Sun River Drainage

MONTANA FWP



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Physical Description

The Sun River is the second largest tributary of the Missouri River between Canyon Ferry and Fort Peck dams. This west-central Montana stream drains 1,979 square miles of the east slope of the Rocky Mountains. Its headwaters are within the Bob Marshall Wilderness. The upper Sun River basin is situated in steep limestone and shale mountains within the Lewis and Clark National Forest. Its upper tributaries originate at an elevation of about 8,400 feet and converge at Gibson Reservoir located in the Sun River Gorge. Downstream from Gibson Dam, the river flows only a few miles to the Diversion Dam impoundment, which is located 17 miles northwest of Augusta. Below this dam, the Sun River exits the mountains onto the prairie zone, first through a series of glacial outwash terraces, then till-covered foothills, and, finally, through sedimentary bench lands. The mainstem of the Sun River at Great Falls. The Sun River drainage lies within the bounds of Lewis and Clark, Teton, and Cascade counties. The drainage contains about 1,176 miles of perennial streams, of which about 321 are named. Major tributaries include the North and South forks, Willow, Elk, Mill Coulee and Muddy creeks. There are 17 lakes or reservoirs within the drainage, totaling 5,097 surface acres.

The reach of the Sun River between Diversion Dam and Elk Creek is 32 miles long and is entrenched in a very narrow valley about 100 yards wide for the first 12 miles, broadening to about 400 yards wide near the lower end of the reach. Riparian vegetation is sparse in the upper third of this reach because of the narrow floodplain. There are only scattered stands of cottonwoods and willows bordering the river with an undergrowth of rose and Russian olive. As the floodplain widens in the lower portion of this reach, deciduous woodland dominated by cottonwoods comprises the riparian zone. The stream gradient in the reach is steep, averaging about 20 feet/mile. Much of the channel substrate in the upper 12 miles is composed of reefs of bedrock and large boulders. Areas of cobbles and gravel are limited and are usually associated with side drainages or near islands. Since construction of Gibson and Diversion dams in 1929 very little bedload has entered this reach, thereby preventing development of a more diverse substrate composition. Channel substrates diversify somewhat further downstream and are composed of boulders and cobbles. Significant flooding of Elk Creek in 2018 and 2019 resulted in notable avulsions and cobble deposition throughout the Augusta area.

The reach from the mouth of Elk Creek downstream to the Missouri River at Great Falls is 65 miles long and occupies a wide valley. The riparian zone is cottonwood dominated woodland with rose and willows being the common shrub species found in the understory. The average stream gradient in this reach is 9 feet/mile and varies from 17 feet/mile at the upper end to less than 3 feet/mile near Great Falls. The composition of the channel substrate reflects the gradual decrease in stream gradient as well as the geology. Substrate in the upper third of this reach consists mostly of cobbles and gravel with moderate amounts of silt. Further downstream, channel substrate decreases in size and the deposition of silt increases. Below the confluence of Muddy Creek and for the remaining 17 miles, there is excessive silt deposition. Approximately 80% to 90% of the sediment load of the Sun River at its mouth originates from Muddy Creek caused by return flows of the Greenfield Irrigation District Sun River Project. The lower two-thirds of this reach is a major recharge area of return flows and surplus diverted irrigation water. Some tributary streams in the lower portion of the drainage transport these return flows and can function as valuable refuges providing cooler water habitat during critical times of the year. Tributaries in this area harbor several native minnow species including the rare northern redbelly x finescale dace hybrid in Adobe Creek.

Land use in the forested upper basin is dominated by wilderness activities, since nearly two-thirds of the upper Sun River basin drains portions of the Bob Marshall and Scapegoat wilderness areas. The U.S. Forest Service (USFS) lands outside the wilderness areas are managed for semi-primitive recreation and other uses including livestock grazing, and minor amounts of timber harvest.

Fisheries Management

Since 1987, 15 species of fish have been sampled in the Sun River. Rainbow trout, brown trout, and mountain whitefish are generally the most sampled species. Other species regularly sampled include Rocky Mountain sculpin, longnose dace, longnose sucker, white sucker, and mountain sucker. Infrequently sampled species include brook trout, common carp, northern pike, burbot, lake chub, fathead minnow, brassy minnow, brook stickleback, spottail shiner, yellow perch, walleye, black bullhead, and stonecat. Two tiger muskie (northern pike x muskellunge hybrid) have also been sampled in the Sun River in recent years after flushing from either Willow Creek Reservoir or Largent Bend Pond #3.

Currently, the North and South forks of the Sun River upstream of Gibson Reservoir support popular hybrid westslope cutthroat trout fisheries. Below Diversion Dam, anglers fish for rainbow and brown trout. The fishery tends to be seasonal in nature given low flows and high water temperatures during summer.

Three long-term fish population monitoring sections were established on the Sun River in 1997 in the Augusta/U.S. Highway 287 area, the Simms area, and the reach below the town of Sun River. Due to the overall low numbers of trout, rainbow trout and brown trout data were pooled to calculate population estimates. On average, the Augusta/287 section has the highest trout densities. However, the overall trout densities are extremely low in the Sun River when compared to other trout rivers in north central Montana and compared to the north and south forks of the Sun River upstream of Gibson Reservoir. The long-term average trout densities are 191, 86, and 95 rainbow trout and brown trout 8-inches and longer per mile in the Augusta/287, Simms, and Sun River sections, respectively. Overall, trout density estimates in recent years have been slightly higher than in the late 90s and early 2000s; however, the combined trout densities at these sites are still well below the long-term average trout densities of 579 and 630 in the North and South forks of the Sun River, respectively. Similarly, the long-term average density of rainbow trout and brown trout combined, 8-inches and longer, in the Eagle Creek section of the Smith River is 724, about 3.8 times greater than the highest section of the Sun River.

Low trout densities are caused by year-round chronic de-watering of the Sun River, resulting from largescale irrigation withdrawals. Dewatering is especially impactful in the Simms area, where the river has ceased flowing during the summer in past years, resulting in a series of disconnected pools. Recent focus on water management has resulted in some improvements to summer flows in this reach; however, minimum flows remain well below the recommended minimum and absolute minimum levels during many years. FWP recommends minimum flows of 220 cfs throughout both reaches and absolute minimum flows of 100 cfs from the Division Dam to Elk Creek and 130 cfs from Elk Creek to the Missouri River. These flow recommendations are based on a wetted perimeter study that determined the upper and lower inflection points based on the channel geometry, where loss of habitat increases below these thresholds.

Nilan, Willow Creek, and Pishkun reservoirs all receive hatchery plants of rainbow trout annually to provide additional fishing opportunities. Willow Creek Reservoir receives periodic stocking of tiger muskie to control the white sucker population. Nilan Reservoir will have tiger muskie stocked in 2023 or 2024. Pishkun Reservoir is also regularly stocked with kokanee salmon fingerlings. Wild recruitment provides a northern pike/yellow perch fishery in Pishkun Reservoir and a rainbow/rainbow x cutthroat trout hybrid fishery in Gibson Reservoir.

The statewide angling pressure survey for the period 1982 to 2009 reported that the six major waters in the Sun River drainage averaged 29,619 angler days of use annually. In 2019, the total number of angler days for the six major waterbodies in the Sun River drainage was 18,026. The most angler days was on Willow Creek Reservoir with 5,003 angler days, followed by Nilan Reservoir with 4,948, the mainstem Sun River with 4,005, Pishkun Reservoir with 3,110, the South Fork Sun River with 749, and the North Fork Sun River with 211 angler days. The number of angler days for the six major waterbodies was approximately 44% higher in 2017 (26,023 angler days) than was observed in 2019 (18,026 angler days, although Willow Creek Reservoir was dewatered for dam repair for part of this period).

Habitat

There are approximately 365 miles of habitat capable of supporting salmonids in the Sun River drainage. Diversion Dam was constructed on top of a large barrier waterfall; upstream of this waterfall, the Sun River was reportedly fishless until fish stocking efforts were initiated in the early 20th century.

Several U.S. Geological Survey (USGS) gauges monitor stream flow on the Sun River, including on the North Fork Sun River, South Fork Sun River, below Diversion Dam, below Willow Creek, at Simms, and near Vaughn. Long-term USGS flow records are available for the lower Sun River near Vaughn, which is 14 miles upstream from the mouth. The average annual flow for the 86-year period of record is 670 cfs. From 1934 through 2021, the average peak annual flow was 6,644 cfs and ranged from a low of 681 in 1977 to a high of 53,500 in 1964. Upstream at a USGS gauge at Simms, where dewatering is most severe, the mean monthly flows for August and September is 151 and 145 cfs, respectively, for the period of record compared to 558 and 442 cfs, respectively, at the Vaughn gauge, and 294 and 214 cfs in August and September for the combined flow of the north and south forks of the Sun River.

Present day flow regimens of the Sun River are largely regulated by Gibson Dam and the associated offstream storage and irrigation delivery system of the Sun River Project, which includes Pishkun and Willow Creek Reservoirs. This system can accommodate a diversion of nearly 1,700 cfs from the river. Severe dewatering of the river below diversions has commonly occurred in the past. Irrigated agriculture is the largest consumptive use of water in the Sun River basin. Irrigated croplands include hay, alfalfa, wheat, and malting barley. Approximately 120,000 acres of land are irrigated by Sun River waters; 93,220 acres of that are by the Sun River Project. The three major reservoirs in the drainage store about 159,000 acre-feet and supply water to the system throughout the growing season. It has been estimated that it would take about 450,000 acre-feet of controllable flow to meet all the irrigation needs in the Sun River basin, assuming an overall irrigation efficiency of 40 percent and crops consuming 1.5 acre-feet per acre or a total of about 180,000 acre-feet. This volume of water is not available during most years. For example, although the long-term average for Sun River basin inflows is approximately 592,000 acre-feet, inflows only averaged about 440,000 acre-feet for the period from 2003 to 2007. During this time, all but 13 percent of the water in the Sun River was diverted at least once for the purpose of irrigation. Most of the 57,000 acre-feet that wasn't diverted was flow during the fall, winter, and spring runoff that could not be captured and stored or diverted. Of the water diverted for irrigation, approximately 27% or about 117,000 acre-feet was consumed, or almost one acre-foot of water consumed per acre of irrigated ground.

Special Management Issues

Sun River Dewatering

Severe dewatering of the Sun River, resulting in low water levels and elevated water temperatures are the greatest factor limiting fish populations in the Sun River. Enhancing instream flows is the key to benefitting the aquatic resources in the Sun River basin. FWP continues to work with irrigators through the Sun River Watershed Group to support measures to improve instream flows, water quality, and habitat in the Sun River and tributaries to support the fishery.

Westslope Cutthroat Trout Conservation

The Sun River drainage is home to several conservation populations of westslope cutthroat trout, providing opportunities to conserve this native species in the drainage. One nonhybridized population exists in North Fork Ford Creek. Slightly hybridized populations are present in Gates, Lange, Little Willow, North Fork Sun River, and Smith Creek. The short-term goal is to protect all remaining nonhybridized populations of westslope cutthroat trout. The long-term goal of cutthroat trout conservation in the Sun River drainage is to have approximately 20% of the historically occupied habitat restored to secure conservation populations of cutthroat trout (see Part 1, 1.6.8(1) Westslope Cutthroat Trout).

To address the long-term goal of cutthroat trout conservation in the Sun River drainage, two locations have been identified for potential establishment of westslope cutthroat trout conservation populations: Big George Gulch and Smith Creek. Big George Gulch, a tributary of Gibson Reservoir, contains a waterfall barrier that isolates the upper 4.5 miles of fish habitat. A collaborative project with Glacier National Park slated for 2023 aims to transfer nonhybridized westslope cutthroat trout from Midvale Creek in the Two Medicine River drainage to Big George Gulch. The goal of this project is to rescue the Midvale Creek population from genomic extinction, as it is actively hybridizing. Transferring nonhybridized individuals to fishless habitat in Big George Gulch will secure this unique lineage of westslope cutthroat trout that can in turn serve as a source population for future conservation projects.

The headwaters of Smith Creek provide an ideal location for establishing a secure conservation population of westslope cutthroat trout. Isolated by a natural waterfall barrier, the upper 12 miles of Smith Creek and its tributaries (Moudess, Jakie, Weasel, Star, and Sixmile creeks) could support a large, interconnected westslope cutthroat trout population. Presently, brook trout is the most common fish species present in the upper Smith Creek drainage.

Willow Creek Reservoir Rainbow Stocking Evaluation

The dewatering of Willow Creek Reservoir in 2019 effectively eliminated the trophy rainbow trout fishery. To study how hatchery characteristics drive successful recruitment to the fishery, a five-year rainbow trout stocking evaluation was initiated in 2020. This study will evaluate two rainbow trout strains and three hatchery sources. Results from this study will be used to guide future stocking and determine strains and sources to maximize angling opportunity and fish quality.

Renshaw Lake Aerator Project

Renshaw Lake is biennially stocked with westslope cutthroat trout however, it is suspected of winterkill issues due to its shallow bathymetry. This project will pursue installing a solar powered aerator to improve survival of the fishery by increasing dissolved oxygen concentrations during winter months when macrophyte decomposition and ice cover leads to increased CO₂ and decreased oxygen.

Sun River Slope Canal Grayling Genetic Rescue

Juvenile grayling within the Sun River Slope Canal system were genetically evaluated in 2020. These fish were determined to be from a very small effective breeding population. This is likely due to continued translocation of out-migrating spawning adults. This genetic rescue project will pursue transferring a small number of Madison River/Big Hole origin grayling to supplement the Sun River Slope Canal population and restore the genetic integrity of this population.

Priority Drought Waters

The Sun River drainage and tributary stream reaches that have traditionally been affected by drought restrictions are identified below (Table 2.22-1). Native and non-native trout populations have been affected by high water temperatures and low flow levels during summer drought periods historically and will likely continue to be impacted. Classification, criteria, and measurement apply to the entire reach; however, implementation of restrictions may occur in all or parts of individual reaches depending on temperature, flow, and angling pressure at that time.

Table 2.22-1: Designated hoot owl reaches where drought related fishing restrictions and closures due to fishing pressure, high water temperatures, and/or low flows are expected to be implemented. Drought related restrictions and closures may also be placed on waters not listed here or in shorter reaches within the boundaries listed below.

Waterbody	Reach	Classification	Criteria
Sun River	Mouth of Muddy Creek to Hwy 287 Bridge (RM 17.2 to 67.5)	Non-native salmonid sport fishery	 Daily maximum river temperature reaches or exceeds 73°F for 3 consecutive days, or stream flows fall below the 5th percentile of daily mean values for the date. Measurements relevant for criteria will occur at USGS gauge 06085800 at Simms. Temperature measurements may also depend on portable temperature recorders throughout the basin. Lifting of restrictions may be delayed until adequate flows are present to provide fish cover.

FISHERIES MANAGEMENT DIRECTION FOR THE SUN RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
North Fork Sun River and important tributaries	27.1 miles	Rainbow trout, Rainbow x cutthroat trout hybrids	Wild	General	Monitor populations to maintain historic population levels. Track changes in backcountry angler pressure and trout hook scars.
Gates Creek	6.8 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce extirpation risk.
Habitat needs and	activities: Upda	ted genetic and demographic mon	itoring needec	l in Gates Creek.	
South Fork Sun River	26.4 miles	Rainbow trout, Rainbow x cutthroat trout hybrids	Wild	General	Monitor populations to maintain historic population levels. Track changes in backcountry angler pressure and trout hook scars.
Gibson Reservoir and important tributaries	1,289 acres	Arctic grayling	Wild	Conservation	Maintain population in upper reaches of the reservoir.
		Rainbow trout, Rainbow x cutthroat trout hybrids	Wild	General	Maintain populations providing for a recreational fishery and consumptive use considering the significant water elevation changes in the reservoir.
Big George Gulch	5.5 miles	Rainbow trout, Brook trout	Wild	General	Maintain populations within historic levels providing for a recreational fishery and consumptive use.
Lange Creek	4.5 miles	Westslope cutthroat trout (N)	Wild/ Transfer	Conservation	Maintain or enhance population to reduce extirpation risk.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction			
Habitat needs and activities: Explore opportunity to establish westslope cutthroat trout conservation population in fishless 4.5-mile headwater reach of Big George Gulch above waterfall barrier. In Lange Creek, explore opportunities to expand distribution of westslope cutthroat trout population above barriers in headwaters.								
Sun River – Diversion Dam to mouth of Elk Creek	32 miles	Rainbow trout, Brown trout, Mountain whitefish (N)	Wild	General	Maintain a recreational fishery and enhance population levels of all species compared to historic numbers.			
		Burbot (N)	Wild	General	Likely present at low abundance. Continue to monitor through routine surveys.			
Habitat needs and improve chronic de recommended mir	Habitat needs and activities: Work with Sun River Watershed Group and irrigators to improve instream flows and irrigation water conveyance management to improve chronic dewatering and irrigation based erosion. Maintain habitat and instream flows of 130 cfs as an absolute minimum and 220 cfs as a recommended minimum. Excellent potential to improve the fishery with improved flows							
Sun River Slope Canal	34.4 miles	Arctic grayling	Wild	Conservation	Maintain viable population in the canal.			
Habitat needs and lost to the populat	activities: Maint	tain overwinter habitat in upper re erish if not transferred to other up	aches of the constream waters	anal at drops to preserve p s. Attempt genetic rescue	population. Salvage fish at lower drops that are of population and monitor response.			
Sun River – mouth of Elk Creek to confluence with	65 miles	Rainbow trout, Brown trout, Mountain whitefish (N)	Wild	General	Maintain a recreational fishery and enhance population levels of all species compared to historic numbers.			
Missouri River		Burbot (N)	Wild	General	Likely present at low abundance. Continue to monitor through routine surveys.			
		Northern pike, Walleye	Wild	General	Largely limited to downstream of Muddy Creek. Monitor potential expansion through routine monitoring.			
		Native nongame species (N)	Wild	Conservation	Survey distribution and safeguard species of special concern to maintain population levels.			

Water	Miles/acres	Species	Recruitment	Management Type	Management Direction	
Habitat needs and	activities: Work	with Sun River Watershed Group	and irrigators t	n improve instream flows	and irrigation water conveyance management to	
improve chronic de	ewatering and in	rigation based erosion. Maintain h	abitat and inst	ream flows of 130 cfs as a	an absolute minimum and 220 cfs as a	
recommended mir	nimum. Excellen	t potential to improve the fishery v	with improved	flows.		
Mill Coulee	7.4 miles	Rainbow trout,	Wild	General	Maintain populations within historic levels.	
Creek		Brown trout				
Habitat needs and	activities: Main	tain passage for migratory spawnir	ng fish.			
Muddy Creek	25 miles	Rainbow trout,	Wild	General	Maintain populations within historic levels.	
		Brown trout				
Habitat needs and	activities: Work	with Sun River Watershed Group	and irrigators t	o improve instream flows	and irrigation water conveyance management to	
minimize erosion a	ind enhance hat	pitat.				
Willow Creek	28 miles	Brook trout	Wild	General	Maintain populations within historic levels	
and important					providing for a recreational fishery and	
tributaries					consumptive use.	
Little Willow	6.1 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce	
Creek					extirpation risk.	
- Lime Gulch	<u> </u>		<u> </u>			
Habitat needs and	activities: Main	tain habitat and instream flows of	3 cfs.	I		
Ford Creek and	19.3 miles	Brook trout,	Wild	General	Maintain populations within historic levels	
important		Brown trout			providing for a recreational fishery and	
waterbodies					consumptive use.	
North Fork Ford	2.7 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce	
Creek					extirpation risk.	
Habitat needs and activities: Maintain habitat and instream flows of 12 cfs. Install riparian fencing to improve riparian vegetation condition and explore						
opportunities to expand distribution of westslope cutthroat trout population above barrier in headwaters of North Fork Ford Creek.						
Elk Creek and	32.5 miles	Rainbow trout,	Wild	General	Maintain populations within historic levels	
Important		Brown trout,			providing for a recreational fishery and	
tributaries		BIOOK LIOUL			consumptive use.	
Little Willow Creek - Lime Gulch Habitat needs and Ford Creek and important waterbodies North Fork Ford Creek Habitat needs and opportunities to ex Elk Creek and important tributaries	6.1 miles activities: Maint 19.3 miles 2.7 miles activities: Maint cpand distributio 32.5 miles	Westslope cutthroat trout (N) tain habitat and instream flows of Brook trout, Brown trout Westslope cutthroat trout (N) tain habitat and instream flows of on of westslope cutthroat trout po Rainbow trout, Brown trout, Brook trout	Wild 3 cfs. Wild Wild 12 cfs. Install r pulation above Wild	Conservation General Conservation iparian fencing to improve barrier in headwaters of General	Maintain or enhance population to reduce extirpation risk. Maintain populations within historic levels providing for a recreational fishery and consumptive use. Maintain or enhance population to reduce extirpation risk. e riparian vegetation condition and explore North Fork Ford Creek. Maintain populations within historic levels providing for a recreational fishery and consumptive use.	

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction				
Bailey Creek	2.5 miles	Brook trout	Wild	General	Maintain population within historic levels providing for a recreational fishery and consumptive use.				
Habitat needs and	activities: Maint	ain habitat and instream flows of a	16 cfs. Improve	e water management to re	educe chronic dewatering. Work to maintain				
passage from Sun F	passage from Sun River for fluvial spawning migrations. Continue work on channel migration and bank stabilization issues post-2018 flooding. Explore								
opportunity to esta	ablish westslope	cutthroat trout conservation popu	ulation in fishle	ess 2.0-mile headwater rea	ach of Bailey Creek above bedrock barrier.				
Smith Creek and important tributaries	23.6 miles	Brook trout, Brown trout	Wild	General	Maintain populations within historic levels providing for a recreational fishery and consumptive use.				
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce extirpation risk.				
		Burbot	Wild	General	Monitor potential expansion from Smith Lake through downstream monitoring.				
Moudess Creek	1.1 miles	Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance population to reduce extinction risk.				
Habitat needs and activities: Explore opportunity to chemically remove non-native trout populations and establish westslope cutthroat trout conservation population in upper 12 miles of Smith Creek and tributaries above waterfall barrier. Evaluate improvement of diversions as permanent barriers.									
Pishkun Reservoir	1,518 acres	Rainbow trout, Kokanee salmon	Hatchery	Put-Grow-and-Take	Maintain recreational fishery for consumptive harvest by continued stocking.				
		Yellow perch	Wild	General	Maintain recreational fishery for consumptive harvest.				
		Northern pike	Wild	General	Manage size and population by recommending manipulation of water levels during spawning.				
Habitat needs and activities: Request cooperation of irrigation district to manage water elevations to control northern pike spawning success and maintaining									
boat launch access through the fall.									

Water	Miles/acres	Species	Recruitment	Management Type	Management Direction		
Willow Creek Reservoir	1,314 acres	Rainbow trout	Hatchery	Put-Grow-and-Take	Maintain recreational fishery for consumptive harvest by continued stocking. Continue stocking evaluation to maintain catch rates and establish a trophy fishery.		
		Tiger muskie	Hatchery	Put-Grow-and- Take/Quality	Manage population via stocking and limited harvest to suppress white sucker population and provide a unique trophy opportunity.		
Nilan Reservoir	521 acres	Rainbow trout	Hatchery	Put-Grow-and-Take	Maintain recreational fishery for consumptive harvest by continued stocking.		
		Brown trout	Wild	General	Maintain recreational fishery with limited consumptive harvest.		
		Tiger muskie	Hatchery	Put-Grow-and- Take/Quality	Manage population via stocking and limited harvest to suppress white sucker population and provide a unique trophy opportunity.		
Tunnel Lake	14 acres	Westslope cutthroat trout	Hatchery	Put-Grow-and-Take	Maintain recreational fishery for consumptive harvest by continued stocking.		
		Arctic grayling	Hatchery/ Wild	General	Maintain recreational fishery with limited consumptive harvest by stocking or wild fish transfers.		
Split Rock Lake	170 acres	Northern pike, Yellow perch	Wild	General	Maintain populations within historic levels for a recreational fishery with consumptive harvest.		
Wood Lake	20 acres	Westslope cutthroat trout	Hatchery	Put-Grow-and-Take	Maintain recreational fishery for consumptive harvest by continued stocking.		
Habitat needs and activities: Maintain solar or wind powered aerators to reduce winterkill issues. Continue monitoring and adjust stocking rates as needed.							
Largent Bend	6 acres	Largemouth bass,	Hatchery/	Family Fishing Water	Maintain recreational fishery through stocking		
Pond #2		Bluegill	Wild		as needed.		
Habitat needs and activities: Continue monitoring and adjust stocking rates as needed.							

Water	Miles/acres	Species	Recruitment	Management Type	Management Direction	
			Source			
Largent Bend	21 acres	Largemouth bass,	Hatchery	General	Establish new largemouth bass population by	
Pond #3		Tiger muskie			stocking. Consider additional periodic tiger	
					muskie stocking, as needed.	
		Yellow perch,	Wild/	General	Maintain recreational fishery. Consider	
		Pumpkinseed,	Transfer		additional wild fish transfers, if needed.	
		Black crappie				
Habitat needs and	activities: Conti	nue monitoring and consider supp	lemental stock	ing or wild fish transfers, i	if needed to maintain or enhance the fishery.	
Wadsworth	43 acres	Walleye,	Hatchery	Family Fishing Water	Maintain as an urban fishery. Restock	
Reservoir		Largemouth bass,			largemouth bass to provide additional	
		Rainbow trout			opportunity.	
		Yellow perch,	Transfer/	Family Fishing Water	Maintain as an urban fishery.	
		Pumpkinseed	Wild			
	<u> </u>		<u> </u>			
Habitat needs and activities: Work with West Great Falls Flood Control and Drainage District and City of Great Falls to maintain water levels to support a viable						
fishery. Continue monitoring and adjust stocking rates or conduct additional transfers as necessary, provided water levels are maintained.						
Private/public		Trout	Hatchery/	Put-and-Take	Maintain existing pond fisheries available to the	
ponds with		Warmwater species	Wild		public for harvest.	
public access	<u> </u>		<u> </u>			
Habitat needs and activities: Enhance structure in ponds when possible and needed. Seek additional opportunities.						