

FUTURE FISHERIES IMPROVEMENT PROGRAM

RECOMMENDATIONS TO THE FISH AND WILDLIFE COMMISSION WINTER 2023

- 1) **PRICKLY PEAR CREEK SIMMENTAL FISH SCREEN (010-2023).** Prickly Pear Creek (Lewis and Clark County) is a tributary to the Missouri River via Lake Helena. The project site is near East Helena and supports rainbow trout and brown trout, as well as sculpin, longnose dace, and white suckers. Entrainment data have been collected by the local fisheries biologist and the landowner reports that young fish have been clogging pivot heads. Entrainment is estimated at over 2,000 fish annually. The applicant proposes to install a fish screen on an irrigation canal to prevent fish entrainment and to install an instream rock ramp at the concrete diversion headwall to increase fish passage and protect the fish screen. The preferred alternative is to install a corrugated water screen and a 5% grade rock ramp. The overall goals are to eliminate fish entrainment losses, increase fish passage, and improve irrigation efficiencies for the landowner. This project would be one of many improvements in Prickly Pear Creek and the trout population has improved 170% from 2010 to 2022.

Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107614>

REQUEST	\$43,000	ITEMS REQUESTED BY APPLICANT	Design, permitting, contingency (ineligible), construction materials (rock, pipe), equipment, labor, mobilization
MATCH	\$47,000		
OTHER CONTRIBUTIONS	\$8,000		
% MATCH	48%		
TOTAL COST	\$98,000		
FWP STAFF RECOMMENDATION: Partial funding, without the contingency costs (\$33,606.50).			
REVIEW PANEL RECOMMENDATION: Partial funding (\$33,606.50).			

- 2) **LITTLE BOULDER RIVER RESTORATION (005-2023).** The Little Boulder River (Jefferson County) is a tributary to the Boulder River near Boulder that supports populations of brown trout and rainbow trout. Westslope cutthroat trout are located upstream, separated from downstream waters by a fish barrier. The applicant proposes to increase trout numbers in the Little Boulder River by improving fish passage, reconnecting the stream to its floodplain, and enhancing aquatic and terrestrial habitats. Treatments include grade control and aggradation

riffles, rootwad/soil/gravel matrix bank treatments, wet sod lifts, riffles with log keyways, and log vanes. Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107609>

REQUEST	\$30,870	ITEMS REQUESTED BY APPLICANT	Permitting, monitoring (ineligible), rock, monitoring piezometers (ineligible)
MATCH	\$198,591.25		
OTHER CONTRIBUTIONS	\$80,000		
% MATCH	87%		
TOTAL COST	\$229,461.25		
FWP STAFF RECOMMENDATION: Partial funding, without ineligible costs (\$26,125).			
REVIEW PANEL RECOMMENDATION: Partial funding (\$26,125), with the contingency that fencing will be installed if grazing occurs.			

- 3) **BRACKETT CREEK HABITAT IMPROVEMENT AND EROSION CONTROL (001-2023).** Brackett Creek (Park County) is a tributary to the Shields River near Clyde Park that currently supports a population of Yellowstone cutthroat trout. Water leases in the stream are secured or ongoing, but channel instability remains. The project area was affected by channelization, land management practices, and a bridge; these activities led to channel instability and streambanks that are vulnerable to erosion. This applicant proposes to remove the bridge causing channel instability, increase riparian vegetation along eroding banks, and re-slope the banks when needed. The overall goals are to increase watershed resilience and protect and improve wild and native fish habitat by stabilizing eroding banks using stable channel geometry, native vegetation, and the use of soft techniques. A Future Fisheries channel stabilization project was funded downstream (2003).

Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107605>

REQUEST	\$26,000	ITEMS REQUESTED BY APPLICANT	Design, construction materials (gravel, landscaping cloth), equipment labor, mobilization, hand crew, bridge demolition
MATCH	\$51,859		
OTHER CONTRIBUTIONS	\$6,920		
% MATCH	61%		
TOTAL COST	\$84,779		
FWP STAFF RECOMMENDATION: Full funding (\$26,000) but ask the applicant to clarify the design example 1.			
REVIEW PANEL RECOMMENDATION: Table the proposal (\$0) and ask the applicant to reapply with a more detailed design and tighter budget.			

- 4) **BULL RIVER RIPARIAN FUNCTION RESTORATION (002-2023).** The Bull River and East Bull River (Sanders County) are tributaries to the Clark Fork River near Heron that currently support native bull trout, westslope cutthroat trout, and mountain whitefish. The applicant proposes to expand previous restoration and continue a long-term program of planting native woody riparian vegetation to stabilize banks that have been eroding and depositing sediment in the rivers. The primary cause of degradation is the monoculture of reed canarygrass, introduced in the valley as hay grass and a species that outcompeted native plants. This project would involve planting species that will grow roots and help bind the soil and reduce sloughing of banks that is a common occurrence in areas dominated by reed canarygrass. Excessive streambank and elevated sediment levels have negatively impacted fish habitat and water quality. The proposed techniques used have been improved over time and the project has expanded. The overall goal is to restore the ecological integrity, fish habitat, and health of the Bull River and East Bull River through restoration of native riparian vegetation and suppression of non-native canarygrass. Several Future Fisheries projects have been completed in the Bull River watershed; including a similar riparian restoration project funded in 2015.

Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107606>

REQUEST	\$30,000	ITEMS REQUESTED BY APPLICANT	Construction materials (containerized plants, mats), labor
MATCH	\$125,300		
OTHER CONTRIBUTIONS	\$79,334		
% MATCH	53%		
TOTAL COST	\$234,634		
FWP STAFF RECOMMENDATION: Full funding (\$30,000).			
REVIEW PANEL RECOMMENDATION: Full funding (\$30,000).			

- 5) **FLINT CREEK RIPARIAN RESTORATION PHASE 2B (003-2023).** Flint Creek (Granite County) is a tributary to the Clark Fork River near Hall that supports populations of brown trout, bull trout, westslope cutthroat trout, rainbow trout, and mountain whitefish. The project area is a high priority migration corridor for westslope cutthroat trout and bull trout and is directly downstream of previous restoration (Phase 1; 2020 FFIP). This project would address 0.5 mile of stream that has been impaired by past land use practices. The applicant proposes to implement a grazing management exclusion to protect and improve riparian and floodplain vegetation and wildlife habitat. A revegetation plan will be used to plant woody plants in fenced wildlife exclusion units and to seed areas. Eroding streambanks will be treated where necessary to restore functioning channel geometry and improve fisheries habitat complexity. The goal is to improve habitat on an impaired 0.5-mile reach of Flint Creek in an area that has been damaged past land

use practices, which is expected to improve fish populations in Flint Creek and recruitment to the Clark Fork River.

Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107607>

REQUEST	\$39,000	ITEMS REQUESTED BY APPLICANT	Construction Materials (logs and brush), Equipment and Labor for streambank treatment and sod salvage/placement
MATCH	\$40,000		
OTHER CONTRIBUTIONS	\$50,675		
% MATCH	30%		
TOTAL COST	\$129,675		
FWP STAFF RECOMMENDATION: Full funding (\$39,000).			
REVIEW PANEL RECOMMENDATION: Full funding (\$39,000), contingent that a grazing agreement between the landowner and Trout Unlimited is achieved.			

- 6) **MCKINLEY LAKE DAM REMOVAL (006-2023).** McKinley Lake (Missoula County) is a headwater storage lake in the Rattlesnake Wilderness Area outside of Missoula. It is connected to Rattlesnake Creek, a tributary to the Clark Fork River and a high priority fisheries area due to the presence of native fish (westslope cutthroat trout, bull trout, mountain whitefish). The project would remove the obsolete dam and outlet infrastructure, construct additional stream channel that will connect to the existing outlet channel, and revegetate the newly-exposed littoral zone to support riparian and wetland vegetation. The goal is to eliminate a significant hazard that has the potential to cause non-recoverable environmental damage downstream. Specifically, this project would eliminate an imminent threat to downstream native fisheries (sediment from erosion) and a source of non-native fish in the Rattlesnake Creek watershed (rainbow trout) while enhancing the stream and riparian and wetland areas. The Rattlesnake Creek watershed is home to many fish habitat improvements, including fish screen and irrigation improvements (2002, 2015, 2016, 2017), removal of Rattlesnake Dam (2019), and stream restoration (2001).

Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107610>

REQUEST	\$30,000	ITEMS REQUESTED BY APPLICANT	Equipment and labor (site restoration and stream channel restoration)
MATCH	\$285,650		
OTHER CONTRIBUTIONS	\$0		
% MATCH	10%		
TOTAL COST	\$315,650		
FWP STAFF RECOMMENDATION: Full funding (\$30,000).			
REVIEW PANEL RECOMMENDATION: Full funding (\$30,000).			

- 7) **NEVADA CREEK RESTORATION PHASE 6 (007-2023)** Nevada Creek (Powell County) is a tributary to the middle Blackfoot River and supports populations of westslope cutthroat trout, rainbow trout, and brown trout. The project area had past channel manipulations, overgrazing, and vegetation removal that led to bank erosion issues. In 2010 and 2017-2022, nearby channel restoration projects addressed over 5 miles of instream and riparian habitat and resulted in reduced sediment, increased stream complexity, improved riparian condition, and increased trout abundance. This project is phase 6 and would continue the restoration downstream; it intends to restore natural stream and riparian function by reducing sediment loading and improving trout habitat with channel restoration, bank treatments, floodplain connectivity, and aquatic habitat complexity. It would also address irrigation infrastructure (Douglas Canal) that is at risk of being undermined by Nevada Creek. The stream will be shifted to historical meanders away from the canal. Phases 3A, 3B, 4, and 5 were funded in Winter 2019, Summer 2019, 2020, and 2022. Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107611>

REQUEST	\$103,000	ITEMS REQUESTED BY APPLICANT	Wood, alluvium, streambed construction, channel shaping, wood matrix, willow
MATCH	\$1,070,303		
OTHER CONTRIBUTIONS	\$0		
% MATCH	91%		
TOTAL COST	\$1,173,303		
FWP STAFF RECOMMENDATION: Full funding (\$103,000).			
REVIEW PANEL RECOMMENDATION: Full funding (\$103,000)			

- 8) **NORTH BURNT FORK CREEK FISH PASSAGE RECONNECTION (008-2023)**. North Burnt Fork Creek (Ravalli County) is a tributary to the Bitterroot River near Stevensville that currently supports bull trout, westslope cutthroat trout, brown trout, rainbow trout, brook trout, and other non-game species. It was once a major spawning tributary to the Bitterroot River but a relic water control structure has been a fish barrier for over 50 years. This applicant proposes to replace the barrier with a bridge, opening fish passage and retaining connection to the trail on the Lee Metcalf National Wildlife Refuge. The goals are to fully reconnect fish passage between the Bitterroot River and 2.5 miles of spawning habitat in North Burnt Fork Creek and to improve 0.5 mile of riparian habitat. Outreach and education will also be a component of this project. Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107612>

REQUEST	\$39,970	ITEMS REQUESTED BY APPLICANT	Site prep and dewatering, levee removals, low water crossing, floodplain
MATCH	\$40,000		
OTHER CONTRIBUTIONS	\$147,009.50		

% MATCH	18%		microtopography, bridge fabrication
TOTAL COST	\$226,979.50		
FWP STAFF RECOMMENDATION: Full funding (\$39,970).			
REVIEW PANEL RECOMMENDATION: Full funding (\$39,970).			

- 9) **GRANITE CREEK FISH PASSAGE (004-2023).** Granite Creek (Missoula County) is a tributary to Lolo Creek west of Lolo that currently supports westslope cutthroat trout, bull trout, brook trout, brown trout, and other non-game species. Lolo Creek and its tributaries historically supported a coldwater fishery and portions of the watershed are designated as bull trout critical habitat. Road building activities disconnected several fish-bearing tributaries and contributed a large amount of sediment to the streams. Recent, nearby projects have decommissioned roads and removed many culverts. Since 2006, 130 miles of forest roads have been treated, many culverts and stream crossings have been addressed, and habitat structures have been installed. For this project, the applicant proposes to upsize eight culverts on Granite Creek tributaries that are seasonal or complete fish barriers. Most of the culverts would be upsized from 24 in. corrugated culverts to 72 in. roughened bottom culverts and one would be upsized to a 5 ft. culvert. The goal is to provide year-round connectivity for aquatic organisms and increase hydrologic capacity. Most recently, FFIP funded a culvert removal and fish passage project in Granite Creek and an instream habitat project in the East Fork Lolo and Lost Park creeks. Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107608>

REQUEST	\$85,000	ITEMS REQUESTED BY APPLICANT	Culvert, heavy equipment, culvert install
MATCH	\$168,000		
OTHER CONTRIBUTIONS	\$12,000		
% MATCH	63%		
TOTAL COST	\$265,000		
FWP STAFF RECOMMENDATION: Full funding (\$85,000).			
REVIEW PANEL RECOMMENDATION: Full funding (\$85,000).			

- 10) **O'BRIEN CREEK MEADOWS STREAM RESTORATION (009-2023).** O'Brien Creek (Missoula County) is a tributary to the Bitterroot River near Missoula that currently supports westslope cutthroat trout, rainbow trout, brown trout, brook trout, and mountain whitefish. O'Brien Creek is considered critical bull trout habitat although the species hasn't been found there recently. In this section of O'Brien Creek, habitat was degraded by historical removal of

wood from the stream, straightening of the creek due to road construction, and an undersized culvert. This applicant proposes to address all of these issues by adding large woody debris habitat structures, restoring the creek to a new channel and floodplain, installing riparian plantings, and adding two 36” relief culverts to the road crossing. The overall goal is to increase wild and native trout populations in the O’Brien Creek and Bitterroot River watersheds. Several channel restoration and fencing projects were funded by Future Fisheries in the late 1990s but are now expired. Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107613>

REQUEST	\$43,888	ITEMS REQUESTED BY APPLICANT	Construction materials (willow and brush, plants, culvert), labor (excavation, hauling, construction, installation)
MATCH	\$125,287		
OTHER CONTRIBUTIONS	\$0		
% MATCH	74%		
TOTAL COST	\$169,175		
FWP STAFF RECOMMENDATION: Full funding (\$43,888).			
REVIEW PANEL RECOMMENDATION: Full funding (\$43,888).			

- 11) **SPRING COULEE CREEK CULVERT REPLACEMENT (011-2023).** Spring Coulee Creek (Teton County) is a tributary to Muddy Creek and the Sun River near Power that currently supports brown trout, brook trout, rainbow trout, Rocky Mountain sculpin, white sucker, longnose dace, longnose sucker, brook stickleback, and lake chub. In the project area a channel-spanning bridge was lost in the 2018 flood and the road crossing was repaired with undersized culverts that were improperly installed (i.e., perched). The undersized culverts led to a partial fish barrier and downstream habitat degradation. The project would replace the two perched, undersized culverts with a box culvert to reestablish connectivity for aquatic species. The goal is to restore fish passage, improve stream function, and prevent erosion. A Future Fisheries project from 1998 addressing bank erosion was completed in Upper Spring Coulee Creek and is now expired. Application: <https://myfwp.mt.gov/getRepositoryFile?objectID=107615>

REQUEST	\$40,830	ITEMS REQUESTED BY APPLICANT	Construction materials (culvert, riprap, road fill, gravel)
MATCH	\$32,749		
OTHER CONTRIBUTIONS	\$1,587		
% MATCH	44%		
TOTAL COST	\$75,166		
FWP STAFF RECOMMENDATION: Full funding (\$40,830) but ask for culvert cost est.			
REVIEW PANEL RECOMMENDATION: Full funding (\$40,830).			