely on variable natural reproduction and survival to determine population levels.
		Lake trout	Wild	General	Rely on variable natural reproduction and survival to determine population abundance. Evaluate stocking lake trout if conditions warrant. Monitor populations through annual surveys.
		Chinook salmon	Hatchery	Put, Grow and Take	Adhere to stocking guidelines of the Fort Peck Reservoir Fisheries Management Plan. Monitor populations through annual surveys.
		Burbot (N), Channel catfish (N)	Wild	General	Continue to monitor populations. Better understand factors for limited recruitment.
		Sauger (N)	Wild	Restrictive Regulations	Continue to monitor populations. Better understand factors for limited recruitment.
Sentinel Reservoir	14 acres	Rainbow trout	Hatchery	Put, Grow and Take	Manage for put grow and take rainbow trout fishery.
Habitat needs and	activities: Look f	or opportunities to increase ripari	an habitat and	aesthetic values.	

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Big Dry Creek Little Dry Creek	149 miles 69 miles	Channel catfish (N)	Wild	General	Continue to monitor populations.
		Multi-species	Wild	General/Conservation	Manage for recreational fishing opportunity where applicable. Monitor non-game fish species for native fish assemblage and overall ecosystem health
Trout Ponds	Numerous	Rainbow trout,	Hatchery	Put, Grow and Take	Monitor water conditions and impacts from
North of		Brook trout			winterkill. Stock trout based on current 6-year
Reservoir- Located					stocking plan.
Throughout					
Blaine, Phillips,					
and Valley					
Counties					
	activities: Work	with Bureau of Land Management	t and landowne	ers to increase riparian hat	Ditats and aesthetic landscapes surrounding the
		systems on ponds with marginal d		·	, g
Warmwater	Numerous	Largemouth bass,	Wild/	General/	Manage as self-sustaining fisheries.
Reservoirs and		Northern pike,	Hatchery	Put, Grow and Take	Supplement populations with hatchery stocking
Ponds North of		Walleye,			and wild fish transfers as needed. Monitor
Reservoir-		Smallmouth bass,			water conditions and impacts from winterkill.
Located		Channel catfish (N),			
Throughout		Black crappie,			
Blaine, Phillips,		Yellow perch,			
and Valley		Bluegill			
Counties	1	<u> </u>	L,		l
				ers to increase riparian hab	pitats and aesthetic landscapes surrounding the
•		systems on ponds with marginal d	•	I =	
Private	Numerous	Trout	Hatchery	Put and Take	Public relations opportunity with landowners
Ponds/Reservoirs					to provide local fishing opportunity for rural
South of					community. Maintain fishery through
Reservoir in FWP					regulations and annual stocking
Region 7 Pond		Bass,	Wild/	General/	Public relations opportunity with landowners

STATEWIDE FISHERIES MANAGEMENT PLAN

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Program		Walleye, Northern pike	Hatchery	Put, Grow and Take	to provide local fishing opportunity for rural community. Maintain fishery through regulations and stocking when necessary
		Crappie, Yellow perch, Bluegill	Wild/ Transfer	General	Public relations opportunity with landowners to provide local fishing opportunity for rural community. Provide panfish angling opportunity, supplement population through wild fish transfers when necessary.