FUTURE FISHERIES IMPROVEMENT PROGRAM

FWP RECOMMENDATIONS TO THE FISH & WILDLIFE COMMISSION

SUMMER 2018

1) **Brewster Creek fish passage** (018-2018). Brewster Creek (Granite County) is a tributary to Rock Creek and supports populations of Westslope Cutthroat Trout and Bull Trout. Brewster Creek is a spawning tributary for lower Rock Creek and contains resident and migratory Westslope Cutthroat Trout, Bull Trout (low levels), and other trout and non-game fish. This project would remove a culvert that is the only major fish passage on lower Brewster Creek and is located 400 feet upstream of the confluence with Rock Creek. A farm bridge would be installed so Brewster Creek could be reconnected to Rock Creek. The goal is to reconnect habitat for Bull Trout, Westslope Cutthroat Trout, and other aquatic species.

REQUEST	$16,000 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Labor, construction materials, equipment, mobilization
MATCH	$13,045		
% MATCH	46%		
TOTAL COST	$28,670		
FWP STAFF RECOMMENDATION: We recommend full funding but ask the applicant to clarify the flood capacity of the bridge. We also request that the applicant verify that FWP in-kind match is not salaries.			
REVIEW PANEL RECOMMENDATION: Full funding (**$16,000**)			

2) **Cedar Creek** (019-2018). Cedar Creek (Mineral County) is a tributary to the middle Clark Fork River and supports populations of Westslope Cutthroat Trout, Bull Trout, and Mountain Whitefish. It is listed as a priority Bull Trout watershed and core Bull Trout habitat. Activities important to Bull Trout recovery include removal of riparian roads, improving instream habitat, and restoring mining claims. Within the project area, Cedar Creek was impacted by placer mining, leaving much of the riparian corridor disturbed. Railroad and road systems also contributed to confinement of the stream channel. This proposal is phase three of a larger project and would relocate the road, create a floodplain, and install large wood structures in one mile of stream to encourage instream habitat development. The goal is to improve overwintering, spawning, and rearing habitat for Bull Trout, Westslope Cutthroat Trout, and other aquatic species through reduced erosion, cooler water temperatures, and increased habitat.

REQUEST	$28,660 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Equipment and labor (excavating, grading, wood structures, dump truck)
MATCH	$87,689.50		
% MATCH	75%		

TOTAL COST	$116,389.50		
FWP STAFF RECOMMENDATION: We recommend full funding but ask the applicant to provide photographs of the current project area as well as a more legible copy of the designs. Is there an overview of the project showing the expected location of the LWD structures and vegetated streambanks? We also request that the applicant verify that USFS in-kind match is not salaries.			
REVIEW PANEL RECOMMENDATION: Full funding (**$28,660**)			

3) **Confederate Gulch stabilization** (020-2018). Confederate Gulch (Broadwater County) is a tributary to Canyon Ferry Lake and supports populations of Brook Trout. This project would stabilize streambanks on the Harris property. The goal is to repair stream banks by installing rock.

REQUEST	$14,408	ITEMS REQUESTED BY APPLICANT	Travel (not allowed), rock, backhoe, dump truck
MATCH	$1,000		
% MATCH	6%		
TOTAL COST	$15,408		
FWP STAFF RECOMMENDATION: We do not recommend funding this project but encourage the applicant to further explore the problems, current conditions, and potential for fish habitat improvement. We recommend that the applicant pursue funding for design, consult with the fisheries biologist and/or FFIP staff, and re-consider Future Fisheries once the project is further developed.			
REVIEW PANEL RECOMMENDATION: We recommend **tabling** the proposal to allow FWP to help the landowner develop a more comprehensive project plan.			

4) **Copper Creek** (021-2018). Copper Creek (Lewis & Clark County) is a third-order tributary to the Landers Fork, which feeds the upper Blackfoot River and flows 14 miles entirely through United States Forest Service (USFS) land. It contains populations of Bull Trout and pure Westslope Cutthroat Trout and is listed as critical Bull Trout habitat. Telemetry studies have traced Bull Trout originating from Copper Creek as far as 100 miles downstream. In the project area, the stream recently accessed old channels, and in 2014 part of the road eroded into the stream. Sediment has been identified as a limiting factor for Bull Trout habitat and therefore this project, which involves eliminating a chronic source of sediment to Copper Creek, has been identified as a priority for restoration. This project would decommission approximately one mile of road adjacent to Copper Creek. The goal is to re-establish floodplain connectivity and function, restore the riparian corridor, and eliminate a chronic source of sediment while maintaining public access.

REQUEST	$48,500 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Oversight, construction materials, mobilization
MATCH	$409,253.5		
% MATCH	89%		

TOTAL COST	$457,735.50		
FWP STAFF RECOMMENDATION: We recommend full funding but request that the applicant consider the following questions: 1) What is the regional FWP fisheries support for the project? 2) What are the consequences of partial funding?			
REVIEW PANEL RECOMMENDATION: Full funding (**$48,500**)			

5) **Cottonwood / North Fork Cottonwood passage & decommissioning** (022-2018). North Fork Cottonwood Creek is a tributary to Cottonwood Creek (Powell County), which flows into the middle Blackfoot River. It supports populations of Bull Trout and Westslope Cutthroat Trout. Cottonwood Creek is a high priority tributary and is listed as critical Bull Trout Habitat and a Bull Trout core area stream. At the North Fork Cottonwood Creek crossing there is an undersized culvert that inhibits fish passage. This culvert would be replaced with a bottomless arch structure that would accommodate flood capacity, fish passage, and transport debris and bedload. The adjacent road would be rerouted approximately 400 feet upstream from its current location. The historical floodplain along Cottonwood Creek would be reestablished. The goal is to improve fish passage, reestablish floodplain connectivity and function, restore the riparian corridor, eliminate a chronic source of sediment, and retain public access. Future Fisheries funding has helped complete several other projects in the drainage.

REQUEST	$36,500 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Construction materials, mobilization
MATCH	$178,025		
% MATCH	83%		
TOTAL COST	$214,525		
FWP STAFF RECOMMENDATION: We recommend full funding but ask the applicant to consider the following questions: 1) What is the regional FWP fisheries support for the project? 2) What is the fishery value gained by opening the North Fork Cottonwood Creek? 3) What is the flood capacity of the culvert? How is fish passage inhibited? 4) Please provide a simple overview map showing the locations of the tributaries, roads, and culverts/treatments. 5) Budget: What is LS (lump sum) road decommissioning ($7000)?			
REVIEW PANEL RECOMMENDATION: Full funding (**$36,500**)			

6) **East Gallatin bank stabilization** (023-2018). The East Gallatin River (Gallatin County) is a tributary to the Gallatin River and supports populations of Rainbow Trout, Brown Trout, and Mountain Whitefish. At this project location, new landowners experienced problems with channel stability and erosion, due to the lack of proper riparian vegetation. This project would create bioengineered banks that include a woody matrix and plantings such as root wads, sod mats, and woody vegetation. The goal is to reduce lateral erosion and create a more natural riparian area to increase resiliency, decrease erosion and

sediment loading, improve complexity of aquatic habitat, and increase shading. The project is expected to directly enhance wild fish habitat.

REQUEST	$63,950 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Construction materials, diversion and care of stream, mobilization, bonding (not eligible), and general requirements (not eligible).
MATCH	$56,700		
% MATCH	47%		
TOTAL COST	$120,650		

FWP STAFF RECOMMENDATION: We recommend partial funding at the level of $18,675 (earthwork, ballast rock, and ½ of the wood toe matrix request). We cannot fund the items listed under mobilization that include bonding and general requirements. We ask the applicant to consider the following:

1) Do you plan to address the upstream riprap, and have you considered the bigger picture in this reach or the East Gallatin?
2) Installation of the wood toe matrix only on the outside meander bend and do a softer treatment on the straight section (reflected in the funding recommendation).
3) The current condition of the past streambank stabilization and plantings by others.
4) Approaching the City regarding the encroachment toward Nelson Road/Red Fox Lane.

REVIEW PANEL RECOMMENDATION: **Table** the project and encourage a more comprehensive, collaborative community plan for the stabilization concerns.

7) **French Creek channel reconstruction & sediment reduction** (024-2018). French Creek (Deer Lodge County) is a tributary to Deep Creek, which flows into the Big Hole River. It is part of the Mount Haggin Wildlife Management Area and within the proposed Artic Grayling and Westslope Cutthroat Trout recovery area. Past projects in the watershed funded by Future Fisheries include French Gulch channel restoration (completed; 2015, 2016 grants), French Creek riparian fencing (completed; 2016), and the French Creek fish barrier (in progress; 2014 grant). The goal of restoration in the upper French Creek drainage is to restore mining-related damage and establish an interconnected stream system (over 40 miles of stream) for Artic Grayling and Westslope Cutthroat Trout. This project would address mining-related damages due to an unnatural dike that has been confining the stream channel and leading to significant erosion and sediment deposition. Reference stream conditions would be used to construct an unconfined stream channel east of the channel's current location (2700 lineal feet). Native sods and willows would be used to construct the banks of the new channel and bioengineering techniques would be used at meander bends. The goal is to enhance fish habitat by reducing a major sediment source that impacts spawning substrate and water quality.

REQUEST	$273,476 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Equipment and labor, contingency (not eligible)
MATCH	$221,000		
% MATCH	45%		
TOTAL COST	$494,476		

FWP STAFF RECOMMENDATION: We support the project, but given the limited amount of funds and the stage of project development, we recommend tabling the proposal. We ask the applicant to further develop the design, funding outlook, and/or potential alternatives and return to Future Fisheries for funding.
REVIEW PANEL RECOMMENDATION: **Table** the project until more design has been completed and additional funding is determined.

8) **Loneman Creek riparian fencing** (025-2018). Loneman Creek (Sanders County) is a tributary to the Little Thompson River and contains Westslope Cutthroat Trout. The Little Thompson River is impacted by sediment, nutrients, and water temperature, and monitoring indicates that Loneman Creek has elevated temperature when compared to a nearby reference stream. The project area is negatively impacted by cattle, which have unrestricted access to the creek. This project proposes to install exclusion fencing to allow the stream to recover and improve habitat, shade, and reduce temperatures, nutrients, and sediment. The goal is to encourage recovery of the stream and riparian areas, improve water quality, and enhance aquatic habitat.

REQUEST	$2,000 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Construction materials
MATCH	$3,366.30		
% MATCH	63%		
TOTAL COST	$5,366.30		
FWP STAFF RECOMMENDATION: We recommend full funding but request the applicant describe the grazing plan (if applicable) and the establishment of off-channel water sources.			
REVIEW PANEL RECOMMENDATION: Full funding (**$2,000**)			

9) **Mulherin Creek instream flow lease renewal** (026-2018). Mulherin Creek (Park County) is a tributary to the Yellowstone River and supports populations of Yellowstone Cutthroat Trout, Mountain Whitefish, and Mottled Sculpin. Rainbow Trout and Brown Trout are also in the project vicinity. Mulherin Creek is important coldwater habitat and a stronghold for Yellowstone Cutthroat Trout refugia, spawning, and recruitment. This project would renew a 20-year old instream flow lease that has been successful in retaining minimum flow and important aquatic habitat in Mulherin Creek. The goal is to continue instream flow benefits and provide quality habitat for conservation of Yellowstone Cutthroat Trout.

REQUEST	$38,175 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Instream flow lease
MATCH	$36,175		
% MATCH	50%		
TOTAL COST	$76,350		
FWP STAFF RECOMMENDATION: We recommend full funding.			
REVIEW PANEL RECOMMENDATION: Full funding (**$38,175**)			

10) **Musselshell River Meathouse restoration** (027-2018). The Musselshell River (Musselshell County) is a tributary to the Missouri River and supports populations of sauger, channel catfish, smallmouth bass, and native minnows. In the area near Roundup, the applicants intend to restore the floodplain and riparian area on a newly-purchased property near an abandoned mine that also experiences flooding. This project would excavate and remove waste coal from the area, remove berms, create a floodplain that could accommodate a more natural flow pattern, and install habitat in the riparian area that is expected to create floodplain nursery habitat and additional cover for fish. The goals are to mitigate flooding events, improve the fishery and riparian habitat, improve recreational access, and reclaim a mine site. Past projects on the Musselshell River have encouraged fish passage (Egge diversion removal, 2015; Deadmans Basin diversion dam fishway, 2014).

<table>
<tr><td>REQUEST</td><td>$69,500 (RIT eligible)</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Construction materials, equipment and labor</td></tr>
<tr><td>MATCH</td><td>$131,167</td></tr>
<tr><td>% MATCH</td><td>66%</td></tr>
<tr><td>TOTAL COST</td><td>$199,667</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: We recommend full funding, but ask the applicant to provide additional information on the use of riprap (location, amount) and consider increasing the density of willow cuttings.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Partial funding based on need ($58,644.50)</td></tr>
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11) **North Fork Spanish Creek barrier supplement** (028-2018). North Fork Spanish Creek (Madison County) located on property owned by Turner Enterprises, Inc. aims to restore Westslope Cutthroat Trout to 17 miles of historical stream habitat and 9 acres of high mountain lake habitat. The project would install a fish barrier on North Fork Spanish Creek, use piscicides to remove non-native brook trout and hybridized Westslope Cutthroat Trout, and re-establish Westslope Cutthroat Trout. This project is considered the best and largest opportunity to restore native Westslope Cutthroat Trout in the in the Gallatin River sub-basin. This project was initially funded in 2016 ($60,000), and the current request is a supplement based on higher than expected construction costs.

<table>
<tr><td>REQUEST</td><td>$27,500 (RIT eligible)</td><td rowspan="4">ITEMS REQUESTED BY APPLICANT</td><td rowspan="4">Construction materials</td></tr>
<tr><td>MATCH</td><td>$372,500</td></tr>
<tr><td>% MATCH</td><td>93%</td></tr>
<tr><td>TOTAL COST</td><td>$400,000
*doesn’t include previous funding</td></tr>
<tr><td colspan="4">FWP STAFF RECOMMENDATION: We recommend full funding but ask the applicant to explain the consequences of partial funding.</td></tr>
<tr><td colspan="4">REVIEW PANEL RECOMMENDATION: Full funding ($27,500)</td></tr>
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12) **Ramshorn Creek fish barrier** (029-2018). Ramshorn Creek (Madison County) is a tributary to the Ruby River and, if completed, would support populations of Westslope Cutthroat Trout and Rocky Mountain Sculpin above the barrier and Brook Trout, Brown Trout, and Rainbow Trout below the proposed barrier. As part of the project, a fish passage barrier would be installed in conjunction with an irrigation delivery structure that will ensure delivery of water and reduce maintenance and avoid channel manipulation. This project is in the Ruby watershed and is an essential component in implementing native fish restoration in Ramshorn Creek and its tributaries. The goal is to conserve an important population of Westslope Cutthroat Trout in the Ruby watershed.

REQUEST	$40,500 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Project design, construction materials, equipment and labor (design/build permitted, not design only)
MATCH	$2,000		
% MATCH	5%		
TOTAL COST	$42,500		
FWP STAFF RECOMMENDATION: We support the project but due to limited funds we recommend tabling the proposal until the design is completed. We encourage the applicant to consider other partners and reapply when the project is more established. We would like to see pictures and a description of the current barrier culvert and the existing diversion.			
REVIEW PANEL RECOMMENDATION: Partial funding (**$10,000**). Applicant revised request to $10,000 at meeting.			

13) **Wall Creek fish barrier** (030-2018). 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.

REQUEST	$40,000 (RIT eligible)	ITEMS REQUESTED BY APPLICANT	Equipment and labor
MATCH	$215,000		
% MATCH	85%		
TOTAL COST	$254,125		
FWP STAFF RECOMMENDATION: We recommend full funding but request the applicant comments on the likelihood of securing additional funds.			
REVIEW PANEL RECOMMENDATION: Partial funding to encourage more fundraising (**$20,000**)			