

**FUTURE FISHERIES IMPROVEMENT PROGRAM
RECOMMENDATIONS TO THE FISH & WILDLIFE COMMISSION
SUMMER 2023**

- 1) BRACKETT CREEK STREAMBANK RESTORATION (012-2023). 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 an undersized bridge; these activities led to channel instability and streambanks that are vulnerable to erosion as well as limited deep pool habitat. This applicant proposes to remove the bridge causing channel instability, increase riparian vegetation along eroding banks, and re-slope the banks as needed. The overall goals are to increase watershed resilience and floodplain connection 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).

REQUEST	\$85,115	ITEMS REQUESTED BY APPLICANT	Design and engineering, permitting, oversight, equipment, labor, and mobilization
MATCH	\$79,316		
OTHER CONTRIBUTIONS	\$12,080		
% MATCH	45%		
TOTAL COST	\$176,511		
FWP STAFF RECOMMENDATION: We recommend full funding (\$85,115) but ask that the applicant elaborate on the wood toe and the updated design.			
REVIEW PANEL RECOMMENDATION: After discussion with the applicant, the recommendation is to fund the full request (\$85,115).			

- 2) BROWNS GULCH FISH SCREENS (013-2023). Browns Gulch (Silver Bow County) is a tributary to Silver Bow Creek and contains populations of brook trout and genetically pure cutthroat trout. Westslope cutthroat trout are present throughout the drainage but most prevalent in the upper reaches. Expansion of westslope cutthroat trout is a goal in Browns Gulch, and this project builds upon previous work in the drainage that includes improving fish passage, restoring the stream channel, and improving riparian areas. The current project would rebuild four rustic diversions and install fish screens. The largest ditch, (diversion 5), was funded with a 2022 FFIP grant. For this project, the applicant would address three upper diversions and install three small, corrugated water fish screens (diversions 6, 7, and 8). The goal is to provide upstream fish passage and prevent entrainment of trout. Within the watershed, the goal is to improve the westslope cutthroat trout fishery in Browns Gulch and downstream in Silver Bow Creek.

REQUEST	\$37,890	ITEMS REQUESTED BY APPLICANT	Survey, design, maintenance, construction materials, equipment, labor and mobilization
MATCH	\$76,376		
OTHER CONTRIBUTIONS	\$28,750		
% MATCH	50%		
TOTAL COST	\$154,016		
FWP STAFF RECOMMENDATION: We recommend full funding (\$37,890) but ask that the applicant address landowner permissions, use of rock, and specifics of fish passage.			
REVIEW PANEL RECOMMENDATION: After discussion with the applicant, including the identified need for additional funds (for construction oversight and rock for passage weir), the recommendation is to fund the project at \$45,390.00 .			

- 3) CHICKEN CREEK FISH SCREEN (014-2023). Chicken Creek (Ravalli County) is a tributary to West Fork Bitterroot River, above Painted Rocks reservoir in the Bitterroot Watershed. The project location is the Hawkes Ditch, which diverts water from high quality bull trout and westslope cutthroat trout habitat. This area is one of the highest conservation priorities in the Bitterroot because it is predicted to have long-term cold water refugia and quality habitat. It is an important spawning tributary for bull trout, westslope cutthroat trout, longnose sucker and sculpin. This project would install a passive, self-cleaning corrugated water fish screen and reconnect 4.2 miles of stream. A former window-style passive screen was not entirely effective and was a maintenance burden. The goal of project, alongside a future fish screen project, is to eliminate entrainment in the entire waterbody and protect quality habitat for native fish species.

REQUEST	\$25,750	ITEMS REQUESTED BY APPLICANT	Construction oversight, maintenance, mileage (not allowed), construction materials, equipment, labor, and mobilization
MATCH	\$25,750		
OTHER CONTRIBUTIONS	\$19,224		
% MATCH	35%		
TOTAL COST	\$70,724		
FWP STAFF RECOMMENDATION: We recommend funding this project at \$25,965. The \$365 in mileage is not an allowable expense, but \$600 in fish screen maintenance was left off of the budget and can be covered through this grant.			
REVIEW PANEL RECOMMENDATION: We recommend funding the project at \$26,965 .			

- 4) GRASSHOPPER CREEK MINE TAILINGS BANK STABILIZATION (015-2023). Grasshopper Creek (Beaverhead County) is a tributary to the Beaverhead River that runs through Bannack State Park. The area is affected by mining; contaminated mine tailings were historically

deposited adjacent to Grasshopper Creek. A 1977 project to stabilize the mine tailings is aging and failing; it is at risk of catastrophic failure with a major runoff event. Grasshopper Creek is a major source of sediment to the Beaverhead River, which is listed by Montana DEQ as impaired for several reasons, including sedimentation/siltation. The creek contains brown trout and brook trout, but it is connected to the Beaverhead River and this project is primarily directed at potential impacts to the Beaverhead River fishery. This project would re-arm the tailings along the streambank, while removing tailings from the opposite side of the stream to allow for stream movement. Failing mine tailings would be addressed to prevent a massive failure. The goal is to reduce current sediment and waste inputs from the failing tailings pile and to prevent a massive failure event that would release sediment and toxic mine waste. The benefits are to reduce current sediment inputs and improve current fish habitat while protecting the fishery in Grasshopper Creek and the Beaverhead River.

REQUEST	\$5,000	ITEMS REQUESTED BY APPLICANT	Design (of design/build)
MATCH	\$419,180		
OTHER CONTRIBUTIONS	\$5,000		
% MATCH	98%		
TOTAL COST	\$429,180		
FWP STAFF RECOMMENDATION: We recommend full funding (\$5,000) but ask the applicant to consider opportunities to soften the treatment. Acknowledging riprap is required to contain the tailings, we ask that vegetation (e.g., willow components) be added.			
REVIEW PANEL RECOMMENDATION: After discussion with the applicant, we recommend funding the project at \$27,765 , which includes the cost of vegetating the riprap.			

- 5) MIDDLE FORK ROCK CREEK FISH PASSAGE RECONNECTION (016-2023). Middle Fork Rock Creek (Granite County) is a tributary to Rock Creek in the Upper Clark Fork River watershed. It contains bull trout, genetically non-hybridized westslope cutthroat trout, brown trout, and rainbow trout. Past agricultural practices and channel alteration led to habitat degradation in the project area, including increased erosion and sediment loading into the stream, an over-widened stream channel, and decreased pool frequency and depths. This project would enhance streamflows and reconnect 25 miles of fish passage by upgrading irrigation infrastructure and eliminating two fish passage barriers that have been entraining fish (including bull trout). Irrigation infrastructure improvements will combine water withdrawals from two irrigation diversions into one and eliminate 1.5 miles of leaky ditch. A fish screen will be installed at the combined irrigation diversion (screen type has not been chosen). The goal is to fully reconnect fish passage in Middle Fork Rock Creek and improve connectivity in Rock Creek.

REQUEST	\$50,000	ITEMS REQUESTED BY APPLICANT	Screen and housing, sluice gate, site reclamation
MATCH	\$50,000		
OTHER CONTRIBUTIONS	\$283,530		
% MATCH	13%		
TOTAL COST	\$383,530		
FWP STAFF RECOMMENDATION: We recommend full funding \$50,000 and the use of a screen that avoids the use of a rock ramp.			
REVIEW PANEL RECOMMENDATION: We recommend funding the project at \$50,000 .			

- 6) MOUNT HAGGIN CULVERT REMOVAL AND REPLACEMENT (017-2023). Within the Mount Haggin Wildlife Management Unit (Deer Lodge County), Sixmile Creek, Little California Creek, and Julius Gulch are tributaries to California Creek and the French Creek watershed. This area has been affected by 19th century mining activities and has been the focus of large-scale restoration of French Creek and French Gulch (including past FFIP projects) and the reintroduction of Arctic grayling and westslope cutthroat trout. The project would address four undersized, perched culverts that restrict upstream movement by native fish. Two culverts would be removed (Little California Creek 1 and Julius Gulch) and two culverts would be replaced (Sixmile Creek and Little California Creek) to facilitate fish passage and stream connectivity to 8.4 miles of upstream habitat. The goal is to continue to restore native fish habitat in an area that contains of the largest interconnected population of westslope cutthroat trout in the upper Missouri River drainage and the only population of fluvial Arctic grayling in the absence of non-native species. With this project, occupied stream length would increase to nearly 48.4 miles.

REQUEST	\$24,500	ITEMS REQUESTED BY APPLICANT	Permitting, construction oversight, culvert, equipment, labor, and mobilization
MATCH	\$50,786		
OTHER CONTRIBUTIONS	\$0		
% MATCH	33%		
TOTAL COST	\$75,286		
FWP STAFF RECOMMENDATION: We recommend full funding (\$24,500).			
REVIEW PANEL RECOMMENDATION: After discussion with the applicant and a revised funding request for a larger culvert, we recommend funding the project at \$29,788.50 .			

- 7) MUSSELSHELL RIVER ROWTON BANK RESTORATION (018-2023). The Musselshell River (Petroleum County) is a tributary to the Missouri River and contains many native fish,

including blue sucker, sauger, Northern redbelly dace, sicklefin chub, and sturgeon chub. All of these species are Species of Greatest Conservation Need or Species of Concern. In the project area (Rowton property), historic flood events and extreme drought affected past land use practices and led to alteration of the river and its riparian areas. High rates of erosion occurred. This project would use a soft bank erosion approach to limit future erosion issues and spark habitat enhancement. Approximately 1,050 feet of streambank would be restored and 10 acres of riparian habitat would be enhanced by installing a brush matrix along the riverbank. The project is expected to increase local habitat complexity and benefit aquatic species and also to prevent additional erosion that negatively affects the landowner's infrastructure and agricultural property. The goal is to improve river function and fish habitat for important native fish species, potentially increasing woody vegetation, shade (and decreasing temperatures), and reducing sedimentation. The needs of the private landowner would also be addressed.

REQUEST	\$50,000	ITEMS REQUESTED BY APPLICANT	Mobilization, excavation, grading, misc.
MATCH	\$115,095		
OTHER CONTRIBUTIONS	\$0		
% MATCH	70%		
TOTAL COST	\$165,095		
FWP STAFF RECOMMENDATION: We recommend full funding (\$50,000) but ask that the applicant provide more detail on the toe of the bank treatment.			
REVIEW PANEL RECOMMENDATION: After discussion with the applicant regarding the design plans for the toe of the treatment, as well as new information regarding 2023 flooding that eroded 75' of the streambank, we recognize the need for additional work and recommend funding the project at the revised request of \$118,461 .			

- 8) SOUTH FORK NORTH FORK DIVIDE CREEK FISH PASSAGE (019-2023). South Fork North Fork Divide Creek (Silverbow County) becomes the South Fork Reservoir, south of Butte, a part of the Butte municipal drinking water supply. It contains a native, non-hybridized population of westslope cutthroat trout. Brook trout were removed from the stream and reservoir and a dam forms the downstream fish barrier. South Fork Reservoir and much of its infrastructure was constructed in the early 1900s, and the route of water entering the reservoir has been modified several times over the years. A fish passage structure was constructed in 2016 but the channel collapsed after the grout cracked, causing the stream to undercut the boulders in the channel. This project would install a new fish passage structure while allowing the County to continue using the settling pond upstream of the reservoir. Spawning gravels would be added to the stream channel entering the settling pond to improve spawning habitat for reservoir fish. The goal is to improve the long-term conservation and viability of westslope cutthroat trout in the

area, as the project could greatly improve the population size by connecting of the reservoir and stream.

REQUEST	\$35,000	ITEMS REQUESTED BY APPLICANT	Cobble, excavator, loader
MATCH	\$80,000		
OTHER CONTRIBUTIONS	\$0		
% MATCH	70%		
TOTAL COST	\$115,000		
FWP STAFF RECOMMENDATION: We recommend full funding (\$35,000) but ask the applicant to describe why the proposed structure will be more successful than the original.			
REVIEW PANEL RECOMMENDATION: After discussion with the applicant regarding the history of the stream, the proposed improvements, and project needs, we recommend funding the project at a revised ask of \$45,000 .			