

FUTURE FISHERIES IMPROVEMENT PROGRAM

FWP RECOMMENDATIONS TO THE FISH & WILDLIFE COMMISSION WINTER 2020

- 1) **Doolittle Creek fish barrier (003-2020).** Doolittle Creek (Beaverhead County) is a tributary to the Big Hole River, located 9 miles northeast of Wisdom. It is home to a native, 100% pure population of westslope cutthroat trout (WCT) in the upper reaches of the stream, South Fork of Doolittle Creek. Brook trout are currently present in the Doolittle Creek and have eliminated the native WCT in the rest of the drainage. This project would install a barrier on the mainstem of Doolittle Creek, remove the non-native brook trout upstream, and expand the population of WCT from 1 mile of habitat to 11 miles. The goal of this project is to contribute to the overall goal of restoring 400 miles of stream for WCT in the Big Hole and conserve WCT before they are displaced by brook trout.

REQUEST	\$10,000	ITEMS REQUESTED BY APPLICANT	Treated lumber and riprap, equipment and labor
MATCH	\$15,000		
% MATCH	60%		
TOTAL COST	\$25,000		
FWP STAFF RECOMMENDATION: We recommend full funding (\$10,000) but ask for more detail on the budget costs and note that grant funds cannot be used for travel time.			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$10,000).			

- 2) **Cottonwood Creek fish barrier (002-2020).** Cottonwood creek (Beaverhead County) is a tributary to Blacktail Deer Creek in the Beaverhead River drainage near Dillon. It contains pure westslope cutthroat trout (WCT) in 0.6 miles above a natural barrier in Cottonwood Creek. This population is one of five remaining genetically unaltered populations of WCT in the Beaverhead drainage. This project would install a fish barrier lower in Cottonwood creek, adding 4.5 miles of habitat for WCT. The goal is to secure additional habitat for native WCT and expand the population from approximately 600 fish to 2,500.9

REQUEST	\$7,500	ITEMS REQUESTED BY APPLICANT	Treated lumber, rip rap, equipment
MATCH	\$24,101.60		
% MATCH	76%		
TOTAL COST	\$31,601.60		
FWP STAFF RECOMMENDATION: We recommend full funding (\$7,500) but ask the applicant to confirm who is responsible for long term maintenance and if fishing is allowed.			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$7,500).			

- 3) **Lee and West Fork Lolo Creeks fish passage improvement and decommissioning (005-2020).** Lee and West Fork Lolo Creeks (Missoula County) are located within the West Fork Lolo Creek drainage of Lolo Creek. Lolo Creek is a tributary to the Bitterroot River located near Lolo. This project is a continuation of other work done in the Lolo Creek watershed, addressing forest lands that were formerly under Plum creek ownership that have a large network of roads and failing culverts. Westslope cutthroat trout, brown trout, and brook trout are present in the project area. Low densities of bull trout may be present in the drainage. The project would decommission roads and remove passage barriers. Twenty-five culverts, five that are partial fish passage barriers, are slated for removal in 2020. The goal is to remove sediment inputs, improve natural stream function, and improve fish passage.

REQUEST	\$30,500	ITEMS REQUESTED BY APPLICANT	Excavator
MATCH	\$146,294		
% MATCH	83%		
TOTAL COST	\$176,294		
FWP STAFF RECOMMENDATION: We recommend tabling the proposal based on the limited fisheries benefit information described in the application but would support the project with convincing information on fisheries benefits.			
REVIEW PANEL RECOMMENDATION: We recommend tabling the proposal.			

- 4) **Lolo Creek Zens channel restoration (006-2020).** Lolo Creek (Missoula County) is a tributary to the Bitterroot River, and the Zens property includes approximately 3,330 feet of Lolo creek west of the town of Lolo. Lolo Creek supports populations of brook trout, brown trout, rainbow trout, westslope cutthroat trout, and bull trout in some of the higher elevation tributaries. This project would address the impairments to Lolo Creek including riprap, channel straightening, channel over-widening, grazing and loss of vegetative cover, and loss of instream cover. The applicants intend to move the creek in sections and create new channels to connect to the mainstem of the creek. The new channel would be approximately 2,200 lineal feet with 1,298 feet of new side channel and 3,469 feet of old side channel. The purpose of the project is to address current 303(d) listed impairments to Lolo creek (sediment and physical substrate habitat alteration) and the goals are to reduce and slow the dissipation of sediment to Lolo Creek and restore it to a resilient, functional system.

REQUEST	\$122,000	ITEMS REQUESTED BY APPLICANT	Construction materials, equipment and labor, mobilization (all general, not assigned)
MATCH	\$192,500		
% MATCH	59%		
TOTAL COST	\$328,500		
FWP STAFF RECOMMENDATION: We recommend tabling the proposal based on the limited fisheries benefit information described in the application but would support the project with convincing information on fisheries benefits.			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$30,500).			

- 5) **Wheelbarrow Creek Threemile fish passage (012-2020).** Wheelbarrow Creek (Ravalli County) is located near the Threemile Wildlife Management Area, 9 miles east of Florence. It supports westslope cutthroat trout (likely pure strain). This project would remove an undersized culvert and replace it with a bridge, restoring fish passage and natural stream function. Grade controls or a hardened riffle will be constructed to accommodate the change in grade. The existing culvert is likely a fish passage barrier at most flows. The goal of the project is to restore a natural stream channel, reduce erosion, and facilitate fish passage.

REQUEST	\$19,420	ITEMS REQUESTED BY APPLICANT	Administration (not allowable), weir materials, bridge construction, weir construction
MATCH	\$62,828.12		
% MATCH	76%		
TOTAL COST	\$82,248.12		
FWP STAFF RECOMMENDATION: We recommend partial funding (\$18,920), noting that administrative costs are not allowed.			
REVIEW PANEL RECOMMENDATION: We recommend full funding, at the revised ask of \$18,920 .			

- 6) **Boles Creek fish screening and passage (001-2020).** Boles Creek (Missoula County) is a tributary to Placid Lake near Seeley Lake that supports adfluvial and fluvial bull trout populations, with genetically pure westslope cutthroat trout populations in the headwaters. The stream has been designated critical bull trout habitat. This project would upgrade an existing irrigation diversion near stream mile 1.5, with the goal of eliminating entrainment of native trout and improving migration corridors and channel integrity. Sampling in 2019 indicated that bull trout were entrained in existing ditches. The applicant intends to replace the existing wooden dam used to divert water with a rock cross-vane set at elevation to allow fish passage, stream channel function, and bedload movement. A fish screen would be installed to accommodate both ditches of the existing diversion.

REQUEST	\$25,625	ITEMS REQUESTED BY APPLICANT	Coanda fish screen, headgate, pipe, equipment and labor, mobilization
MATCH	\$71,145		
% MATCH	74%		
TOTAL COST	\$96,770		
FWP STAFF RECOMMENDATION: We recommend full funding (\$25,625).			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$25,625).			

- 7) **Nevada Creek phase 4 stream restoration (008-2020).** 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 was historically straightened, and a non-functional riparian area caused the

channel to erode and downcut. In 2010, 2017, 2018, and 2019 adjacent channel restoration projects reduced sediment, increased stream complexity, improved riparian condition, and created fish habitat that resulted in increased trout abundance. This project is considered phase 4 and would continue the restoration downstream. Approximately 7,100 feet of Nevada Creek would be tied into phase 3A&B and the channel would be restored to proper dimensions. Habitat would be improved by increasing overhead and in-stream cover, sediment inputs would be reduced, floodplain connectivity would be improved, vegetation growth would be encouraged, and a grazing management system would be implemented. The location is in a highly visible reach of Nevada Creek and the previous projects have had important demonstration value. Phase 3A was funded in Winter 2019 at \$49,000 and 3B in Summer 2019 at \$69,200.

REQUEST	\$66,000	ITEMS REQUESTED BY APPLICANT	Willow cuttings, fencing, brush, equipment and labor.
MATCH	\$484,712.40		
% MATCH	88%		
TOTAL COST	\$550,712.40		
FWP STAFF RECOMMENDATION: We recommend full funding (\$66,000) .			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$66,000) .			

- 8) **Muddy Creek fish passage and fencing (012-2020)**. Muddy Creek (Cascade County) is a tributary to the Sun River and is assumed to contain brown trout, rainbow trout, mountain whitefish, lake chub, yellow perch, and other minnow, dace, sculpin, and sucker species. This project would replace undersized culverts with a bridge, open-bottomed culvert, or multiple larger culverts. The new structure would be built to accommodate high flows, consider fish passage velocity requirements, and require limited maintenance. Fencing would be improved to restrict cattle access to Muddy Creek. The goals are to improve and enhance habitat quality and habitat connectivity.

REQUEST	\$15,000	ITEMS REQUESTED BY APPLICANT	Design (allowable as a design/build), equipment hours.
MATCH	\$102,500		
% MATCH	87%		
TOTAL COST	\$117,500		
FWP STAFF RECOMMENDATION: We recommend full funding (\$15,000) if the applicant can provide information on design alternatives they are considering.			
REVIEW PANEL RECOMMENDATION: We recommend tabling the proposal until additional design information can be provided.			

- 9) **O'Neill Creek culvert replacement (009-2020)**. O'Neill Creek (Powell County) is a tributary to the Clark Fork River downstream of Deer Lodge that supports a population of genetically pure westslope cutthroat trout. The project is located on the Spotted Dog Wildlife Management area, where an

undersized culvert has been a partial or complete fish barrier and creates stream impairments. The applicant intends to replace the culvert with a bridge using cast-in-place concrete abutments and recycled bridge stringers. The purpose is to improve fish passage long term and allow genetically pure westslope cutthroat trout and fluvial cutthroat trout from the Clark Fork River to access habitat above the crossing.

REQUEST	\$15,250	ITEMS REQUESTED BY APPLICANT	Concrete bridge abutments, bridge decking, contractor labor, mobilization/demobilization
MATCH	\$19,620		
% MATCH	56%		
TOTAL COST	\$34,870		
FWP STAFF RECOMMENDATION: We recommend full funding (\$15,250) but ask the applicant to describe the design flow for the bridge (what is bankfull flow?).			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$15,250).			

- 10) **Eagle Creek YCT connectivity (004-2020).** Eagle Creek (Park County) is a tributary to the Yellowstone River near Gardiner. An in-channel pond and five road culverts have excluded nonnative species but also fragmented Yellowstone cutthroat trout (YCT) along its 6.6 stream miles. The applicant proposes to replace two upstream perched culverts with larger, sunken culverts that can pass aquatic species, increasing secure YCT habitat by an additional 2.8 stream miles. The goal is to secure additional habitat for YCT while protecting them from non-native species.

REQUEST	\$87,560	ITEMS REQUESTED BY APPLICANT	Construction materials (rock, fill, culvert), equipment and labor
MATCH	\$87,790		
% MATCH	50%		
TOTAL COST	\$175,350		
FWP STAFF RECOMMENDATION: We recommend full funding (\$87,560) but ask the applicant what partial funding would do to the project, if genetic analysis will be part of the project, and what design flow is for AOPs.			
REVIEW PANEL RECOMMENDATION: We recommend full funding at the revised ask of \$43,780 .			

- 11) **Reser Reservoir dam reconstruction and fish habitat improvement (010-2020).** Reser Reservoir (Blaine County) is a 25-surface acre reservoir located on BLM lands. It has been a public fishery since 1982 and the primary fish species include rainbow trout, bluegill, black crappie, yellow perch, channel catfish, and largemouth bass. In 2018, the dam failed due to excessive runoff, and has been drawn down approximately 20 feet. The BLM intends to repair the dam in 2020, and the applicant proposed to use this opportunity to enhance habitat prior to filling. Using equipment that will be onsite during dam reconstruction, the applicant intends to create several large spawning beds at various locations to improve spawning and rearing habitat for largemouth bass, black crappie, and bluegill. Deep structure

will also be installed for larger adult fish. The goal is to enhance natural reproduction and habitat at Reser Reservoir, which is expected to translate to improved wild fish and forage production.

REQUEST	\$40,000	ITEMS REQUESTED BY APPLICANT	Spawning bed gravel
MATCH	\$1,101,049		
% MATCH	96%		
TOTAL COST	\$1,141,049		
FWP STAFF RECOMMENDATION: We recommend full funding (\$40,000) .			
REVIEW PANEL RECOMMENDATION: We recommend full funding (\$40,000) .			

- 1) **Wall Creek fish barrier supplement (011-2020).** Wall Creek (Madison County) is a tributary to the Madison River and supports populations of 95% pure Westslope Cutthroat Trout. Currently, Rainbow Trout are allowed access to Wall Creek and can hybridize with Westslope Cutthroat Trout. To prevent further dilution of genetic purity and risk losing Westslope Cutthroat Trout conservation status, the applicant intends to install a fish barrier that will isolate the conservation population. The barrier would protect nearly 8 miles of headwater streams and contribute to the restoration goal for Westslope Cutthroat Trout east of the Continental Divide. In 2018, \$40,000 was requested and \$20,000 was secured.

REQUEST	\$40,000	ITEMS REQUESTED BY APPLICANT	Concrete
MATCH	\$139,488		
% MATCH	55%		
TOTAL COST	\$254,125		
FWP STAFF RECOMMENDATION: We recommend full funding (\$40,000) .			
REVIEW PANEL RECOMMENDATION: We recommend partial funding (\$20,000) .			