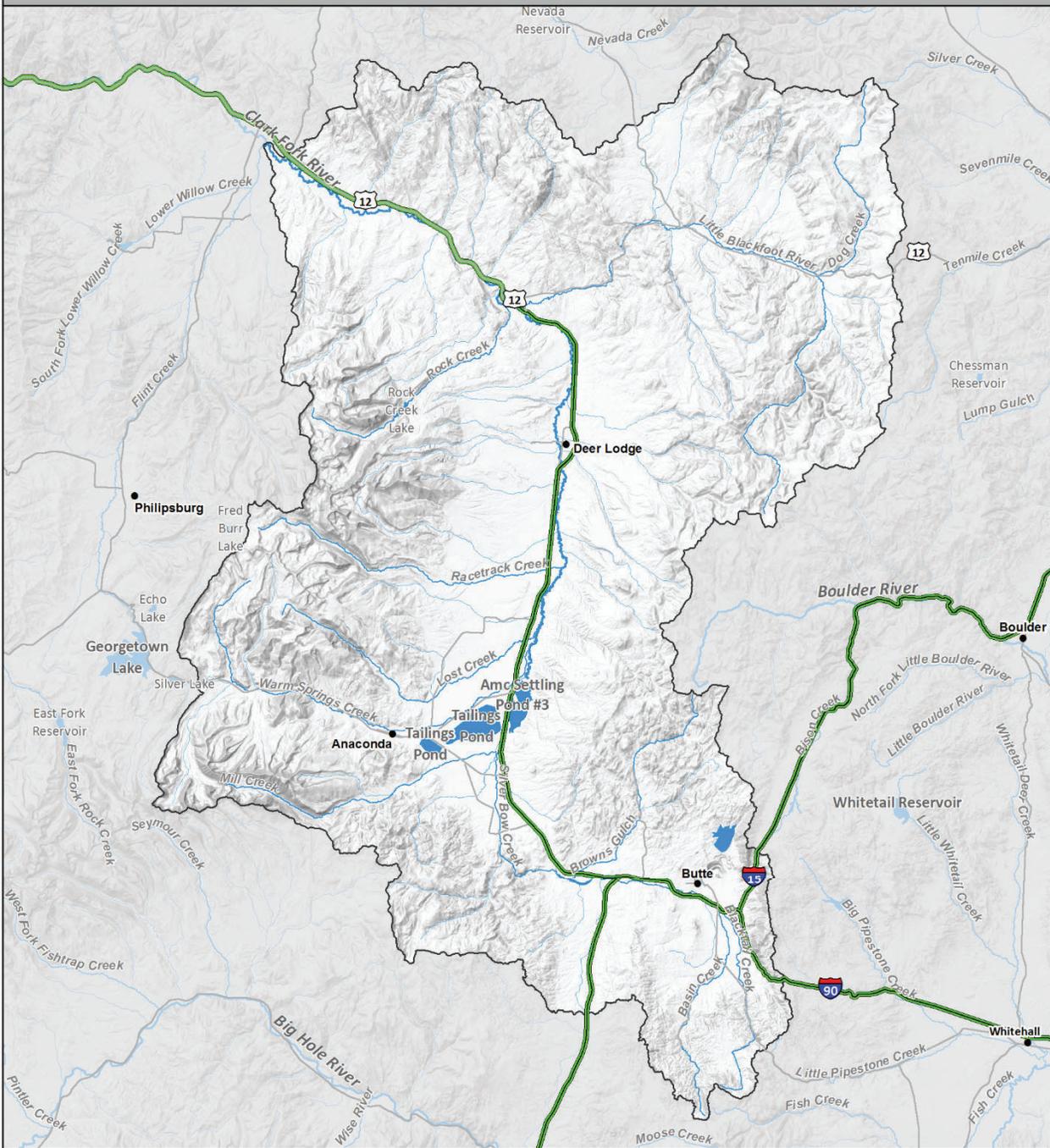


Upper Clark Fork River Drainage

MONTANA FWP



-  Tribal Lands
-  Drainage Boundary



Area of Interest



Map Produced by:
 ASP - Geographic Data Services
 ISR 43965 - Nov 23, 2018



Administrative boundaries and FWP Lands data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

UPPER CLARK FORK RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Upper Clark Fork River drainage lies near the heart of western Montana and extends from its headwaters near Butte downstream to the mouth of Flint Creek. The drainage includes the uppermost segment of the Clark Fork River and its tributaries, including Silver Bow Creek, Warm Springs Creek, and the Little Blackfoot River. The Clark Fork River begins at the junction of Silver Bow and Warm Springs Creeks, near the small community of Warm Springs. From its headwaters, the river flows northwesterly for approximately 70 miles through Deer Lodge, Powell, and Granite Counties. The Upper Clark Fork is bordered throughout much of its length by the Garnet Mountains to the north and east and the Flint Range to the south and west. The first 40 miles of the river meander through the flat plains of the Deer Lodge Valley where agriculture is the primary land use. Downstream from the mouth of the Little Blackfoot River, the Upper Clark Fork enters a narrow canyon. In this area the river channel has also been shortened by highway and railroad construction activities. However, downstream of Jens the river moves away from the transportation corridor and begins to meander downstream to its confluence with Flint Creek.

There are 76 lakes and reservoirs in the drainage, totaling 4,468 surface acres. Most natural lakes are mountain lakes in the Anaconda-Pintler and Flint Mountain Ranges. These lakes range in size from less than an acre to over 75 acres. A number of these lakes have been fitted with dams to increase storage capacity for downstream agricultural and industrial water users. The largest reservoirs in the drainage are the Warm Spring Settling Ponds, which are located near the beginning of the Clark Fork River, and Silver Lake, which is located at the head of the Warm Springs Creek drainage not far from the community of Anaconda.

FISHERIES MANAGEMENT

Located in the west-central part of the state, the Upper Clark Fork has a long history of mining related impacts that have negatively affected the fishery and aquatic resources along much of the river. This has led to the stream being one of the more underutilized rivers in western Montana. However, ongoing environmental cleanup by the State and the U.S. Environmental Protection Agency, as well as a diversity of recreational opportunities, has contributed to an increase in the Upper Clark Fork's popularity in recent years.

The Upper Clark Fork River is managed as a wild trout fishery, emphasizing natural reproduction. The basin is also the focus of native fish recovery efforts, particularly in the Little Blackfoot, Warm Springs and Silver Bow drainages. The Upper Clark Fork is home to eleven native fish species including bull trout, westslope cutthroat trout, mountain whitefish, longnose and largescale sucker, northern pike minnow, peamouth, longnose dace, redbside shiner, Columbia slimy sculpin, and Rocky Mountain sculpin. Nonnative fish species with widespread distribution in the Upper Clark Fork include brown trout, rainbow trout, and brook trout. Nonnative lake trout and kokanee salmon can also be found in Silver Lake and Georgetown lakes, respectively. Dominant fish species vary from westslope cutthroat and brook trout in the

headwaters, to brown trout in the Clark Fork River and the lower reaches of valley-bottom tributary streams.

Bull trout are very rare in the mainstem of the Upper Clark Fork River above Flint Creek. The species is primarily isolated in the Warm Springs Creek drainage near Anaconda. Bull trout historically occurred in other drainages such as the Little Blackfoot and Racetrack Creek, but fish are rare to absent in these areas at present. Most of the populations in the Warm Springs Creek drainage appear to be genetically isolated from these other drainages, with little intermixing occurring. Fluvial (river dwelling) forms are rare. Adfluvial (lake dwelling) forms exist in Silver and Twin Lakes. Resident forms exist in most of the larger tributaries upstream of Anaconda including Barker, Foster, Twin Lakes, and Storm Lake Creeks.

Westslope cutthroat trout are present in many of the tributary streams in the Upper Clark Fork. Angling restrictions and habitat improvements in the Little Blackfoot and Silver Bow drainages have sought to improve westslope cutthroat numbers in these areas in particular. Many of the cutthroat populations in the Upper Clark Fork show little to no hybridization with introduced rainbow trout. Additionally, fluvial forms still remain in a number of locations. While westslope cutthroat trout are relatively uncommon in the mainstem of the Upper Clark Fork River, the species does provide a unique fishing opportunity in a river largely dominated by brown trout. Information is lacking on the abundance and life histories of mountain whitefish and non-game native fishes. Efforts are needed to describe these and monitor trends.

Angling in the Upper Clark Fork River occurs year-round and is most popular in the early spring, summer and fall. Opportunities exist for both wade and float angling and while fly-fishing is particularly popular, use of artificial lures and bait fishing are also common.

Lowland ponds and reservoirs provide valuable recreational fisheries. The Warm Springs and Job Corp Ponds are stocked primarily with rainbow trout, but westslope cutthroat trout and brown trout are also planted into some waters. Warm Springs Pond #3 is a popular location where anglers go to pursue trophy-sized trout. Racetrack Pond, Skyline Pond, and the Kids Pond at the Warm Springs Wildlife Management Area are stocked with rainbow and/or westslope cutthroat trout and have special fishing regulations that seek to provide quality angling opportunities for youth anglers.

Several high mountain lakes are stocked with westslope cutthroat trout. Lakes currently planted on a regular basis include Alpine, Alibicaulis, Little Racetrack, and Upper and Lower Barker Lakes. Other lakes are planted on a more irregular basis depending on need, while other lakes are kept fishless to help conserve amphibian populations.

HABITAT

The Upper Clark Fork Basin has a long history of human disturbance beginning in earnest in the mid-1800s when placer mining for gold began on many basin streams. By 1896, copper had become the target metal and mining and smelting operations near the town of Butte, located near the headwaters of the Clark Fork, were processing thousands of tons of copper ore per day. Mining and smelting activities in the Butte and Anaconda areas continued into the early 1980s, and while some mining activity persists near Butte to this day, most of the operations have now been completely shut down and abandoned. Nevertheless, the environmental consequences of

over 100 years of large scale mining activity in the Upper Clark Fork Basin have left their mark. Enormous amounts of fine material, mostly mine tailings, were released into the drainage, and were transported and deposited downstream. These tailings, containing heavy metals, proved toxic to aquatic life and negatively altered the aquatic biological community of the upper river.

For years, the Upper Clark Fork River was considered void of fish. It wasn't until efforts were made to retain and prevent the downstream movement of some portion of the toxic tailings in the Warm Springs Treatment Pond System that water quality improved to a level where trout could begin to re-colonize the lower sections of the river, upstream of Missoula. However, by that time, most of the trout in the river were nonnative species, including rainbow and brown trout. Brown trout have been shown to have a higher tolerance to metals and degraded habitat conditions than other trout species, and it is likely because of this that the species dominates the current trout community in much of the Upper Clark Fork River. While trout are common in the upper river today, past research has shown that trout populations are only one fifth of what would be expected without contamination from mining wastes.

The Clark Fork River from its headwaters to the former Milltown Dam site was designated a Superfund Priority Site in 1986. While cleanup activities have been underway for a number of years on Silver Bow Creek near Butte as well as at Milltown Dam near Missoula, active remediation is only just beginning on the mainstem Clark Fork River. Cleanup of metals-contaminated soils along the Upper Clark Fork River is expected to improve water quality and allow for more tolerable conditions for fish and other aquatic life.

Other factors that affect habitat quality in the Upper Clark Fork include mid-summer dewatering. Irrigation withdrawal can have severe impacts on summer stream flows in the river upstream of Deer Lodge, especially during drought years. Low flows increase water temperatures to levels not suitable for trout, and extensive algae and aquatic plant growth impact dissolved oxygen levels along much of the river.

FISHING ACCESS

In the Upper Clark Fork above Flint Creek, there are relatively few FWP-owned or managed fishing access sites. Designated fishing access sites are located at Kohrs Bend upstream of Garrison, as well as on the lower Little Blackfoot River. There are additional public properties that serve as river and stream access, but these lands are not specifically managed for fishing access. Examples are MDT and county bridge crossings, DNRC and USFS ownership.

Regulations prohibit float fishing in the segment of the Clark Fork River from its beginning to the Perkins Lane Bridge, a distance of approximately three miles.

SPECIAL MANAGEMENT ISSUES

In recent years, recreational use of the Upper Clark Fork River has increased steadily. This is likely due to significant press related to ongoing and future efforts to restore the river's health from the devastating effects of mining contaminants on the river for more than a century. While much of the work still needs to be accomplished, the desire for a clean river to recreate on is apparent. Planning efforts by the Department of Justice (Natural Resource Damage Program), FWP, and others are underway to hopefully address the need for additional fishing access sites in the Upper Clark Fork.

FISHERIES MANAGEMENT DIRECTION FOR UPPER CLARK FORK RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Silver Bow Creek and Tributaries	25 miles mainstem plus tributaries	Westslope cutthroat trout (N)	Wild	Conservation	Eliminate harvest and enhance fluvial populations for conservation and catch-and-release angling. Promote connectivity among tributary populations.
		Brook trout, Rainbow trout, Brown trout	Wild	General	Manage for the recovery of westslope cutthroat trout by continuing to allow liberal harvest of nonnative trout. Consider other options to reduce nonnative trout numbers if options are practical and would increase native trout density.
Habitat needs and activities: Clean up of mining contamination throughout reach. Increase instream flow and enhance habitat to support ecosystem function and production of native trout. Improve water quality of Butte Metro Sewage Treatment Plant discharge. Maintain a barrier on the mainstem (just below German Gulch) to prevent colonization of brown trout and rainbow trout and allow for a westslope cutthroat trout fishery to develop.					
Warm Springs Creek and Tributaries	30 miles mainstem plus tributaries	Bull trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance migratory and resident populations for conservation.
		Westslope cutthroat trout (N)	Wild	Conservation	Preserve existing genetics in currently isolated resident populations. Improve migratory populations for angling and conservation.
		Brown trout, Brook trout, Rainbow trout	Wild	General	Manage for harvest opportunity and reduce numbers to lessen competition, hybridization with, and predation on native trout. Above Meyers Dam, consider other options to reduce numbers if options would increase native trout density and cutthroat angling opportunity.
Habitat needs and activities: Clean up of mining contamination downstream of Anaconda. Secure instream flow and enhance habitat to support ecosystem function and production of trout and whitefish. Manage connectivity to favor native trout, particularly bull trout.					

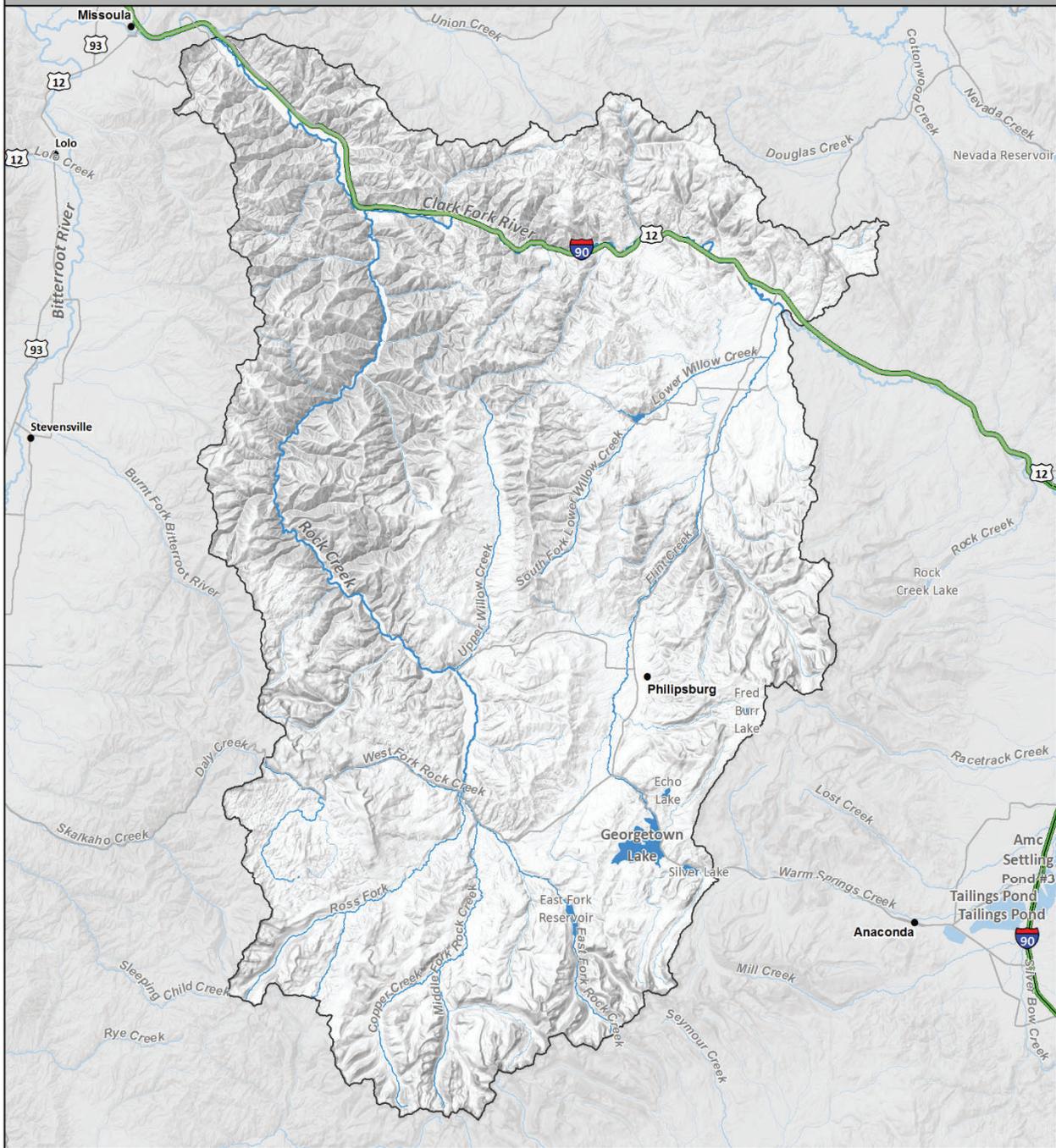
Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Silver Lake	300 acres	Bull trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance adfluvial population for conservation.
		Westslope cutthroat trout (N)	Wild	Conservation	Enhance population for conservation and to provide angling opportunity.
		Rainbow trout, Brook trout, Lake trout	Wild	General	Allow liberal harvest to reduce competition and hybridization with, and predation on native trout. Consider other options to reduce numbers if options would increase native trout density and cutthroat angling opportunity.
Habitat needs and activities: Better public access needed. Manage connectivity with Storm Lake Creek to favor adfluvial bull trout moving upstream to spawn. Pursue leasing or purchasing stored water to supplement Warm Springs Creek and the Clark Fork River.					
Clark Fork River Headwaters Downstream to Confluence with Flint Creek.	70 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance migratory populations for conservation. Enhance catch-and-release westslope cutthroat trout fishery.
		Brown trout, Rainbow trout, Brook trout	Wild	Quality/ Restrictive Regulations	Manage harvest to support quality angling opportunity. Ensure adequate connectivity with important spawning tributaries to provide for natural recruitment.
Habitat needs and activities: Clean up mining contamination throughout reach. Enhance instream flow. Enhance connectivity with tributaries where appropriate. Protect and improve habitat quality in spawning and rearing areas to enhance natural recruitment of wild and native trout and whitefish.					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Warm Springs and Job Corps Ponds	897 acres	Rainbow trout, Brown trout, Westslope cutthroat trout (species not present in all ponds)	Hatchery	Quality	Restrict trout harvest and manage stocking densities to promote quality catch-and-release angling opportunity for large trout.
Habitat needs and activities: Improve water quality of ponds. Slow eutrophication process by improving water quality of Butte Metro Sewage Treatment Plant discharge. Understand the effects of stored contaminants on the biota in and downstream of the Warm Springs Ponds.					
Racetrack Pond, Kids Pond at Warm Springs Wildlife Management Area, Gravel Pit Pond adjacent to Highway 48, Skyline Pond	45 acres	Rainbow trout, Westslope cutthroat trout	Hatchery	Family Fishing Water	Encourage youth angling through special regulations (Racetrack Pond and Warm Springs WMA Kids Pond), or special fishing day events (Gravel Pit Pond). Manage stocking densities and trout harvest to promote quality angling opportunity for stocked trout.
Little Blackfoot River and Tributaries	50 miles mainstem plus tributaries	Westslope cutthroat trout (N)	Wild	Conservation	Eliminate harvest and conserve and enhance migratory and resident populations for conservation and catch-and-release angling. Consider isolation of local populations only if hybridization or competition is a threat and habitat and fish numbers are sufficient to allow persistence.
Continue next page					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Brown trout, Brook trout, Rainbow trout	Wild	General	Manage for harvest opportunity and reduce numbers to lessen competition and hybridization with, and predation on native trout, particularly above Elliston where westslope cutthroat trout are abundant. Consider other options to reduce numbers if they would increase native trout density and angling opportunity.
Habitat needs and activities: Protect and improve habitat to support ecosystem function and natural production of native trout and whitefish. Manage connectivity to favor native trout.					
Tributaries to Upper Clark Fork River Above Confluence with Flint Creek, Other Than Those Specifically Listed	---	Westslope cutthroat trout (N)	Wild	Conservation	Enhance populations for conservation and recruitment to the Clark Fork River sport fishery. Maintain currently isolated (or consider isolating) populations only if hybridization or competition is a threat and habitat is sufficient to allow persistence. Preserve connectivity with streams currently connected to allow for maintenance of migratory life histories. Monitor these populations closely for hybridization and/or competition threats.
		Brown trout, Rainbow trout, Brook trout	Wild	General	In streams with westslope cutthroat trout, continue to allow liberal harvest to reduce competition, hybridization and predation. Consider other options to reduce numbers if options and would increase native trout numbers and angling opportunity. Where native species concerns are not present, enhance migratory populations to improve recruitment to recreational fishery in the Clark Fork River.
Habitat needs and activities: Protect and improve habitat to support ecosystem function and natural production of trout. Manage connectivity to favor native trout.					

Clark Fork River - Flint / Rock Drainage

MONTANA FWP



-  Tribal Lands
-  Drainage Boundary



Area of Interest



Map Produced by:
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ISR 43965 - Nov 23, 2018



Administrative boundaries and FWP Lands data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

CLARK FORK RIVER FLINT/ROCK DRAINAGE

GENERAL DESCRIPTION

The Clark Fork Flint/Rock Creek drainage includes three distinct sub-drainages: Flint Creek, Rock Creek, and the section of the Clark Fork River from its confluence with Flint Creek to its confluence with the Blackfoot River. At the mouth of Flint Creek near the town of Drummond, the Clark Fork flows through a wide valley with the surrounding lands used primarily for agriculture. A few miles downstream, the Clark Fork Valley narrows and the river, in this reach, is confined by Interstate I-90 and the railroad. Below the mouth of Rock Creek near the town of Clinton, the Clark Fork Valley widens again, allowing the river to flow more freely with less impact from transportation corridors, until it reaches the mouth of the Blackfoot River.

Flint and Rock Creeks are major tributaries to the Clark Fork River. Flint Creek enters the Clark Fork River near the town of Drummond. Flint Creek Dam impounds North Fork Flint Creek and forms Georgetown Lake, a hydropower reservoir, about 9 miles south of Philipsburg. Below Flint Creek Dam, the creek flows through agricultural lands used primarily for cattle and hay production. Water diverted from Flint Creek is a major source of water used for irrigation in the drainage. Rock Creek enters the Clark Fork River approximately 5 river miles upstream of Clinton and 34 river miles downstream of Drummond.

The headwaters of Rock Creek begin at the Continental Divide with mainstem Rock Creek beginning at the confluence of three major tributaries: Middle Fork Rock Creek, Ross Fork Rock Creek and West Fork Rock Creek. From its headwaters, Rock Creek flows approximately 52 river miles to its confluence with the Clark Fork River. The USFS is the primary land owner in the drainage, although significant portions of the valley bottom is owned by private landowners in the upper and lower reaches of the drainage.

There are 46 natural lakes and reservoirs, totaling 4,468 surface acres, in the Flint-Rock drainage including many mountain lakes. The largest flat-water body is Georgetown Lake which impounds North Fork Flint Creek and is approximately 2,080 surface acres. East Fork Reservoir is the next largest flat-water body and impounds East Fork Rock Creek. The reservoir serves as storage for irrigators in the Flint Creek Valley. A majority of the water stored in reservoir is diverted into the Flint Creek Canal just below the reservoir and delivered to irrigators in the Flint Creek Valley via a trans-basin diversion into Trout Creek, a tributary of Flint Creek. This water is used by irrigators throughout the Flint Creek Valley, but most of the water users are in the lower Flint Creek drainage and gain access to the water via the Allendale diversion and ditch.

Mountain lakes can be found throughout the Rock Creek drainage, but the majority are found in the headwaters of the drainage, including several in the Anaconda Pintler Wilderness. The Flint Creek drainage also has many mountain lakes with the highest density being in the Flint Mountain Range.

FISHERIES MANAGEMENT

Clark Fork River

The portion of the Clark Fork River in the Flint-Rock Creek drainage has a long history of mining- related impacts associated with mining and smelting operations in the Butte and Anaconda area. These operations negatively impacted the river's fishery resources and have led to this river being one of the more underused rivers in western Montana.

The Clark Fork River is managed as a wild trout fishery, emphasizing natural reproduction. The Upper Clark Fork is home to eleven native fish species including bull trout, westslope cutthroat trout, mountain whitefish, longnose and largescale sucker, Northern pikeminnow, peamouth, longnose dace, redbreast shiner, Columbia slimy sculpin, and Rocky Mountain sculpin. Nonnative fish species inhabiting the Upper Clark Fork include brown trout, rainbow trout, and brook trout. Brown trout are the primary recreational fish in the Clark Fork River downstream of Flint Creek, although westslope cutthroat trout and rainbow trout are also common. Information is lacking on the abundance and life histories of mountain whitefish and non-game native fishes. Efforts are needed to describe these species and monitor their trends.

Bull trout and westslope cutthroat trout are at low densities in the mainstem of the Clark Fork River downstream of Flint Creek. Spawning and rearing streams for Bull Trout include Harvey Creek, Boulder Creek, and Rock Creek and its tributaries. Westslope cutthroat trout are found in several tributaries to this section of the Clark Fork. Densities of cutthroat are lower in the mainstem reach from Flint Creek to Bearmouth than downstream of Bearmouth.

Many westslope cutthroat trout populations are found in tributaries to the Clark Fork River below Flint Creek. Some of these tributaries are physically and biologically connected to the mainstem and help with maintaining the fluvial population in the river. Other tributaries have barriers and block the return of adults to their natal streams. However, these barriers do protect the tributary populations from introgression with rainbow trout and rainbow/westslope cutthroat trout hybrids and prevent colonization by nonnative species.

Angling occurs year-round on the Clark Fork River but is most popular in the early spring, summer and fall. Opportunities exist for both wade and float angling and while fly-fishing is the most popular form of use, artificial lures and bait fishing are also common. Beavertail Pond provides a flat-water fishing opportunity and attracts a significant amount of angling pressure. Beavertail pond is managed as a put-and-take trout fishery for kids and family fishing.

Flint Creek

Flint Creek is a major tributary to the Clark Fork River that serves as an important recreational fishery. The fishing pressure is not as high in Flint Creek as other near-by important recreational fisheries in the area including Rock Creek, Georgetown Lake and the Clark Fork River. Poor public access along much of Flint Creek is one reason for the low fishing pressure.

Flint Creek is managed as a wild trout fishery, emphasizing natural reproduction. Brown trout are the most abundant salmonid and are the primary recreational fish. Native westslope cutthroat

and bull trout are present in the drainage, however bull trout are only found in the Boulder Creek drainage and mainstem Flint Creek. Westslope cutthroat trout are found in the mainstem and in many tributaries of Flint Creek. Several westslope cutthroat trout populations in the drainage are protected from hybridization with rainbow trout by fish passage barriers. The largest genetically-pure population is in the Lower Willow Creek drainage, above Lower Willow Creek Dam. Other native fish species found in the Flint Creek Drainage include mountain whitefish, largescale and longnose Suckers, Northern pikeminnow, longnose dace, redbreasted sunfish, and sculpin. Nonnative fish species present in the drainage include brown, rainbow, and brook trout. Information is lacking on the abundance and life histories of mountain whitefish and non-game native fishes. Efforts are needed to describe these species and monitor their trends.

Georgetown Lake is the largest flat-water body in this drainage and is one of the most popular trout fisheries in the state. It is managed as a put-and-grow fishery for rainbow and brook trout and as a wild kokanee salmon fishery. Georgetown Lake routinely ranks in the top 10 in Montana for angling pressure and is equally as important as both a summer and winter ice fishing destination. Hydropower, irrigation and flood control are other uses of Georgetown Lake that influence water management in this system.

Other lakes stocked in the Flint Creek drainage include Lower Boulder Lake, Stewart Lake and Echo Lake. Both Stewart and Echo Lakes can be accessed by road while Lower Boulder is a back-country lake. Many other high mountain lakes in the Flint Creek drainage provide fisheries but are sustained by natural reproduction. Several other lakes in the drainage are fishless and will likely be managed as fishless in the future to provide habitat to conserve other native populations (e.g., amphibians).

Rock Creek

Rock Creek is one of twelve renowned “Blue Ribbon” rivers in Montana and is one of the state’s most popular rivers for recreation. The river’s exceptional fish populations and abundant public land (allowing for excellent public access), combined with its proximity to Missoula, contribute to its popularity.

Rock Creek is managed as a wild trout fishery, emphasizing natural reproduction and is also a stronghold for native bull trout and westslope cutthroat trout. Other native fish species found in the drainage include mountain whitefish, largescale and longnose suckers, Northern pikeminnow, longnose dace, and sculpin. Nonnative fish species present in the drainage include brown trout, rainbow trout, brook trout, and Arctic grayling. Brown trout provide a majority of the sport fishery in the Rock Creek drainage, although westslope cutthroat trout are abundant in the upper mainstem and also provide an excellent fishery. Rainbow trout once provided a majority of the recreational fishery throughout the drainage until whirling disease became prevalent and their numbers decreased in the early 1990s. Rainbow trout are still abundant in the lower portion of the drainage and provide a significant recreational fishery, although densities are much lower now than was observed before whirling disease. The decline in rainbow trout densities is more pronounced in the upper drainage where they now make up only a small portion of the fishery. Brown trout have increased throughout the mainstem and replaced rainbow trout as the most abundant salmonid. Information is lacking on the abundance and life histories of

mountain whitefish and non-game native fishes. Efforts are needed to describe these species and monitor their trends.

Bull trout are found throughout mainstem Rock Creek and comprise a large meta-population with fish moving throughout the drainage to complete their life history. This population also contributes bull trout to the Clark Fork River. Spawning and rearing tributaries are found throughout the drainage with most of the stronger populations located closer to the headwaters.

The largest bull trout population in the drainage is found in East Fork Reservoir. This population is an adfluvial (lake dwelling) population that uses East Fork Rock Creek for spawning and rearing and juveniles eventually out-migrate to the reservoir where they reside as sub-adults and adults. A large amount of spawning also occurs annually in a portion of East Fork Rock Creek routinely inundated by stored water from East Fork Reservoir. This spawning may be a consequence of East Fork Rock Creek being intermittent approximately a half mile above the reservoir, eliminating upstream passage during summer low flow periods. Recruitment has been documented in the spring channel adjacent to the main East Fork Rock Creek channel in this reservoir inundation zone with age 0 bull trout being observed in back waters in May 2016. It is suspected that recruitment is also occurring in the main East Fork Rock Creek channel since reservoir inundation conditions are similar to the spring channel. While recruitment has been documented, the amount of recruitment to the East Fork Reservoir fishery is still unknown. Spawning also occurs in the East Fork Rock Creek above the intermittent reach and appears to provide a substantial amount of recruitment to East Fork Reservoir.

Westslope cutthroat trout are also found throughout the Rock Creek drainage, and similar to bull trout, are a meta-population with fish moving throughout the drainage and Clark Fork to complete their life history. Spawning and rearing tributaries are found throughout the drainage.

Most tributaries in the Rock Creek drainage that maintain enough stream flow for fish to spawn and rear also sustain a westslope cutthroat trout population. Fluvial westslope cutthroat trout are found throughout the mainstem and are most abundant in the upper portion of the drainage. Rock Creek above Windlass Bridge consistently maintains high enough densities to provide an excellent recreational fishery. Westslope cutthroat trout populations in the Rock Creek drainage are well connected with very few tributaries having fish passage barriers. While this connectivity allows for gene flow between populations, very few westslope cutthroat trout populations in the drainage are protected from colonization by introduced trout and hybridization.

Angling occurs year-round and is most popular in the spring, summer and fall. Opportunities exist for both wade and float angling, although float fishing is only allowed on Rock Creek from December 1 through June 30. This regulation was put into place to allow for floating during high flows when multiple stonefly hatches are occurring but protects wade anglers from disturbance by float anglers during low flows when most locations on Rock Creek are accessible via wading.

Fly fishing is the most popular form of fishing on Rock Creek, although other artificial lures are also common. Bait fishing on Rock Creek is only allowed for anglers 14 years of age and younger.

Of the lakes and reservoirs in the Rock Creek drainage, East Fork Reservoir receives the most angling pressure. East Fork Reservoir provides a quality put-and-grow fishery for large westslope cutthroat trout as well as a few large, wild rainbow trout. A westslope cutthroat trout stocking program was initiated for this reservoir in 2004 and has been quite successful in establishing a popular recreational fishery. Other mountain lakes in this drainage provide westslope cutthroat trout fisheries, although Fuse Lake does provide a self-sustaining Arctic grayling population.

Several other lakes are stocked with fish in the Rock Creek drainage including Green Canyon Lake, Whetstone Lake and Moose Lake. Moose Lake can be accessed by road while both Green Canyon and Whetstone Lakes are back-country lakes. Many other high mountain lakes in the Rock Creek drainage provide fisheries but are sustained by natural reproduction. Several other lakes in the drainage are fishless and will likely be managed as fishless in the future to promote conservation of native aquatic communities.

HABITAT

Clark Fork River

The Upper Clark Fork Basin has a long history of human disturbance beginning in earnest in the mid-1800s when placer mining for gold began on many basin streams. By 1896, copper had become the target metal, and mining and smelting operations near the town of Butte were processing thousands of tons of copper ore per day. Mining and smelting activities in the Butte and Anaconda areas continued into the early 1980s, and while some mining activity persists near Butte to this day, most of the operations have now been shut down and abandoned. Nevertheless, the environmental consequences of over 100 years of large scale mining activity in the Upper Clark Fork Basin have left their mark. Enormous amounts of fine material, mostly mine tailings, were released into the drainage, and were transported and deposited downstream throughout the river system. These tailings proved toxic to aquatic life and negatively altered the aquatic biological community of the upper river.

For years, the Upper Clark Fork River was considered void of fish. It wasn't until efforts were made (beginning in 1911 and later in the 1990s) to retain and stop downstream movement of a portion of the toxic tailings in the Warm Springs Treatment Pond System, that water quality improved to a level where trout could begin to re-colonize the river upstream of Missoula. By then, most of the trout in the river were rainbow and brown trout. Brown trout have been shown to have a higher tolerance to metals and degraded habitat conditions than other trout species and is likely the reason the species dominates the current trout community in much of the Upper Clark Fork River. While trout are common in the upper river today, past research has shown that trout populations are only one fifth of what would be expected without contamination from mining wastes.

The Clark Fork River from its headwaters to the former Milltown Dam site was designated a Superfund Priority site in 1986. While cleanup activities are complete on Silver Bow Creek near Butte as well as at Milltown Dam near Missoula, active remediation is only been underway for a few years on the mainstem Clark Fork River. Cleanup of metals contaminated soils along the Upper Clark Fork River is expected to improve water quality and allow for more tolerable

conditions for fish and other aquatic life. The reach of the Clark Fork downstream of Rock Creek has better water quality because of the addition of water from Rock Creek.

Other factors that affect habitat quality in the Upper Clark Fork include mid-summer dewatering. Irrigation withdrawal can have severe impacts on summer stream flows in the river upstream of Deer Lodge, especially during drought years. These factors likely affect habitat conditions in the Clark Fork River below Flint Creek through the cumulative impacts of high water temperatures and poor water quality. Surprisingly, trout densities are lower in the reach from Flint Creek to the mouth of Rock Creek than are observed in the reaches above and below. The factors that limit the fish populations in the reach are unclear although preliminary findings from a researcher at The University of Montana suggest that algae mats (*Cladophora spp.*) in this reach may be limiting biological productivity and thus reducing trout densities (M. Valet, pers. comm.). Extensive channelization from the development of I-90 and two railroads has significantly reduced sinuosity and extensively altered natural alluvial processes in this reach. These activities have significantly changed the fish habitat in this reach and may potentially impact fish populations. Trout densities do improve substantially again below the mouth of Rock Creek.

Flint Creek

Agriculture and mining have played a significant role in the history of the Flint Creek Valley. Currently, the majority of land use in the Flint Creek drainage is agriculture with a focus on cattle and hay production. Flint Creek below the Allendale diversion is significantly dewatered during irrigation season which is likely the primary limiting factor for fish populations in the reach, particularly during drought years. Dewatering does not appear to be a major factor on Flint Creek above the Allendale diversion due to abundant water being delivered from East Fork Rock Creek into the Flint Creek drainage. Fish entrainment into diversion ditches also occurs throughout the drainage which also impacts fish populations in most reaches of Flint Creek. A recent pit tag study completed by FWP on Allendale diversion indicates that over 50% of the trout moving that attempt to migrate downstream of Allendale diversion are entrained into the ditch. A fish screen is currently being designed in cooperation with several partners for Allendale diversion.

Other impacts of agriculture on Flint Creek include riparian grazing that reduces woody riparian vegetation and decreases channel stability. Mining has also significantly impacted fish habitat conditions in the Flint Creek Valley with several tributaries displaying mining-related habitat degradation including South Fork Lower Willow Creek, Douglas Creek (near Hall), Henderson Creek, Douglas Creek (near Philipsburg), Fred Burr Creek and North Fork Flint Creek.

Habitat conditions in Georgetown Lake are also a significant concern in the Flint Creek drainage. Georgetown Lake is a shallow, productive reservoir which allows it to produce excellent rainbow trout, brook trout and kokanee salmon fisheries. However, these factors also create conditions that can be detrimental to these fisheries. Georgetown Lake is a high elevation (6,400 ft) reservoir that maintains ice cover for an extended period of time; typically, from early November through mid-May. During the winter, there is minimal diffusion of oxygen into the lake due to ice and snow cover, along with significant consumption of oxygen due to the decomposition of macrophytes and detritus along the substrate. Over the course of the winter, the combination leads to significant depletions of oxygen throughout the water column, creating poor habitat

conditions for the trout and salmon in the lake. These conditions can be exacerbated if water levels are drawn down too low during the previous year's operation. Thus, water management at Georgetown Lake via Flint Creek Dam operations is critical to providing adequate water to avoid poor water quality and maintaining healthy trout and salmon fisheries.

A fish kill did occur in Georgetown Lake over the 2017/2018 winter. Large numbers of fish were observed dead (at least 500-1,000) and likely many more dead fish went unobserved. Primarily larger rainbow trout (375-475 mm) were found dead although one small rainbow trout (approximately 250 mm) and a few kokanee were also found dead. The likely cause appears to be low dissolved oxygen. Dissolved oxygen was measured by FWP in March 2018 and was found to be very low. A small sample of live fish were captured within a week after ice-off and tested for pathogens and no pathogens were detected. Unfortunately, no moribund fish could be captured which would be the most useful for pathogen testing. Water levels in Georgetown Lake were excellent during the 2017/2018 winter and thus other factors led to the poor dissolved oxygen conditions. Further assessment is necessary to better understand the causes of this fish kill, but it appears that the extended length of ice cover and deep snow (not allowing sunlight penetration) are likely factors.

Rock Creek

The Rock Creek drainage maintains excellent fish habitat and water quality, largely due to the extensive public land ownership in the drainage which is generally managed to provide quality fish and wildlife habitat. The upper portion of the Rock Creek drainage is largely managed for livestock ranching. Impacts to fish populations in this portion of the drainage include irrigation withdrawal and the associated entrainment of fish and reduced riparian over-story vegetation. The middle portion of the drainage (Windlass Bridge to the mouth of Welcome Creek) is nearly entirely owned by the USFS and the habitat in this reach is in excellent condition with the main impact being a riparian road that is adjacent to the creek through much of this reach. The lower portion of Rock Creek below Welcome Creek is again primarily privately owned in the valley bottom with a majority of the land use being residential subdivisions. Temperature monitoring in the drainage indicates that water temperatures are as high at Windlass Bridge (river mile 37.5) as are observed near the mouth of the drainage (river mile 0). This indicates that impacts to the fishery that cause increased temperature are greatest in the upper portion of the drainage and improve lower in the drainage. It is suspected that the reduction in irrigation, improvement in riparian habitat conditions, and supply of cold water from tributaries in the middle reach of the drainage improves water temperatures and overall fish habitat.

The conservation value of Rock Creek has long been recognized by FWP and the citizens of western Montana. Thus, several land conservation projects have been completed in the upper portion of the drainage, mostly in the form of conservation easements. These projects include several large ranches that provide contiguous habitat with some of the easements requiring protective management of the riparian habitat. Future projects that protect additional parcels in both upper and lower Rock Creek should be high priority, particularly if they are adjacent to existing conservation easements. FWP also has a Murphy Water Right on Rock Creek which protects a minimum base flow in the river, although it is rarely necessary to exert this right due to the private ranching acreage being relatively small in the drainage.

FISHING ACCESS

Public access on the Clark Fork River from Flint Creek to the mouth of the Blackfoot River is currently relatively good. Fishing access sites owned by FWP on the Clark Fork River are located near Drummond, Bearmouth, Beavertail, Clinton (Schwatz Creek FAS), Turah, and Bonner (Milltown Dam State Park). A BLM-owned fishing access site is also available to anglers near mile marker 7 on the Drummond frontage road between Drummond and Bearmouth. In addition, there are several undeveloped sites along the Clark Fork River in this reach that are currently used by anglers, but access in the future is uncertain due to private ownership. Beavertail Pond is a site owned by FWP in this reach that provides access for flat-water fishing for kids and families. While public access is currently good in this reach, additional planning efforts are underway to improve access further including potential funding from the Department of Justice (Natural Resource Damage Program--NRDP) for acquisition of properties and improvements to current sites.

There are currently no FWP-owned or managed fishing access sites on Flint Creek. One access point has recently been improved by FWP through a cooperative agreement with a private landowner, but access is at the discretion of the landowner. The only other public access to Flint Creek currently is the use of public lands such MDT and county bridge crossings, DNRC ownership, etc. Funding is available through NRDP for development of accesses on Flint Creek, should the opportunity arise. Fishing access is abundant on Georgetown Lake including the Stuart Mill Fishing Access Site owned by FWP and multiple access sites owned by the USFS.

Fishing access in the Rock Creek drainage is excellent. The entire middle portion of the drainage is owned and managed by the USFS allowing for open access to anglers and recreationalists. Several fishing access sites are also present in the lower portion of the drainage including parcels of public land, developed fishing access sites and multiple access points via the Rock Creek Road right-of-way. Overall, very few stretches of the lower and middle reaches of Rock Creek are inaccessible to anglers willing to hike and wade. Access to Upper Rock Creek is more difficult due to the extensive private land ownership. However, FWP has leased one site in this reach and is in the process of developing another site for public access. Public land in-holdings and conservation easements negotiated to allow public access also provide access for anglers to the upper drainage.

SPECIAL MANAGEMENT ISSUES

Social Conflicts on Rock Creek

The primary social conflict present in Rock Creek is float fishing. Several residents in upper Rock Creek would like to see float fishing either more regulated or shifted to other parts of the drainage. Some wade anglers also support either limiting or eliminating float fishing in Rock Creek due to floaters making it difficult to wade fish. The current regulations which limits float fishing to December 1- June 30 prevents a majority of the conflict between wade anglers and float anglers, as most floaters are using the river during high flows when it is difficult to wade. Nonetheless, there will always be some parties that are dissatisfied with floating on Rock Creek.

Fishing derbies have occasionally been proposed on Georgetown Lake and consistently opposed by sportsman's groups and lake homeowners for the past couple of decades. Typically, the only

proponent of these contests has been the applicant. FWP proposes that derbies no longer be allowed on Georgetown Lake.

FISHERIES MANAGEMENT DIRECTION FOR CLARK FORK RIVER - FLINT/ROCK DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Clark Fork River (Flint Creek Mouth-Blackfoot River Mouth) and Tributaries	52 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue year-long closure on angling for bull trout. Enhance migratory populations for conservation. Enhance catch-and-release westslope cutthroat fishery.
		Brown trout, Rainbow trout	Wild	General	Consider liberal regulations to allow for harvest opportunity and reduce numbers to lessen competition with and predation on native trout if habitat conditions improve for native trout.
		Brook trout	Wild	General	Maintain liberal harvest limits to support native species goals by reducing competition and hybridization.
Habitat needs and activities: Continue efforts to clean up mining contamination in upper portion of the drainage. Enhance in-stream flows where possible and improve riparian habitat and grazing management where appropriate. Protect and improve habitat quality in spawning and rearing areas to enhance natural recruitment of wild and native trout. Gain a better understanding of factors limiting trout populations in reach between the mouth of Flint Creek and the mouth of Rock Creek.					
Flint Creek	41 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance fluvial populations of westslope cutthroat for conservation and angling.
		Rainbow trout, Brown trout	Wild	General	Manage for harvest opportunity.
		Brook trout	Wild	General	Maintain liberal harvest limits to support native species goals by reducing numbers and competition and hybridization.
Habitat needs and activities: Enhance in-stream flows below Allendale Diversion. Reduce fish entrainment particularly below the mouth of Boulder Creek. Improve upstream fish passage where appropriate. Improve riparian habitat and grazing management throughout the drainage.					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Georgetown Lake	2,080 acres	Rainbow trout	Hatchery	Put, Grow and Take	Manage stocking to support quality angling and liberal harvest opportunity.
		Brook trout	Hatchery	Trophy	Maintain current natural reproduction and supplement with hatchery fish to provide adequate fish densities for anglers. Implement harvest limits and stocking rates that provide for quality sized fish.
		Kokanee salmon	Wild	Liberal regulations	Maintain liberal harvest limits to attain quality sized fish and high angler catch rates.
		All species	N/A	N/A	Prohibit fishing contests to reduce social conflicts with other anglers.
Habitat needs and activities: Continue to work with dam operators to maintain sufficient over-winter pool elevations and improve other dam operations to minimize the impact chronic low winter dissolved oxygen levels have on fish populations.					
Boulder Creek	14 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance migratory and resident populations of westslope cutthroat for conservation and angling.
		Brown trout, Rainbow trout, Brook trout	Wild	General	Allow liberal harvest to reduce numbers and lessen hybridization and competition with native trout. Consider other options to reduce numbers if options would increase native trout density and angling opportunity.
Habitat needs and activities: Minimize entrainment of fish into diversion ditches in the lower portion of the drainage and improve riparian habitat conditions where appropriate.					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Flint Creek Tributaries- Other than Boulder Creek	36 miles	Westslope cutthroat trout (N)	Wild	Conservation	Enhance populations for conservation. Maintain isolation of westslope cutthroat populations protected by barriers to upstream fish passage if habitat and numbers are sufficient to allow persistence. Maintain connectivity to streams currently connected to allow for maintenance of migratory life histories and mainstem angling opportunities.
		Brown trout, Rainbow trout, Brook trout	Wild	General	Maintain liberal harvest and consider measures that reduce their abundance in reaches protected by a barrier or in reaches considered native species strongholds. Enhance rainbow and brown trout populations that provide recruitment to Flint Creek or the Clark Fork River and are not located in reaches with abundant native trout
Habitat needs and activities: Improve riparian habitat conditions and reduce fish entrainment particularly in reaches that maintain native trout populations or important migratory non native trout populations. Improve in-stream flows in reaches that are currently dewatered and support clean-up efforts in drainages with mining impacts.					
Harvey Creek	15 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance migratory and resident life histories for conservation and westslope cutthroat trout angling. Maintain barrier to protect populations from invasion by brown trout and rainbow trout.
		Rainbow trout, Brown trout	Wild	General	Allow liberal harvest. Consider other options to reduce numbers if options would increase native species numbers and angling opportunity.
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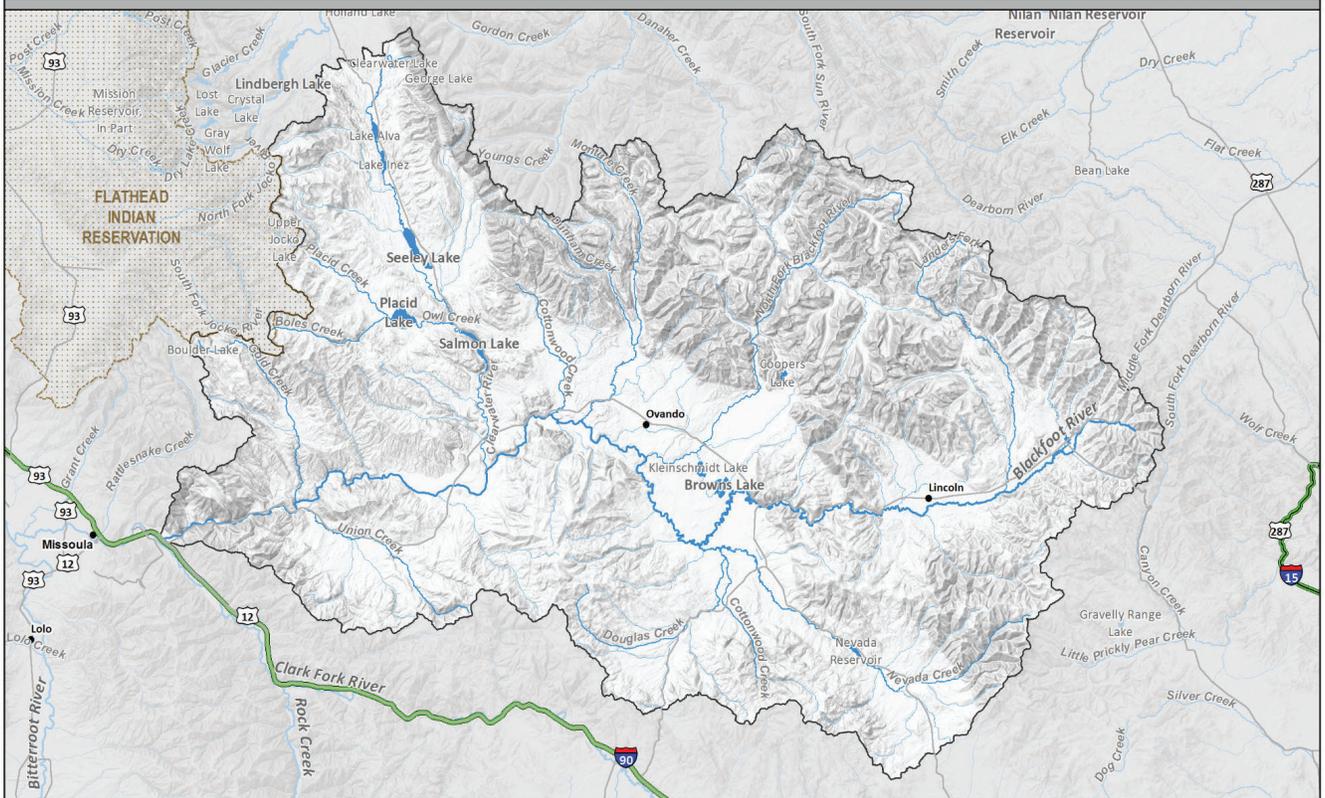
Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Habitat needs and activities: Continue to improve riparian habitat via grazing management. Reduce entrainment of out migrating fish and potentially implement selective upstream fish passage for bull trout at the barrier near the mouth.					
East Fork Reservoir and East Fork Rock Creek above Reservoir	370 acres and 5 miles	Bull trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout and enhance adfluvial populations for conservation.
		Westslope cutthroat trout (N)	Wild/Hatchery	Quality	Manage for harvest opportunity of quality sized fish. Evaluate stocking to determine return to creel and assess expansion of population in upstream tributaries
		Rainbow trout, Brook trout	Wild	General	Allow liberal harvest. Consider other options to reduce numbers if options would increase native trout density and angling opportunity.
Habitat needs and activities: Work to maintain minimum reservoir levels to improve overwinter habitat conditions and reduce entrainment of bull trout through the dam.					
East Fork Rock Creek- Below East Fork Dam	8 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance fluvial and resident populations for conservation.
		Brown trout, Rainbow trout, Brook trout	Wild	General	Allow liberal harvest. Consider other options to reduce numbers if options would increase native trout density and westslope cutthroat angling opportunity.
Habitat needs and activities: Improve habitat conditions below the reservoir by improving in-stream flows and maintaining periodic flushing flows. Improve riparian habitat and reduce entrainment of native fish where appropriate.					
Rock Creek	62 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance fluvial populations of WCT for conservation and angling.
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Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Rainbow trout	Wild	Restrictive Regulations	Maintain catch-and-release regulations in attempt to improve numbers while recognizing that whirling disease is likely the primary limiting factor.
		Brown trout	Wild	Liberal Regulations	Maintain liberal harvest regulations to allow for harvest opportunity and reduce numbers to lessen competition with and predation on native trout.
Habitat needs and activities: Continue efforts to protect private lands via conservation easements and land acquisition. Improve riparian habitat and grazing management in drainage where appropriate. Reduce entrainment of native and wild fish into irrigation ditches.					
Rock Creek Tributaries		Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance fluvial and resident populations of westslope cutthroat for conservation and angling.
		Brown trout, Rainbow trout, Brook trout	Wild	General	Allow liberal harvest. Consider other options to reduce numbers if options would increase native trout density and WCT angling opportunity.
Habitat needs and activities: Improve riparian habitat where appropriate and reduce entrainment of native fish where necessary.					
Tributaries to the Clark Fork River (Other Than Harvey Creek, Flint Creek and Rock Creek)		Westslope cutthroat trout (N)	Wild	Conservation	Enhance migratory and resident populations for conservation and angling. Maintain isolation of populations protected by barriers if habitat and fish abundance are sufficient to allow persistence. Maintain connectivity to streams currently connected to allow for migratory life histories and mainstem angling.
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Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain liberal harvest and consider measures that reduce their abundance in reaches protected by a barrier or in reaches considered native species strongholds. Enhance rainbow and brown trout populations that provide recruitment to the Clark Fork River and are not located in reaches with abundant native trout.
Habitat needs and activities: Improve degraded riparian habitat particularly in stream reaches where native salmonids are present. Reduce fish entrainment particularly at locations where native fish are routinely entrained.					

Blackfoot River Drainage

MONTANA FWP



- Tribal Lands
- Drainage Boundary



Map Produced by:
ASP - Geographic Data Services
ISR 43965 - Nov 23, 2018



Administrative boundaries and FWP Lands data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI

BLACKFOOT RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Blackfoot River begins at the junction of Beartrap and Anaconda Creeks, located near the Continental Divide between Rogers Pass and Flesher Pass. From its headwaters, the river flows westward for 132 miles through Lewis and Clark, Powell, and Missoula Counties, draining a 2,290 square mile basin to Bonner, where it joins the Clark Fork River. The Blackfoot watershed includes 9,000-foot peaks in the headwaters, flows through heavily forested slopes, montane foothills before entering rangelands and prairie pothole topography on the valley floor. Major tributary drainages include the North Fork of the Blackfoot River and Clearwater River. The North Fork begins in the Scapegoat Wilderness, flowing much of its length through a glaciated mountain valley and a steep confined canyon within the USFS boundary. As it enters the floor of the Blackfoot valley, the North Fork flows through a more agricultural setting, bordered by private land, before entering the Blackfoot River at river-mile 54. The Clearwater watershed is comprised of a peripheral network of forested freestone, coldwater streams which lie primarily on public lands and enter an interconnected chain of glacial lakes on the valley floor. Land ownership is mixed along the valley floor, with private lands concentrated near the town of Seeley Lake.

There are 59 natural lakes totaling 5,720 acres and one large reservoir of 350 acres within the Blackfoot Drainage. Most natural lakes are mid- and high elevation “mountain” lakes that lie in remnant glacial cirques and troughs within public land holdings in backcountry settings. However, many of the larger natural lakes make up the Clearwater River chain and glacial potholes in the Ovando area. Large natural lakes include Salmon, Placid, Seeley, Alva, Inez, Rainy, Browns and Upsata Lakes. All of the larger valley floor lakes receive considerable angling pressure as well as other recreational activities. The only major reservoir is Nevada Reservoir near Helmville, which is managed primarily for irrigation purposes. Nevada Reservoir experiences considerable drawdown during dry years.

FISHERIES MANAGEMENT

Located in the west-central part of the state, the Blackfoot River is one of twelve renowned “Blue Ribbon” rivers in Montana with an instream flow (Murphy) water right and is one of Montana’s most popular rivers for recreation. The river’s outstanding natural resources and diversity of recreational opportunities, combined with its proximity to Missoula, contribute to its popularity. The Clearwater River watershed is the largest tributary to the Blackfoot River in terms of drainage area and is often treated as a separate system with its own unique natural resource values.

The Blackfoot River is managed as a wild trout fishery, emphasizing natural reproduction of free-ranging and naturalized nonnative trout. The basin is also a focus for native trout recovery efforts. The Blackfoot River basin is home to eleven native fish species including bull trout, westslope cutthroat trout, mountain whitefish, pygmy whitefish, peamouth, northern pikeminnow, longnose dace, redbreast shiner, longnose and largescale suckers, and two species of sculpin. Fourteen nonnative fish species inhabit the Blackfoot Basin including brown trout,

brook trout, rainbow trout, Yellowstone cutthroat trout, Arctic grayling, kokanee salmon, northern pike, fathead minnow, brook stickleback, central mudminnow, pumpkinseed, largemouth bass, yellow perch and white sucker. Dominant fish species and species composition vary greatly among headwater reaches, lakes and mainstem river sections. During the last 20 years westslope cutthroat trout have increased from <3% of the trout community to over one-third of the mainstem river trout community. Much of this increase has occurred since 1990, when basin-wide catch-and-release regulations were instituted and major aquatic restoration activities began. Information is lacking on the abundance and life histories of non-game native fishes. Efforts are needed to describe these and monitor trends.

Bull trout are found throughout the drainage, and particularly within the larger, coldest stream systems. Migratory bull trout move freely throughout the entire Blackfoot mainstem and rely on the larger colder tributaries including the North Fork Blackfoot, Monture and Copper Creeks for reproduction and rearing. Similarly, adfluvial (lake-dwelling) bull trout occupy the chain of lakes in the Clearwater system and spawn in tributaries such as Morrell Creek and East and West forks of the Clearwater River. Juvenile bull trout also occupy many of the smaller, colder tributaries throughout the Blackfoot drainage, where these streams are connected to larger bull trout strongholds. Both westslope cutthroat trout and bull trout have been the focus of basin-wide protection and restoration activities for over 20 years. Protection activities include special fishing regulations (e.g., stream mouth closures, gear restrictions), as well as public land acquisitions and conservation easements in native trout habitat. Restoration projects, such as instream improvements, fish passage enhancements, fish screening, and water leases have been undertaken throughout the basin in order to help recover bull trout, westslope cutthroat trout and other species. This work has occurred on both private and public land.

Angling occurs year-round on the Blackfoot River, but is most popular in the early spring, summer and fall. Opportunities exist for both wade and float angling and while fly-fishing is particularly popular, artificial lures and bait fishing are also common. Angling restrictions and habitat improvement have significantly improved native trout numbers in the Blackfoot basin. Long-term studies show native trout recovery has been most effective in the mid- to upper Blackfoot basin upstream of the Clearwater River. Because of this, habitat improvements in the Blackfoot River drainage below the Clearwater River should emphasize ecosystem function for all salmonids, including bull trout in streams like Gold and Belmont creeks. Native salmonids in the lower Blackfoot basin should be protected or enhanced where possible.

Natural lakes in the Clearwater Valley offer diverse fishing opportunities and strongholds for native fish. Upper drainage lakes, including Clearwater, Rainy, Alva, Marshall, and Inez, support coldwater fisheries for westslope cutthroat trout, kokanee, and whitefish. Although brown trout, brook trout and small populations of warmwater fish are also present in these waters, management emphasizes native trout and kokanee. Lower drainage lakes in the Clearwater chain (Seeley, Placid and Salmon Lakes) provide mixed fisheries. Although illegally introduced northern pike are abundant in Seeley and Salmon lakes, these lakes still provide viable salmonid fisheries and important habitat for migratory bull trout populations. Placid Lake, the warmest and most productive lake in the area, supports nonnative salmonids, largemouth bass and yellow perch fisheries. Bull trout in Placid Lake are not present or are in extremely low numbers.

Lowland lakes such as Harpers, Upsata, Coopers and Browns Lake also provide valuable recreational fisheries. Harpers and Browns Lakes are stocked annually with rainbow trout and

both support heavily used put-and-grow fisheries. Rainbow trout in Browns Lake exhibit outstanding growth and this lake supports one of the few trophy rainbow trout fisheries in the region. Upsata Lake is prone to periodic fish kills and is managed as a warmwater bass fishery partially supported by the stocking of largemouth bass. Coopers Lake is a low elevation oligotrophic lake managed as a put-and-grow cutthroat trout fishery.

Mountain lakes largely support self-sustaining trout populations or are stocked with westslope cutthroat trout in some instances. An exception is Heart Lake, which is stocked with both Arctic grayling and westslope cutthroat trout. Several lakes in the backcountry support self-sustaining, naturalized rainbow trout, including Parker, Twin, Otatsy and Camp Lakes. Canyon Lake, located in the upper North Fork drainage, supports genetically pure adfluvial native westslope cutthroat trout. Several high elevation lakes, as well as glacial potholes on the Blackfoot valley floor are managed as fishless and thereby emphasize the conservation of other native species (e.g., amphibians).

HABITAT

The Blackfoot River Basin has a long history of habitat protection, river restoration and riparian habitat conservation emphasizing native fish. These activities occur basin-wide and typically focus on altered tributary streams. To date, riparian habitat improvements have occurred on more than 50 tributaries. Projects typically involve livestock management changes, fish passage enhancement, augmenting instream flows, screening irrigation ditches and planting riparian vegetation. These types of activities usually involve cooperating private landowners, conservation groups (e.g., Trout Unlimited) and natural resource agencies.

The Blackfoot River basin contains about 165 miles of dewatered stream on 46 tributaries, most of which is the result of irrigation. A drought plan was developed for the Blackfoot River beginning in 2000 to help offset low-flow impacts to fisheries. This plan calls for angler restrictions and river closures in the summer when flows drop below 700 cfs at Bonner, which corresponds with FWP's 1973 Murphy Water right. If junior water users have a cooperative and effective water conservation plan, their junior water right is not subject to call.

Recent and ongoing land acquisitions and conservation easements have been completed throughout the Blackfoot drainage. The most recent acquisition and easement actives are part of the "Montana Working Forests Project", which includes large transfers of former Plum Creek Land to conservation-minded private landowners, FWP and other natural resource agencies. Two recent examples include the North Chamberlain Project and the Marshall Creek Wildlife Management Area, both of which are specifically designed to protect both fish and wildlife species. In addition, prior conservation easements have been placed on private lands throughout the Blackfoot valley in areas that support critical bull and westslope cutthroat trout habitat. These easements focus on the Ovando Valley but are expanding into the Nevada, Clearwater and Lincoln valleys as well. As of 2012, over 125,000 acres of private land are protected from development pressure under perpetual conservation easements. Where possible, FWP will continue to promote landscape protections in native fish habitat.

Low flows can limit floating opportunities above the confluence of the mainstem and North Fork during certain times of the year. Below the confluence, opportunities for float recreation are available most of the year during normal flows.

The Montana Department of Environmental Quality classifies the Blackfoot as a B-1 stream, meaning the river should be maintained for activities such as drinking and municipal uses, swimming and recreation, growth and propagation of trout and associated aquatic life, and as an agricultural and industrial water supply.

Water quality in the Blackfoot watershed is generally high with only slight or no impairment. However, lower Nevada Creek (located in the middle basin) and the Mike Horse Mine area (located in the very headwaters of the Blackfoot River) are exceptions. Nevada Creek is prone to dewatering and water quality problems due to intensive agricultural activities. The Mike Horse area is contaminated by elevated metals concentrations due to the release of mine wastes from the adits and tailings and the 1974 failure of the Mike Horse tailing dam, which further contaminated the upper Blackfoot River with toxic waste. Water quality degradation is also a concern in the Clearwater chain-of-lakes area due to human development and intensive land use. Elevated nutrient levels and eutrophication are a concern in Seeley, Salmon and Placid Lakes at the lower end of the system where impacts of human use are magnified.

FISHING ACCESS

There are more than 30 publicly owned or managed access sites along the Blackfoot River and numerous others at lakes and streams across the watershed. Some access sites are located near local communities and, in addition to river or lake access, provide convenient land-based recreation opportunities. Public access sites on lakes are largely managed by either FWP or the USFS, depending on land ownership. Within the Blackfoot River Recreation Corridor (27 miles from Russell Gates FAS to Johnsrud Park FAS), the public is allowed to access the lower Blackfoot River via private land (up to 50 ft above the ordinary high-water mark) through a cooperative agreement with private landowners. This access agreement supplements existing public access sites within the corridor. FWP also manages BLM sites along the Blackfoot River through a cooperative management agreement. The FAS program also must consider how location, development and use of access sites affect recreational use on the water and the social experience under guidance from the Blackfoot River Recreation Management Plan of 2010. Another priority is to pursue opportunities for extended float trips using existing access sites for boat camps.

SPECIAL MANAGEMENT ISSUES

Social Conflicts on the Blackfoot River

A recreation management plan was developed for the Blackfoot River in 2010 for addressing social conflicts on the river and at access sites. The plan guides management of conflicts between user groups, congestion on the water and at access sites, littering and other resource impacts associated with high concentrations and volume of use, and behavior of users. The Corridor Agreement with private landowners and FWP establishes additional access onto private lands, restricts camping to established sites and aims to protect a scenic corridor for recreational uses. River use (including commercial and non-commercial angling) is being monitored and evaluated for possible management actions.

FISHERIES MANAGEMENT DIRECTION FOR BLACKFOOT RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Blackfoot River and Tributaries (Headwaters Downstream to Confluence with Clearwater River)	90 miles of mainstem and Connected Tributaries	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance migratory populations for conservation. Enhance catch-and-release westslope cutthroat fishery. Consider isolation of westslope cutthroat populations only if hybridization or competitive displacement clearly threatens the persistence of local populations.
		Rainbow trout, Brown trout	Wild	Liberal regulations	Allow liberal harvest. Consider management that reduces numbers and distribution if it would improve native trout numbers and westslope cutthroat angling opportunities.
		Other introduced game fish (e.g., Yellow perch, Northern pike, Brook trout)	Wild	General	Manage for liberal harvest and contain distribution where possible.
Critical habitat needs: Clean-up of Mike Horse Mine area in headwaters of the Blackfoot River. Restore habitat to favor native salmonids based on established native trout priority streams.					
Nevada Reservoir	350 acres	Westslope cutthroat trout	Hatchery	Put-, Grow and Take	Manage for high catch rates and quality-sized fish.
		Yellow perch	Wild	General	Liberalize harvest and contain distribution.
Coopers Lake	200 acres	Westslope cutthroat trout	Hatchery	Put, Grow and Take	Manage for high catch rates and quality sized fish.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Browns Lake	530 acres	Rainbow trout	Hatchery	Put, Grow and Take	Manage for trophy rainbow trout and quality harvest opportunities with high catch rates.
North Fork Blackfoot River, Monture and Copper/Landers Fork Drainages	70 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue closure for intentional angling of bull trout and enhancement of angling opportunity for westslope cutthroat trout. Consider reintroductions of westslope cutthroat and introduction of bull trout in the streams and lakes in the Wilderness area of the North Fork upstream of the North Fork Falls.
		Brown trout	Wild	Liberal Regulations	Maintain liberal harvest opportunity to reduce expansion and impacts on other trout. Consider management that reduces numbers and distribution if it would improve native trout numbers and angling opportunities.
		Rainbow trout	Wild	Quality	Maintain numbers at present levels.
Lake Upsata	91 acres	Largemouth bass	Hatchery	Quality	Provide for high quality largemouth bass angling through stocking and restrictive regulations.
Clearwater River and Tributaries	50 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Conserve and enhance migratory and stream-resident populations. Continue protective regulations to prohibit bull trout harvest and limit westslope cutthroat harvest.
		Brown trout, Brook trout	Wild	Liberal Regulations	Provide liberal harvest opportunities. Consider management that reduces numbers and distribution if it would improve native trout numbers and westslope cutthroat angling opportunities.
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Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Kokanee salmon	Wild/ Hatchery	General	Manage for quality harvest opportunities with high catch rates; evaluate relative contribution of wild and stocked fish.
		Yellow perch, Largemouth bass, Smallmouth bass, Northern pike, Pumpkinseed	Wild	General	Provide liberal harvest opportunity and reduce numbers where possible to reduce competition with and predation on trout and salmon. Emphasize smallmouth bass suppression in areas of population expansion.
Habitat needs and activities: continue to manage connectivity to benefit native fishes. Improve quality of tributary habitat.					
Clearwater, Rainy, Alva, Marshall and Inez Lakes	878 acres	Bull trout (N)	Wild	Conservation	Conserve and enhance migratory populations. Continue protective regulations to prohibit angler harvest.
		Westslope cutthroat trout (N)	Wild/ Hatchery	Put, Grow and Take	Manage for quality sized fish and high catch rates. Evaluate relative contributions of wild and stocked fish; evaluate performance and feasibility of sterile stocked fish.
		Kokanee salmon	Wild/ Hatchery	Put, Grow and Take	Evaluate stocking to optimize number stocked, size of fish, and catch rates; evaluate relative contribution of wild & stocked fish.
		Brook trout, Brown trout	Wild	General	Provide liberal harvest opportunity and reduce numbers where possible to reduce predation on and competition and hybridization with native trout.
		Yellow perch, Largemouth Bass, Smallmouth Bass, Pumpkinseed	Wild	General	Provide liberal harvest opportunity and reduce numbers where possible to reduce competition with and predation on trout and salmon.

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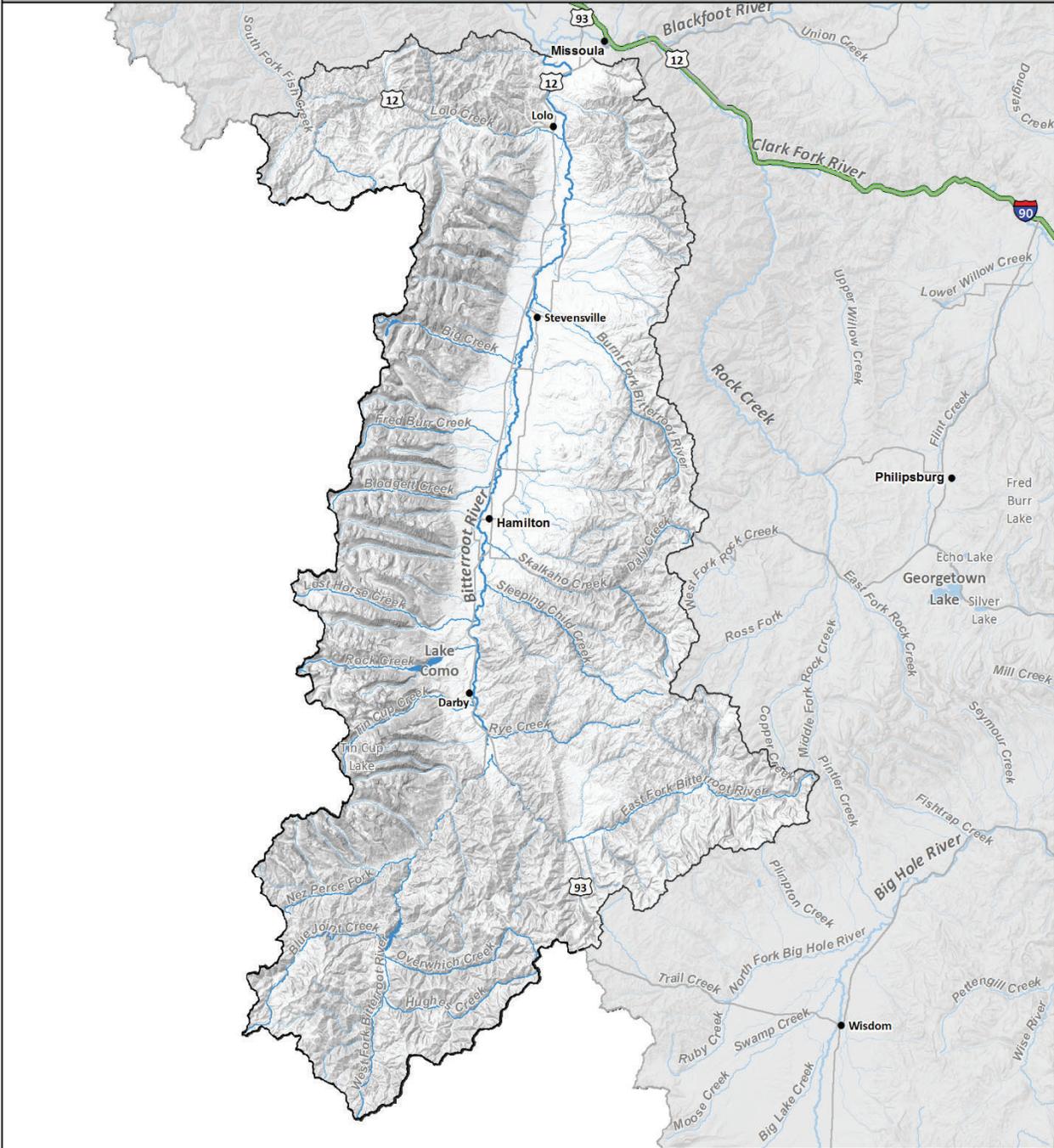
Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Northern pike	Wild	Suppression	Emphasize harvest to reduce predation on trout; derbies are required to harvest fish. Explore other harvest means such as angler incentives and commercial methods that would need legislative approval.
Seeley Lake and Salmon Lakes	1,707 acres	Bull trout (N)	Wild	Conservation	Conserve and enhance migratory populations. Continue protective regulations to prohibit angler harvest.
		Westslope cutthroat trout (N)	Hatchery/ Wild	Put, Grow and Take	Evaluate stocking to determine success to creel and effects on endemic populations of westslope cutthroat. Consider stocking sterile fish after evaluation of performance.
		Kokanee salmon	Wild/ Hatchery	Put, Grow and Take	Evaluate stocking to optimize number stocked, size of fish and angler catch rate; evaluate relative contribution of wild & stocked fish.
		Brown trout, Brook trout	Wild	General	Provide liberal harvest opportunity to reduce competition and hybridization with and predation on native trout. Consider measures to reduce number if native trout numbers and angling opportunity would increase.
		Largemouth bass, Smallmouth bass	Wild	General	Suppress.
Continue next page		Yellow perch, Pumpkinseed	Wild	General	Provide liberal harvest opportunity and reduce numbers where possible to reduce competition with trout.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Northern pike	Wild	Suppression	Emphasize harvest to reduce predation on trout; derbies must harvest fish. Explore other harvest means such as angler incentives and commercial methods that would need legislative approval.
Placid Lake	1,300 acres	Bull Trout (N)	Wild	Conservation	Protect and enhance any remnant population.
		Westslope Cutthroat Trout (N)	Wild/ Hatchery	Put, Grow and Take	Evaluate stocking to optimize number stocked, size of fish, and catch rates; evaluate relative contribution of wild & stocked fish
		Kokanee Salmon	Hatchery/ Wild	Put, Grow and Take	Evaluate stocking to optimize number stocked, size of fish, and catch rates; evaluate relative contribution of wild & stocked fish
		Brook Trout, Brown Trout	Wild	General	Provide harvest opportunity for anglers with liberal regulations.
		Yellow Perch, Pumpkinseed	Wild	General	Provide quality harvest opportunity.
		Largemouth bass	Wild	Quality	Maintain and enhance quality of fishery through restrictive regulations. Consider stocking.
Harpers Lake	15 acres	Rainbow trout, Westslope cutthroat trout	Hatchery	Put, Grow and Take	Manage as a quality trout harvest opportunity with high angler catch rates.
		Yellow perch	Wild	General	Maintain liberal harvest limits and reduce numbers if possible to reduce competition with trout.
Habitat needs and activities: Monitor lake water quality and eutrophication with Clearwater Resource Council. Manage lake water levels to balance instream flow needs of outlet streams.					

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Blackfoot River and Tributaries (Clearwater River to Confluence with Clark Fork River)	35 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue with no harvest regulations to enhance fluvial populations for conservation and westslope cutthroat angling. Continue to maintain and enhance bull trout where practical. Continue to manage for genetically pure westslope cutthroat.
		Rainbow trout, Brown trout	Wild	Quality	Maintain present numbers and sizes.
		Other introduced game fish (e.g., Yellow perch, Northern pike, Brook trout)	Wild	General	Manage for liberal harvest and contain distribution where possible.
Habitat needs and activities: Improve habitat to support ecosystem function and production of wild trout and whitefish.					

Bitterroot River Drainage

MONTANA FWP

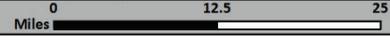


-  Tribal Lands
-  Drainage Boundary



Map Produced by:
 ASP - Geographic Data Services
 ISR 43965 - Nov 23, 2018

Administrative boundaries and FWP Lands data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI



BITTERROOT RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Bitterroot River drainage includes the Bitterroot River and its tributaries, including the East and West Forks of the Bitterroot River, Lolo Creek and their tributaries. The Bitterroot River begins at the junction of East and West Forks. It flows northward for 80 miles through Ravalli and Missoula Counties, draining a 1,891 square-mile basin to Missoula, where it joins the Clark Fork River. The Bitterroot watershed includes 9,000-foot peaks in the headwaters and heavily forested slopes, rangelands and wetlands on the valley floor. The headwaters of most of the tributaries originate on the Bitterroot National Forest. The East Fork of the Bitterroot River begins in the Anaconda-Pintler Wilderness. Tributaries of the West Fork Bitterroot River and the Bitterroot River from the west drain out of the Selway-Bitterroot Wilderness.

There are 83 natural lakes and reservoirs in the drainage, totaling 3,070 surface acres. Most natural lakes are mountain lakes in the headwaters of the Anaconda-Pintler and Selway-Bitterroot Wilderness areas. Two large reservoirs are Lake Como and Painted Rocks Reservoir. Lake Como receives considerable human use for fishing and other recreational activities. It also contributes about 3,000 acre-feet of water to the Bitterroot River each year. Painted Rocks Reservoir supplies 25,000 acre-feet of water to the Bitterroot River for instream flows and irrigation. Both Lake Como and Painted Rocks Reservoir experience considerable drawdown on an annual basis.

FISHERIES MANAGEMENT

Located in the southwestern part of the state, the Bitterroot River is very popular for recreation. The mainstem river is generally ranked with the top five in the state for fishing pressure, which generally exceeds 100,000 angler days a year. The river's outstanding natural resources and diversity of recreational opportunities, combined with its proximity to Missoula, contribute to its popularity.

The Bitterroot River is managed as a wild trout fishery, emphasizing natural reproduction. The basin is also a focus area for native fish recovery efforts. The Bitterroot River is home to 10 native fish species including bull trout, westslope cutthroat trout, mountain whitefish, northern pike minnow, longnose dace, redbelt shiner, peamouth, longnose and largescale sucker, and Columbia slimy sculpin. Nonnative fish species inhabiting the Bitterroot include brown trout, brook trout, rainbow trout, northern pike, and largemouth bass. Dominant fish species vary from westslope cutthroat in the headwaters to mountain whitefish in the Bitterroot River. Other than mountain whitefish, rainbow trout are the dominant sport fish in the mainstem of the Bitterroot River. Brown trout have increased in numbers in the East and West Forks of the Bitterroot drainage and some tributaries over the past 10 years. Coincident with the brown trout expansion is the decline of rainbow trout in the upper Bitterroot drainage. Whirling disease is believed to be the primary reason for this decline. Fishing regulations are designed to allow more harvest of brown trout in these areas. Lolo Creek is also dominated by brown trout, but transitions into brook trout and westslope cutthroat trout populations in headwater areas. Information is lacking

on the abundance and life histories of mountain whitefish and non-game native fishes. Efforts are needed to describe these and monitor trends.

Genetic data for westslope cutthroat upstream of Painted Rocks Reservoir indicates that genetic introgression (hybridization with rainbow trout and Yellowstone cutthroat trout) is rare. This area should be managed as a genetic stronghold for pure westslope cutthroat trout.

Bull trout are rare in the mainstem of the Bitterroot River. Fluvial (river dwelling) forms exist in the East and West Forks but are uncommon. Adfluvial (lake dwelling) lifeforms exist primarily in Painted Rocks Reservoir. Resident lifeforms exist in many smaller tributaries throughout the drainage.

Angling occurs year-round and is most popular in the early spring, summer and fall. Opportunities exist for both wade and float angling and while fly-fishing is particularly popular, artificial lures and bait fishing is also common.

Angling restrictions have improved westslope cutthroat trout numbers in the Bitterroot River upstream of Hamilton, but are less effective below Hamilton. Therefore, efforts in the Bitterroot River drainage to favor native salmonids (trout and whitefish) should be focused upstream of Hamilton. The greatest improvements for native salmonids are likely to be in tributaries or river sections where they dominate. Conversely, the Bitterroot River drainage below Hamilton should have an emphasis of restoring ecosystem function for all salmonids. Native salmonids in this area should be protected, or enhanced if possible.

Lake Como and Painted Rocks Reservoir offer some angling opportunity. Lake Como is stocked annually with catchable rainbow trout and westslope cutthroat trout. Due to the significant drawdowns and low productivity, fishing is only fair in each reservoir.

Some high mountain lakes are stocked with westslope cutthroat trout and some support wild populations of cutthroat, rainbow and brook trout. Most lakes are kept fishless to help conserve other native fauna (e.g., amphibian populations). Unstocked lakes comprise a geographic distribution and range of sizes and depths thought to help amphibian populations.

HABITAT

The Bitterroot River, particularly downstream of Hamilton, has been subject to dewatering. Prior to the early 1980's, irrigation demands significantly depleted streamflows during midsummer. Based on fisheries studies in the early 1980's and an agreement with the local irrigators and the Montana Department of Natural Resources and Conservation, water from Painted Rocks Reservoir began to be released during midsummer to supplement flows in the river. Since that time, a Bitterroot River water commissioner has been appointed each year to manage releases and withdrawals from the river to maintain minimum streamflows targeted at Bell Crossing, where a USGS gage was established. The target minimum flow of about 400 cfs at Bell Crossing is met during wet years, but not during very dry years, when streamflows can drop to below 200 cfs. In the early 1990's the dam at Lake Como was raised 3 feet and the extra stored water is released into the Bitterroot River after Labor Day each year.

Many of the tributaries of the Bitterroot River are also subject to midsummer dewatering. Efforts to restore streamflows to these streams have been difficult. Dewatering of tributaries

remains one of the most serious issues for the fishery in the Bitterroot River. Rainbow and brown trout spawn in the lower ends of these tributaries and the river. Native trout spawn in streams on the Bitterroot National Forest.

Water temperature in the Bitterroot River often exceeds 72°F in the lower reaches. During particularly warm summers, fishing restrictions have been implemented until water temperatures drop to more tolerable levels for trout.

Homes and agricultural development along the Bitterroot River have led to the need for streambank stabilization. The Bitterroot River migrates laterally long distances in some years, which endangers homes and other developments that are near the river. As a consequence, approximately 12.5% of the streambanks on the river have been stabilized, mostly to protect residential development. This is an ongoing issue since streambank stabilization is usually disruptive of recreational uses and alters some of the natural functions of the river. More stringent regulations in recent years have slowed homebuilding within the floodplain, and have prevented some of the building of riverfront homes that are often threatened by the migration of the river.

Lolo Creek is also a stream that has been heavily impacted by bank stabilization. Much of the mainstem channel was relocated or altered during the construction of U.S. Highway 12. Conservation efforts have focused on the upper watershed. In 2010-2011, thousands of acres of corporate timberlands in the upper basin were converted to public ownership (managed by USFS) as part of the “Montana Legacy Project”.

Water quality in the Bitterroot is high with some indication of high nutrient levels in the lower river. Suspended sediment in the river is generally low, except during spring runoff when the river experiences increased turbidity. The Montana Department of Environmental Quality classifies the Bitterroot as a B-1 stream, meaning the river should be maintained for activities such as drinking and municipal uses, swimming and recreation, growth and propagation of trout and associated aquatic life, and as an agricultural and industrial water supply.

FISHING ACCESS

Fishing access to the Bitterroot River is excellent. There are 13 fishing access sites along the mainstem of the Bitterroot River managed by FWP. In addition, there are several publicly owned or managed sites along the river that are commonly used by anglers. Along the East and West Forks of the Bitterroot River, public access is good due to the public lands managed by the Bitterroot National Forest. Some of these sites are managed as fishing access sites and others are informally used by anglers. Lolo Creek also has several public access sites that are managed by FWP and the USFS.

SPECIAL MANAGEMENT ISSUES

Social Conflicts on the Bitterroot River

Presently, there is no River Recreation Plan in effect for the Bitterroot River downstream of the Wally Crawford Fishing Access Site. Due to high angling pressure, and some social conflicts on the upper Bitterroot River and West Fork of the Bitterroot River below Painted Rocks Reservoir,

recreation rules took affect that restrict commercial outfitting on certain reaches during some days. Also, on one reach only wade angling is allowed on some days.

FISHERIES MANAGEMENT DIRECTION FOR BITTERROOT RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
West Fork Bitterroot River and Tributaries Above and Including Painted Rocks Reservoir	565 acres of reservoir and 42 miles of mainstem	Bull trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout and enhance migratory populations for conservation.
		Westslope cutthroat trout (N)	Wild	Conservation	Maintain or enhance numbers above present levels for conservation and angling. Manage as a refuge for pure strain westslope cutthroat trout.
		Brook trout	Wild	General	Maintain liberal harvest regulations to lessen competition and hybridization and help meet native trout goals.
Habitat needs and activities: Continue to manage connectivity to favor native fishes.					
East Fork Bitterroot River and West Fork Bitterroot River Below Painted Rocks Reservoir	56 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout and enhance migratory populations for conservation and westslope cutthroat angling.
		Brown trout	Wild	Liberal Regulations	Maintain liberal harvest regulations to allow for opportunity to harvest brown trout and reduce competition with and predation on native trout. Consider management that reduces numbers and distribution if it would improve native trout numbers and westslope cutthroat angling opportunities.
		Rainbow trout	Wild	Restrictive Regulations	Maintain catch-and-release regulations in attempt to improve fishery while recognizing that whirling disease is likely the primary limiting factor.
Habitat needs and activities: Continue to manage connectivity to favor native fishes.					

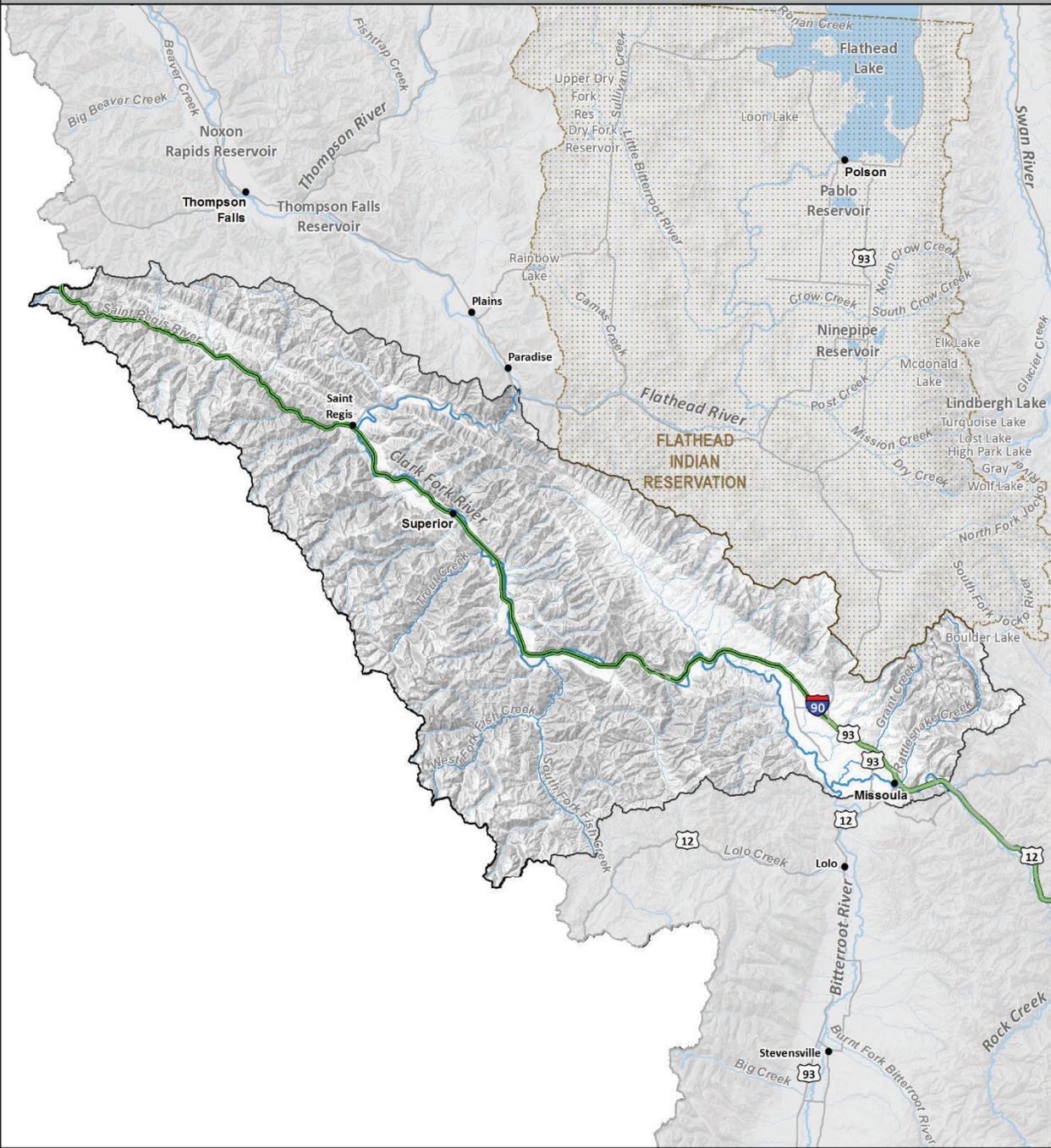
Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Tributary streams To the East Fork Bitterroot River and West Fork Bitterroot River Below Painted Rocks Reservoir	>100 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Conserve and enhance migratory and resident populations. Continue yearlong closure on angling for bull trout and enhance westslope cutthroat fishery. Consider isolation of westslope cutthroat populations if hybridization is a threat and habitat and numbers are sufficient to allow persistence.
		Brown trout, Rainbow trout, Brook trout	Wild	General	Maintain liberal harvest opportunity. In native species strongholds, consider management that reduces numbers and distribution if it would improve native trout numbers and angling opportunities.
Bitterroot River - Confluence of East and West Forks downstream to Blodgett Creek Near Hamilton	30 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance fluvial populations of westslope cutthroat for conservation and angling.
		Rainbow trout, Brown trout	Wild	Restrictive Regulations	Maintain present numbers and sizes. Consider management that reduces numbers and distribution if it would improve native trout numbers and westslope cutthroat angling opportunities.
Habitat needs and activities: Enhance habitat to favor native trout and whitefish.					
Skalkaho Creek	24 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Protect and enhance numbers of fish. Continue yearlong closure on angling for bull trout. Enhance fluvial populations of westslope cutthroat for conservation and WCT angling.
		Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain liberal harvest opportunity. Consider management that reduces numbers and distribution if it would improve native trout numbers and angling opportunities.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Tributary Streams to Bitterroot River (other than Skalkaho Creek) from Confluence of East and West Forks Downstream to Blodgett Creek Near Hamilton	>100 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Conserve and enhance migratory and resident populations. Continue yearlong closure on angling for bull trout and enhance westslope cutthroat trout fishery. Consider isolation of westslope cutthroat trout populations if hybridization is a threat and habitat and numbers are sufficient to allow persistence.
		Rainbow trout, Brown trout, Brook trout,	Wild	General	Maintain liberal harvest on and consider measures that reduce the abundance in reaches protected by a barrier or in reaches considered native species strongholds.
Lake Como	911 acres	Rainbow trout, Westslope cutthroat trout (N)	Hatchery	Put, Grow and Take	Provide liberal harvest opportunity
Bitterroot River - Blodgett Creek to confluence with Clark Fork	50 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout and enhance fluvial westslope cutthroat populations for conservation and angling.
		Rainbow trout, Brown trout	Wild	Quality	Manage trout harvest to support quality angling opportunity.
Habitat needs and activities: Improve habitat to support ecosystem function and production of trout and whitefish. Manage water from Painted Rocks Reservoir to maintain fishery with the goal of 400 cfs to Bell Crossing.					
Tributary streams To Bitterroot River from Blodgett Creek to the Confluence with Clark Fork River Continue next page	>100 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Conserve and enhance migratory and resident populations. Continue yearlong closure on angling for bull trout and enhance cutthroat fishery. Consider isolation of westslope cutthroat populations if hybridization is a threat and habitat and numbers are sufficient to allow persistence.

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain liberal harvest on and consider measures that reduce the abundance in reaches protected by a barrier or in reaches considered native species strongholds. Enhance rainbow and brown trout that provide recruitment to the mainstem and are not located in reaches with abundant native trout.
Hieronymus Pond	2 acres	Rainbow trout Yellow perch, Largemouth bass	Hatchery Wild	Family Fishing Water General	Primarily kids fishing pond. Facilitate high catch rates and quality opportunity for kids and handicapped.

Middle Clark Fork River Drainage

MONTANA FWP

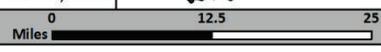


-  Tribal Lands
-  Drainage Boundary



Map Produced by:
 ASP - Geographic Data Services
 ISR 43965 - Nov 23, 2018

Administrative boundaries and FWP Lands data from Montana Fish, Wildlife & Parks, Helena, MT. Background Imagery from ESRI



MIDDLE CLARK FORK RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Middle Clark Fork River drainage begins at the confluence of the Clark Fork and Blackfoot rivers at Milltown, and extends downstream for 120 miles to the mouth of the Flathead River. The river flows generally westward as it runs through Missoula, Mineral and Sanders Counties. Just downstream of the city of Missoula, the Bitterroot River enters and nearly doubles the river's discharge. Other major tributary watersheds (upstream to downstream) include Rattlesnake Creek, Grant Creek, Mill Creek, Ninemile Creek, Petty Creek, Trout Creek, Cedar Creek and the St. Regis River system. River volume roughly doubles again when the Clark Fork joins with the Flathead River near Paradise.

The main stem Clark Fork River channel is generally entrenched and stable throughout its length. The one exception is a 25-mile section through the Missoula Valley from Kelly Island (west side of Missoula) to the Ninemile Creek area (near Huson), where the river has a wide, accessible floodplain and active lateral migration. The river alternates between relatively narrow rock canyons and wider agricultural valleys as it progresses downstream. Major canyons include Hellgate Canyon (East Missoula), the Alberton Gorge (Alberton) and the "Cutoff" section between St. Regis and the Flathead River Confluence. Land ownership along the main stem is predominantly private, with scattered FWP, DNRC and USFS parcels.

Tributary watersheds include more than 50 coldwater trout streams that lie primarily on publicly-owned timberlands at high and mid-elevations. As tributaries reach foothills and near the valley floor, private land ownership becomes much more prevalent. Most tributary streams are bisected by major transportation system crossings (i.e., railroad, interstate highway, frontage roads) on the valley floor before they reach the Clark Fork River. Many of these crossings on smaller streams act as complete barriers to upstream fish movement.

There are numerous high elevation "mountain" lakes within the Middle Clark Fork Basin, as well as a few constructed lakes and ponds on the valley floor. More than 120 alpine mountain lakes (> 1 acre) occur in two general areas: (1) in the Bitterroot Mountains along the Montana-Idaho divide from Alberton to Lookout Pass; and (2) within the Rattlesnake National Recreation Area and Wilderness area near Missoula. Although some have been enhanced by dams, nearly all these waters are natural lakes formed in high glacial troughs and cirque basins. Valley ponds and small lakes (managed as public fisheries and recreation sites) are generally man-made reservoirs and reclaimed gravel pits. These include Frenchtown Pond, Kreiss Lake, Silvers Lagoon at McCormick Park and several other small water bodies.

FISHERIES MANAGEMENT

Located in the west-central part of the state, the middle Clark Fork River is a large system that runs through a major population center (Missoula) and developed valleys downstream. Although the fishery is not as renowned as in some of its major tributaries (e.g., Rock Creek, Blackfoot River, Bitterroot River), the middle Clark Fork River supports a popular trout fishery. This system has gained national notoriety in the past decade with the removal of Milltown Dam, clean-up of river contaminants at its upper end, and anticipated recovery of fishery resources.

The middle Clark Fork River is managed as a wild trout fishery, emphasizing natural reproduction. Although native bull trout (low numbers) and westslope cutthroat trout (moderate numbers) are present throughout all reaches, the river fishery is dominated by non-native rainbow trout, rainbow x westslope cutthroat trout hybrids and brown trout. Rainbow trout and their hybrids generally make up 70-80% of the trout population within this river section. Brown trout are found in moderate densities in the Missoula area, but generally decrease in abundance in lower reaches. Mountain whitefish are common throughout the mainstem river section.

In addition to salmonids, the Middle Clark Fork is home to eight other native fish species including peamouth, northern pikeminnow, longnose dace, redbreast shiner, longnose sucker, largescale sucker, and two species of sculpin. Ten nonnative fish species are also common in various parts of the basin, including brown trout, brook trout, rainbow trout, Yellowstone cutthroat trout, northern pike, pumpkinseed, largemouth bass, smallmouth bass, yellow perch and white sucker. Prior to removal of Milltown Dam and Milltown Reservoir, northern pike were becoming more prevalent in the Clark Fork River. The reservoir served as a primary spawning and rearing area for this species, which then dispersed downstream and occupied the mainstem river in significant numbers. Since removal of the dam, northern pike numbers have declined and are no longer considered a major threat to salmonid populations. More recently, smallmouth bass densities have increased dramatically in the lower Flathead River. There have been reports of smallmouth in the Clark Fork upstream of the Flathead River confluence, however, these appear to be related to seasonal movements with no established resident population in the Clark Fork River.

Tributary stream drainages support a range of abundant, resident trout species and are essential for spawning and rearing of fluvial (river-migratory) trout that reside in the mainstem river. Species composition varies greatly among tributaries and, in many streams, changes along a continuum from headwaters to mouth. Larger tributaries are generally “open” to fish movement with the Clark Fork, and are dominated by rainbow/cutthroat trout hybrids and brown trout. From the mainstem, species composition typically transitions to westslope cutthroat trout in an upstream direction, with pockets of brook trout also occurring in many transition areas and warmer tributaries. Smaller tributary systems and those at higher elevations are generally dominated by westslope cutthroat trout. Many of these populations are protected from hybridization with rainbow trout by artificial fish barriers associated with the extensive valley transportation system (e.g., road culverts, railroad tunnels).

The coldest remaining systems with suitable habitat still support viable bull trout populations, including Rattlesnake Creek, Fish Creek, Cedar Creek, and portions of the St. Regis River. The Fish Creek drainage supports the most intact habitat and abundant native trout populations within the middle Clark Fork region. These few remaining bull trout populations provide a limited amount of bull trout recruitment to the Clark Fork River where densities are 1-2 adults per mile in most reaches.

Although nearly all of the >100 mountain lakes in the basin were historically fishless, roughly 45% now support trout populations. Many still contain self-sustaining, wild populations of brook trout, westslope cutthroat trout, rainbow trout, and Yellowstone cutthroat trout that were introduced in the mid-1900s. Most of these lakes are no longer stocked, but many others with limited natural reproduction are stocked periodically with westslope cutthroat trout. Management of stocked lakes ranges from high density, frequently planted waters designed for

high catch rates to infrequently stocked, low density trophy waters. Many fishless lakes are also maintained to preserve natural ecological integrity (e.g., for conservation of native amphibians such as the long-toed salamander and spotted frogs). Management strategies and information for all mountain lakes in the basin are described in recent plans available from the FWP Region 2 office in Missoula.

Angling occurs year-round on the middle Clark Fork River, but is most popular in the early spring, summer and fall. Opportunities exist for both wade and float angling and while fly-fishing is particularly popular, artificial lures and bait fishing are also common. Special fishing regulations have been instituted to protect spawning fish, native fish strongholds and staging areas, and to retain the quality of trout fisheries – despite increasing fishing pressure. Summer and fall also offer excellent angling opportunities on tributary streams and mountain lakes.

Valley lakes and ponds provide popular put-and-grow trout fisheries that are accessible for most of the year. The waters are stocked frequently and offer opportunities for high catch rates and liberal harvest. All of these fisheries are geared to kids fishing and family-friendly environments with easy access.

HABITAT

The middle Clark Fork River is considered a recruitment-limited fishery where enhancing spawning access for wild fish and improving the quality of tributary habitats has been a priority for the past decade. Restoration and improvement efforts have occurred throughout the watershed, but have focused on native fish strongholds. Fish passage improvements, riparian restoration projects, instream enhancements, fish screens, etc., have involved a number of partners on both public and private lands. As the largest land manager in the basin, the USFS has undertaken many activities on their lands associated with fish passage and the forest road system. In addition, key land acquisitions have been completed in tributary drainages to protect spawning and rearing habitat. Notable projects include public acquisition of more than 50,000 acres to form the Fish Creek Wildlife Management Area and purchase of more than 5 miles of riparian corridor on Cedar Creek. Numerous other conservation easements and smaller acquisitions have been completed by public and private organizations throughout the basin.

River and stream dewatering from irrigation is generally not a significant limiting factor in the basin, particularly when compared with neighboring river systems. However, legacy impacts of historic mining and timber management (roads) remain significant factors degrading habitat quality on a large scale and in many tributary drainages. Restoration and remediation activities addressing these impacts will likely be a priority in the future that will be led by the USFS, Trout Unlimited, FWP and other partners.

FISHING ACCESS

There are more than 15 publicly owned or managed access sites along the river. Some sites are located near local communities and, in addition to river access, provide convenient land-based recreation opportunities. The section of the Middle Clark Fork River between St John's FAS and Forest Grove FAS (Alberton Gorge), is a popular stretch of river for scenery, whitewater and angling with much of the riverfront in that section owned by FWP. Overall, public access opportunities along the Middle Clark Fork are good with no urgent needs for additional access.

SPECIAL MANAGEMENT ISSUES

Habitat and Water Quality Issues

Over the past decade, a tremendous amount of resources have been invested in the removal of Milltown Dam, remediation of river contaminants, and restoration of the Clark Fork River. Monitoring of river habitat, water quality, and fish and aquatic populations will be essential in evaluating the long-term effects of this work. Similarly, possible contaminant remediation and restoration at the Smurfit-Stone Mill site near Frenchtown could have major benefits for river water quality, floodplain function, and habitat quality in that reach.

Social Conflicts

Proximity to Missoula, a large overall population base, and many conflicting demands make managing public recreation challenging on the Clark Fork River. In 2011, the reach through Missoula and downstream to the Alberton Gorge were part of a revised river recreation plan, balancing motorized and non-motorized boat use in the area. This and other issues, including management of river access and non-angling recreationists, will certainly be a focus in the future.

In 2011, FWP completed a public process to revise boating regulations for this section of the Clark Fork River. The regulation changes were in response to an increase in river use in and around Missoula, and intended to provide for diverse river recreation opportunities and to address public safety and social concerns associated with fast-moving motorboats operating in proximity to other users. These regulations took effect November 26, 2011.

FISHERIES MANAGEMENT DIRECTION FOR MIDDLE CLARK FORK RIVER DRAINAGE

Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
Clark Fork River - Blackfoot River confluence downstream to confluence with Flathead River	120 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Continue yearlong closure on angling for bull trout. Enhance fluvial populations for conservation and catch-and-release westslope cutthroat fishery.
		Rainbow trout, Brown trout	Wild	Quality	Protect fishery quality through fishing regulations. Protect habitat, ensure adequate connectivity with tributaries & enhance natural recruitment in areas that are not native trout strongholds.
		Northern pike, Smallmouth bass	Wild	Suppression	No creel limit for pike; encourage harvest of both introduced warmwater species to reduce competition with and predation on trout.
Habitat needs and activities: Assess long-term impact of Milltown Dam removal. Assess contamination of Smurfit-Stone Mill site and facilitate remediation/restoration. Further enhance connectivity with tributaries where appropriate. Protect and improve habitat quality in spawning and rearing areas to enhance natural recruitment of wild and native trout.					
Kreiss Lake	10 acres	Westslope cutthroat trout	Hatchery	Put, Grow and Take	Facilitate high catch rates and quality harvest opportunity.
		Largemouth bass	Wild	General	Provide liberal harvest opportunity.
Habitat needs and activities: Evaluate westslope cutthroat trout stocking prescription. Ensure that adequate water volume is maintained in lake.					
Silvers Lagoon (McCormick Pond)	5 acres	Westslope cutthroat trout, Rainbow trout	Hatchery	Family Fishing Water	Kids fishing pond - Facilitate high catch rates and quality harvest opportunity for kids.
		Northern pike, Pumpkinseed, Yellow perch	Wild	General	Provide liberal harvest opportunity. Reduce numbers if possible.
Habitat needs and activities: Reduce entrainment of unwanted fish from water supply canal. Ensure adequate water exchange rate.					

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Frenchtown Pond	22 acres	Rainbow trout	Hatchery	Family Fishing Water	Facilitate high catch rates and quality harvest opportunity for kids fishing events and families.
		Largemouth bass	Transfer	Quality	Restrictive harvest regulations to ensure quality of fishery. Continue to plant adult fish if available.
		Northern pike, Pumpkinseed, Yellow perch	Wild	General	Provide liberal harvest opportunity. Reduce numbers if possible.
Habitat needs and activities: Continue adult bass transfer from Lee Metcalf Refuge. Ensure enforcement presence to promote compliance and maintenance of quality largemouth bass fishery.					
Fish Creek, Cedar Creek, Little Joe Creek, Drainages	264.7 miles 42.7 miles 37.6 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Conserve and enhance migratory and resident populations. Continue yearlong closure on angling for bull trout.
		Rainbow trout, Brown trout, Brook trout	Wild	General	Maintain present numbers and sizes. Consider management that reduces numbers and distribution if it would improve native trout numbers and westslope cutthroat angling opportunities.
Habitat needs and activities: Improve habitat to support ecosystem function and production of native trout and whitefish. Enforcement presence needed to ensure compliance. Eliminate brook trout from headwater lakes.					
Open Tributary Systems (Fish Barriers Generally Absent): St. Regis River, Ninemile Creek, Rattlesnake Cr. Continue next page	38.6 miles 25.5 miles 23.3 miles	Bull trout (N), Westslope cutthroat trout (N)	Wild	Conservation	Conserve and enhance migratory and resident populations. Continue protective regulations to enhance westslope cutthroat trout fishery. Continue yearlong closure on angling for bull trout.

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Cold Creek	7.2 miles				
First Creek	6.7 miles				
Sevenmile Creek	6.2 miles				
Johnson Creek	6.1 miles				
Marshall Creek	4.8 miles				
Patrick Creek	4.5 miles				
West Mountain Creek	4.2 miles				
Slowey Gulch	3.1 miles				
Quartz Creek	3.1 miles				
Butler Creek	2.7 miles				
O'Keefe Creek	1.7 miles				
Lavall Creek	1.6 miles				
Habitat needs and activities: Maintain fish passage barriers isolating populations from Clark Fork River, improve habitat and connectivity within drainages, and restrict new fish introductions – particularly in fish ponds.					
High Elevation (Mountain) Lakes: 121 Lakes Total > 1 Acre in Bitterroot Mountains and Rattlesnake Wilderness <i>See specific Mountain Lake Management Plan Reports for Each Water Body</i>	1-30 Acres each, 861 Acres Total	Westslope cutthroat trout (N)	Wild	Conservation	13 lakes – Self-sustaining fisheries of various quality.
		Westslope cutthroat trout (N)	Wild/ Hatchery	Put, Grow and Take	14 lakes – Management objective varies by lake, including trophy, quality, and harvest-oriented fisheries.
		Brook trout	Wild	General	18 lakes – Reduce densities or eliminate to improve quality.
		Yellowstone cutthroat trout	Wild	General	3 lakes – Self-sustaining fisheries of various quality
		Rainbow trout	Wild	General	8 lakes - Self-sustaining fisheries of various quality
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Water	Miles/acres	Species	Recruitment Source	Management Type	Management Direction
		<i>Fishless Lakes</i>	N/A	Conservation	65 lakes – Maintain ecological integrity.
Habitat needs and activities: Evaluate stocking prescriptions for Put-Grow-Take fisheries. Maintain fishless lakes. Remove or suppress brook trout to enhance quality of fisheries and complement downstream native fishery goals.					