

FUTURE FISHERIES IMPROVEMENT PROGRAM

FWP RECOMMENDATIONS TO THE FISH & WILDLIFE COMMISSION SUMMER 2020

- 1) **Big Hole Divide fish barriers (013-2020).** Browns Creek, Buffalo Creek, and Painter Creek (Beaverhead County) are streams in the Beaverhead and Red Rock River sub-basins. The project sites are located west and southwest of Dillon. The streams currently contain conservation populations of westslope cutthroat trout (WCT) that are considered at-risk and need to be secured. This project is intended to meet the highest priority WCT conservation need. Collectively, these barriers will secure 17.6 miles of stream containing >90% pure WCT. These populations are currently threatened by hybridization and competition with non-native fish; there are currently no barriers or protections to isolate these species, which are some of the last pure isolated WCT in the Upper Missouri Basin. This project would install six-foot wooden drop structures on Browns and Buffalo creeks. A hardened splashpad will be installed at Painter Creek to secure the barrier site.

REQUEST	\$10,420	ITEMS REQUESTED BY APPLICANT	Treated lumber, mobilization, demobilization
MATCH	\$74,643		
% MATCH	88%		
TOTAL COST	\$85,063		
FWP STAFF RECOMMENDATION: We recommend full funding (\$10,420) but request that the applicant provide current condition (before) photos of the project sites.			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$10,420).			

- 2) **Flint Creek riparian restoration (014-2020).** Flint Creek (Granite County) is a tributary to the Clark Fork River near Hall. Species present include 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. This project would address one mile of stream that has been impaired by past land use practices. The applicant proposes to implement grazing management recommendations that will incorporate fencing for rotational grazing, stock watering, and riparian/wetland buffers. Some streambanks would be passively restored and revegetated using containerized native, woody plants, exclusion fencing, and seeding. Other streambanks would be restored with active streambank restoration. The goals are to repair the damaged caused by cattle grazing and to improve fish habitat through shade and overhead cover, pool depth, complexity, and reduction of sediment.

REQUEST	\$29,100		Containerized plants, wildlife enclosures, revegetation
MATCH	\$33,300		

% MATCH	13%* (addl. match not part of this application)	ITEMS REQUESTED BY APPLICANT	
TOTAL COST	\$262,835		
FWP STAFF RECOMMENDATION: We recommend fully funding this project (\$29,100) but request that the applicant clarifies how this project fits in the overall, larger project timeline and construction objectives.			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$29,100).			

- 3) **Hall Creek fish barrier removal (015-2020).** Hall Creek (Lake County) is a tributary to Swan Lake near the town of Swan Lake. In 1989, a fish barrier was constructed to conserve westslope cutthroat trout and isolate a 2.3-mile reach from brook and rainbow trout invasion. Rotenone was used to remove fish from the stream and cutthroat trout were restocked. The project was unsuccessful and over time the conservation value has continued to decrease. The applicant proposes to remove the nonfunctional barrier and reconnect aquatic passage between Hall Creek and Swan Lake. The concrete barrier would be removed, the streambanks would be restored, and rock would be placed for grade control. The goal is to remove an old, nonfunctional barrier and support natural stream function and aquatic movement throughout the stream.

REQUEST	\$9,000 (budget sheet \$8,500)	ITEMS REQUESTED BY APPLICANT	Excavator, dump truck
MATCH	\$3,000 (budget sheet \$3,500)		
% MATCH	25%		
TOTAL COST	\$12,000		
FWP STAFF RECOMMENDATION: We recommend fully funding this project at the level of the budget sheet (\$8,500).			
REVIEW PANEL RECOMMENDATION: We recommend funding at the level of the FWP recommendation (\$8,500).			

- 4) **Lake Elmo fish habitat enhancement (016-2020).** Lake Elmo (Yellowstone County) is part of Lake Elmo State Park in Billings. In 2019, Asian clams were found at Lake Elmo, leading to a decision for a partial and complete draw-down in 2020 and 2021. During draw down, the applicant intends to create complex fish habitat using rock, gravel, and artificial reefs (Christmas trees or other large woody debris) to encourage self-sustaining populations of channel catfish, crappie, bluegill, yellow perch, and bass. Habitat structures will be based on successful installations in other warmwater lakes. The goal is to enhance wild fish populations and angler opportunities at Lake Elmo State Park while capitalizing on a unique opportunity to add habitat during a draw-down. The lake has very high angler use.

REQUEST	\$172,600		
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MATCH	\$30,000	ITEMS REQUESTED BY APPLICANT	Construction materials for habitat structures
% MATCH	20%		
TOTAL COST	\$202,600		
FWP STAFF RECOMMENDATION: We recommend partial funding , <u>to be allocated for the highest priority habitat structures</u> . To that end, we ask the applicant to: <ul style="list-style-type: none"> • Provide photographs, schematics, or examples of the proposed habitat structures, to explain and correlate with items listed in the budget. • Provide a list of proposed structures based on priority (high, medium, low), which includes the number and estimated cost. • Identify what species benefit from each proposed structure. Are there high priority species? • Clarify the timeline of construction. When will these structures be installed? 			
REVIEW PANEL RECOMMENDATION: We recommend partial funding (\$40,000).			

5) **Little Gold Creek fish passage (017-2020)**. Little Gold Creek (Granite County) is a tributary to Boulder Creek (and Flint Creek) northeast of Phillipsburg. It supports populations of westslope cutthroat trout and bull trout. In the project area, an undersized culvert is blocking fish passage at a forest road. The Boulder Creek drainage is the only location within the Flint Creek drainage with viable populations of both bull trout and westslope cutthroat trout. By opening fish passage on Little Gold Creek, two miles of stream could be reconnected to Boulder Creek and then, Flint Creek. The applicant proposes to replace the undersized culvert with an Aquatic Organism Passage (AOP) culvert that installs a natural stream channel within the culvert and can pass a 100-year flow event of 123 cubic feet per second. The goal is to reconnect Little Gold Creek, improve habitat quantity and connectivity, and maintain additional coldwater refugia.

REQUEST	\$29,475	ITEMS REQUESTED BY APPLICANT	Bedding material, riprap, rock cross vanes, road aggregate, arch culvert
MATCH	\$48,534		
% MATCH	62%		
TOTAL COST	\$78,709		
FWP STAFF RECOMMENDATION: We recommend full funding (\$29,475).			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$29,475).			

6) **Long Creek aquatic habitat enhancement (018-2020)**. Long Creek (Beaverhead County) is a tributary to the Red Rock River near Lima Reservoir. It is the only tributary below upper Red Rock Lake with a viable population of Arctic grayling. The population is small and geographically distanced from other populations. Past land use practices led to degraded aquatic habitat in Long Creek, including loss of beaver, altered flows, and decreased riparian vegetation. Arctic grayling are currently confined to a short reach upstream where there is higher quality habitat. Past restoration on Long Creek has included willow planting, barrier removal, irrigation infrastructure improvements, instream flow leases, and floodplain reconnection. More work is needed; therefore, the applicant intends to move part of the degraded stream

channel into a historic channel with a stronger riparian vegetation community, which should have more immediate positive impacts to Arctic grayling conservation. The property is protected by a U.S. Fish and Wildlife Service conservation easement. The FFIP project funded channel restoration on Long Creek in 2016 (\$15,000), which installed 9 armored riffles and may take many years to achieve the desired habitat for grayling.

REQUEST	\$27,750	ITEMS REQUESTED BY APPLICANT	Construction oversight, gravel/cobble, equipment (excavation, brush matrix banks, plugs, channel reclamation), mobilization
MATCH	\$41,820		
% MATCH	60%		
TOTAL COST	\$69,570		
FWP STAFF RECOMMENDATION: We recommend full funding (\$27,750) but request the applicant describe whether grazing will be allowed on the property.			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$27,750).			

- 7) **Lower French Creek riparian restoration (019-2020).** French Creek (Deer Lodge County) is a tributary to Deep Creek west of Wise River. French Creek has been the focus of many past restoration efforts for Arctic grayling and westslope cutthroat, as well as other native species like western pearlshell mussel. This project would take place on the Mount Haggin Wildlife Management Area and USFS property and would restore over 3,600 feet of streambank that has been degraded due to nonnative vegetation and overgrazing. The project would grade and re-slope the perched streambanks with a minimum 3:1 ratio, and mature willows would be transplanted to create streambank stabilization. Additionally, old beaver dam side channels would be activated to accommodate high flows and to provide greater flooding and connection with the floodplain. The goal is to enhance riparian function and improve instream habitat for Arctic grayling and westslope cutthroat trout in French Creek. The applicants will restore high priority degraded stream banks and side channel reactivation before moving to the moderate and low priority eroded banks, depending on funding. In 2019, FFIP funded a channel relocation project that was completed just upstream of this project (\$40,000).

REQUEST	\$10,000	ITEMS REQUESTED BY APPLICANT	Equipment rental
MATCH	\$75,920		
% MATCH	88%		
TOTAL COST	\$85,920		
FWP STAFF RECOMMENDATION: We recommend full funding (\$10,000) but request that the applicant: <ul style="list-style-type: none"> • Clarify the budget and unit descriptions. • Is the livestock fencing part of this project? • Would this proposed budget cover all the proposed work (high, medium, and low priority streambanks and activating two side channels)? 			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$10,000).			

8) **Madison River Storey Ditch riparian restoration (020-2020).** The Storey Ditch restoration project (Madison County) is located on the east bank of the Madison river upstream of the Storey Ditch boat launch, approximately 16 miles south of Ennis. The Madison River supports populations of rainbow trout, brown trout, cutthroat trout, and mountain whitefish. The project site contains little to no woody vegetation due to the altered flow regime of Hebgen dam, which disconnected the stream and riparian areas, and wildlife browsing (1,105 feet of stream). The applicant proposes to reshape the bank and lower the bankfull height, which is expected to reconnect the vegetation community, to add live willows and brush to the banks and dissipate stream energy and provide additional habitat, and to incorporate containerized plants that will be protected with browse protectors. Wildlife fence would be installed until vegetation is mature enough to be browse resistant. The goals of the project are to increase the riparian corridor and woody vegetation cover, create floodplains that support natural vegetation recruitment, increase habitat complexity for fish, support the food web, and encourage long term ecosystem resilience.

REQUEST	\$15,548.62	ITEMS REQUESTED BY APPLICANT	Construction materials (posts, wire, staples, plants), fence installation, and bank shaping
MATCH	\$58,670		
% MATCH	62%		
TOTAL COST	\$95,211.87		

FWP STAFF RECOMMENDATION: We recommend full funding (**\$15,548.62**) but ask that the applicant:

- Considers an exclusion closer to 5 years in duration.
- Provides a support letter from the FWP aquatic biologist.
- Provides information on weed maintenance.
- Clarifies the budget.

REVIEW PANEL RECOMMENDATION: We recommend full funding (**\$15,548.62**).

9) **Poorman Creek restoration phase 2 (021-2020).** Poorman Creek (Lewis & Clark County) is a tributary to the Blackfoot River and supports populations of bull trout, pure westslope cutthroat trout, and brown trout. The stream is listed as critical bull trout habitat. Poorman Creek has been the focus of several previous restoration projects funded through FFIP, including fish passage, fish screening, stream restoration, and water conservation. This project addresses Poorman Creek near its confluence with the Blackfoot River. The applicant proposes to address impairments caused by land use disturbances, which include entrenchment, lack of instream and riparian habitat, channel aggradation, and bank erosion. An estimated 409 tons of sediment is contributed to Poorman Creek per year from streambank erosion. Approximately 8,400 feet of channel would be restored with channel reconstruction or shaping, the creation of step pools, and the use of vegetated wood matrix and woody debris structures. A grazing management plan will be incorporated, and a water lease will protect instream flow within the project reach. The overall goal of this project is to restore a high-priority native trout tributary through channel stability, riparian health, and improved aquatic habitat, improving the overall recruitment to the

Blackfoot River. The objectives include reestablishing floodplain connectivity and function, improve existing trout habitat, correct chronic bank erosion, and restore a self-maintaining natural stream system.

REQUEST	\$58,000	ITEMS REQUESTED BY APPLICANT	Willow cuttings, hydraulic excavator, tracked skidsteer, off road truck, labor
MATCH	\$343,979.40		
% MATCH	86%		
TOTAL COST	\$401,979.40		
FWP STAFF RECOMMENDATION: We recommend fully funding the project (\$58,000) .			
REVIEW PANEL RECOMMENDATION: We recommend fully funding the project (\$58,000) .			