FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

All sections must be addressed, or the application will be considered invalid

I. APPLICANT INFORMATION

A. Applicant Name: Montana Trout Unlimited, Chris Edgington, Project Manager

Mailing Address: PO Box 7186

City: Missoula State: MT Zip: 59807

Telephone: (406) 543-0054, ext. 6 E-mail: chris@montanatu.org

B. Contact Person (if different than applicant):

Address:

City: State: Zip:

Telephone: E-mail:

C. Landowner and/or Lessee Name (if different than applicant): USDA - Helena-Lewis and Clark NF, Judith Ranger District

Mailing Address: PO Box 484

City: Stanford State: MT Zip: 59479

Telephone: (406) 566-2292 E-mail: jason.oltrogge@usda.gov

II. PROJECT INFORMATION

A. Project Name: Middle Fork Judith-Riparian Road Decommissioning and Rehabilitation, Phase 5

River, stream, or lake: Middle Fork Judith

Location: Township: 13N Range: 11E Section: 32

Latitude: 46.8451 Longitude: -110.3492 *Within project (decimal degrees)*

County: Judith Basin

B. Purpose of Project:

The purpose of this project is to improve stream and riparian habitat that will lead to an increase wild fish populations by reducing major sediment contributions and to restore natural stream processes. This project was identified in the 2007 Helena-Lewis and Clark (HLC) Forest Travel Management Plan. Project partners came together in December 2019 to implement this long-awaited project.

C. Brief Project Description (attach additional information to end of application):

The Middle Fork Judith River (MFJ) is a tributary of the Judith River west of Lewistown in central Montana with a watershed size of 86,257 acres. Forest Jeep Road J825 is a motorized trail that dissects the 82,127-acre MFJ Wilderness Study Area. Currently, J825 fords the MFJ 27 times in an 8-mile reach of the road that dead-ends at private land in-holdings. These 27 river fords have 82 discrete entrances or ramps that enter the river (i.e., many fords have multiple entrances). The fords have impacted water quality by causing a near year-round, significant sediment source, and the problem is perpetually worsening as motorists are continually pioneering new routes throughout the floodplain for the challenge, and when old routes become dangerous or unusable.

The 2007 HLC Forest Travel Management Plan, recognized the significant impacts of the off-highway vehicle (OHV) use on the MFJ riparian habitat, stream function, water quality, and the aquatic ecosystem. In 2020, Montana Trout Unlimited (MTU) and the USFS entered into a Participating Agreement to begin working through the multi-phased project to complete the road reroute and rehabilitation of the riparian road crossings and network. Rehabilitation will emphasize road decommissioning, sustainable road design, reducing duplicative entrances to the river, and streambank restoration. As of fall 2021, three phases have been completed (see attached Phase Overview map). Phase 4 is funded in full and scheduled for completion in September 2022. While the reroute can't bypass all 27 fords, the reroute will bypass the most degraded 2.5-mile section of road where there are 17 fords and 49 ramps in Phase 5, the focus of this grant application.

In phase 5, excess sediment caused by 17 fords and 49 ramps through the floodplain has greatly reduced water quality. The historic loss of stream bank material is estimated at 885 tons along 923 linear feet of bank. Additionally, this section of J825 contributes 2.68 tons of sediment yearly based on Water Erosion Prediction Project (WEPP) modeling. This is likely a gross under estimate since there is no method to quantify sediment loss due to wave action undercutting the streambank at each stream entrance. The sediment continues to suppress the macro-invertebrate community, limit wild trout recruitment by smothering spawning gravels and inundating rearing and over-winter habitat. Fish surveys conducted by Montana Fish, Wildlife & Parks show the trout population hovers around 10% of reference, 12-50 trout per mile.

This project will benefit aquatic life and stream and riparian function. The objective of the project is to decommission 2.5 miles of the riparian road and rehabilitate damaged streambanks with locally available materials. Once these restoration actions are completed, natural stream processes will transport and deposit sediment more naturally during spring runoff, cleaning gravels and reviving the riparian area. Remnant populations of aquatic invertebrates will begin to proliferate, developing a steady food source for the small population of wild Westslope hybrid trout. Over time, trout recruitment will increase with the availability of clean spawning gravels and rearing habitat, creating a unique backcountry fishing experience in an exquisite setting on public land.

D. What was the cause of habitat degradation and how will the project correct the cause?

Extensive and increasing use of Forest Road J825 that fords the river 27 times with 82 discrete entrances, including 17 fords and 49 entrances in Phase 5. Phase 5 will decommission the most degraded 2.5 miles of J825 through the riparian area. Site specific restoration actions for the 49 entrances to be rehabilitated with locally available material can be found in Table 3 of the Middle Fork Judith River Riparian Road Decommissioning and Rehabilitation Project Phase 5 (attached).

E. Length of stream or size of lake that will be treated (project extent): 2.5
Length/size of impact, if larger than project extent (e.g., stream miles opened): 80

F. Project Budget Summary:

Grant Request (Dollars):	**$** 40,000.00
Matching Dollars:	**$** 67,482.00
Matching In-Kind Services:*	**$** 1,250.00

**salaries of government employees are not considered matching contributions*

Other Contributions (not part of this app)	**$** 86,500.00
Total Project Cost:	**$** 195,232.00

G. Attach itemized (line item) budget – *see budget template*

H. Attach project location map(s) that include:

- [■] Extent of the project, including context (relation to major landmark or town)
- [■] Indication of public and private property
- [ ] Riparian buffer locations and widths (if applicable) and grazing locations

I. Attach project plans:

- [■] Detailed sketches or plan views with the location and proposed restoration
- [■] Pre-project photographs (GPS location strongly recommended)
- [ ] If water leasing or water salvage is involved, attach a supplemental questionnaire (*https://myfwp.mt.gov/getRepositoryFile?objectID=36110*)

J. Attach letters or statements of support (e.g., landowner consent, community or public support, and fish biologist support). List any other project partners:

USFS - Region 1, Trout Unlimited - National, FWP - Recreational Trails Program

III. MAINTENANCE AND MONITORING (attach additional information to end of application):

A. A 20-year maintenance commitment is required*. Please confirm that you will ensure this protection and describe your approach. Attach any relevant maintenance plans. Yes [■] No [ ]

**If it is a water leasing project, describe the length of the agreement.*

Once the project is completed, the 2.5-mile section of forest road J825 will be closed to OHV use. The Helena-Lewis and Clark NF (HLC) will ensure that the closure is monitored and enforced. The HLC and MTU will coordinate on any maintenance required.

B. Will grazing be part of or adjacent to the project? If so, describe or attach land management plans, including short term and long term grazing regimes. If the landowner is not the applicant, please describe their involvement in the project. *If you want assistance with grazing plan development, note your need.*

Grazing is not part of the Forest management at this project site. Historically, cattle were trailed up the J825 road. The Ranger has informed the livestock owners to use the newly created motorized route.

C. Will the project be monitored to determine if goals were met? If so, what are the short-term and long-term plans to assess benefits and lessons learned? Were pre-project data collected? Will monitoring information be shared with FWP?

Pre-project data collection included Sediment Monitoring. The Sampling and Analysis Plan is available upon request. This data led to the development of an alternative-Watershed Restoration Plan (available upon request). DEQ and MTU will determine when this data collection will be repeated to delist the stream for sediment pollution. Pre-project photo points were taken at all 27 fords for each stream entrance (attached). Post-project photos will be taken for at least 3 years or longer if necessary. USFS Water Erosion Prediction Project data was completed in 2021. This data will be recollected since the road will be decommissioned. There is a PIBO monitoring site located just upstream of the confluence with Yogo Creek, approximately 1 mile downstream from the project reach. MTU will coordinate with the PIBO team for a post-project assessment.

We are happy to share any data FWP may wish to review.

IV. PROJECT BENEFITS (attach additional information to end of application):

A. What species of fish will benefit from this project?

Direct: Westslope/Rainbow Hybrids, Brook Trout, Rocky Mountain Whitefish, Sculpin

Indirect: A host of cool and warmwater species that reside in or use the mainstem Judith to complete their life histories.

B. How will the project protect or enhance wild fish habitat?

Decommissioning 2.5 miles of J825 will eliminate thousands of vehicles crossing the 17 fords each year. Currently, at each ford, the normally 30-35 foot bankfull stream-width is over-widened, up to 85 feet at some crossings. Just downstream of each ford, there is an artificial riffle crest across the width of the river that affects the distribution of riffles, runs, pools, and glides along the length of the reach. We anticipate the stream bank restoration treatments to become more efficient at reducing sedimentation as the rehabilitation matures and the vegetation stabilizes the stream banks in the long term. Furthermore, restoring the fluvial morphology of the MFJ will allow the river to regain natural processes including pool and riffle development and point bar deposition. This all contributes to the reduction and effects of sediment/siltation on the riverine ecosystem, enhancing wild fish habitat.

C. What is the expected improvement to fish populations, both short term and long term? How might the project translate to angler success?

Short term: Natural river processes will begin to transform the MFJ. The first and subsequent runoff cycles will remove excess sediment from the pore spaces from the streambed cobble. This will result in an increase of aquatic invertebrates, improve spawning gravels, reclaim rearing and over-winter habitat. The restored river reach is expected to scour and deposit sediment in a more natural way. FWP biologists expect a marked increase in fish numbers within five runoff events.

Long-term: The Middle Fork Judith will once again be a robust fishery with wild trout numbers in the 300-500 fish per mile, up from the current 12-50 fish per mile. The increase in fish numbers will invite anglers to hike in and fish this beautiful cold, clear and productive mountain stream.

D. Will the project increase public fishing opportunity for wild fish and, if so, how? Is public fishing allowed onsite? If not, describe how the public would access the project benefits.

The project is entirely on public land and is accessible with a 2-mile hike. An increase in wild fish recruitment will improve the fishing opportunities.

E. Aside from angling, what local or large-scale public benefits will be realized from this project?

The project area lies withing the Middle Fork Judith Wilderness Study Area (WSA). Many qualities associated with the WSA will be enhanced including, elk migration routes, big game and bird hunting, hiking, and horseback. Repairing the stream degradation will have a reduction in sediment loading in all downstream waterways.

F. Will the project interfere with water or property rights of adjacent landowners? (explain):

No, the entire project in on the Helena-Lewis and Clark National Forest and was identified in their 2007 Travel Management Plan. The owners of the upstream private inholdings will have better access to their property.

G. Will the project result in the development of commercial recreational use on the site (including paid access)? Explain:

N/A

H. Is this project associated with the reclamation of past mining activity?

No

Each approved project applicant must enter into a written agreement with Montana Fish, Wildlife & Parks specifying terms and duration of the project. The applicant must obtain all applicable permits prior to project construction. A competitive bid process must be followed when using State funds.

V. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature: Chris Edgington Digitally signed by Chris Edgington Date: 2022.05.12 20:34:31 -06'00' Date: _____

Submittal: **Applications must be signed and received on or before November 15 and May 15 to be considered for the subsequent funding period**. Late or incomplete applications will be rejected.

Mail to:	FWP Future Fisheries Fish Habitat Bureau PO Box 200701 Helena, MT 59620-0701	Email:	Future Fisheries Coordinator FWPFFIP@mt.gov (electronic submissions must be signed) For files over 10MB, use https://transfer.mt.gov and send to mmcgree@mt.gov

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

Both tables must be completed or the application will be returned

PROJECT COSTS					CONTRIBUTIONS			
WORK ITEMS (Itemize by Category)	**NUMBER OF UNITS**	**UNIT DESCRIPTION ***	**COST/UNIT**	**TOTAL COST**	**FUTURE FISHERIES REQUEST**	**MATCH (Cash or Services)****	**OTHER (Not part of this application)**	**TOTAL**
Personnel***								
Survey				$ -				$ -
Design	120	Hours	$50.00	$ 6,000.00		6,000.00		$ 6,000.00
Engineering				$ -				$ -
Permitting	10	Hours	$50.00	$ 500.00		500.00		$ 500.00
Oversight	150	Hours	$50.00	$ 7,500.00		4,000.00	3,500.00	$ 7,500.00
Project Management	80	Hours	$50.00	$ 4,000.00		4,000.00		$ 4,000.00
Field Technician	80	Hours	$35.00	$ 2,800.00		2,800.00		$ 2,800.00
Administration	80		$50.00	$ 4,000.00		4,000.00		$ 4,000.00
Education and Outreach	100	Hours	$40.00	$ 4,000.00		4,000.00		$ 4,000.00
Post-project Monitoring	80		$50.00	$ 4,000.00		4,000.00		$ 4,000.00
			Sub-Total	$ 32,800.00	$ -	$ 29,300.00	$ 3,500.00	$ 32,800.00
Travel								
Mileage	1200	miles	$0.585	$ 702.00		702.00		$ 702.00
Per diem	15	days	$126.50	$ 1,897.50		1,897.50		$ 1,897.50
Per diem	15	days	$30.50	$ 457.50		457.50		$ 457.50
			Sub-Total	$ 3,057.00	$ -	$ 3,057.00	$ -	$ 3,057.00
Construction Materials****								
Vegetative Cuttings	2500	each	$1.25	$ 3,125.00		3,125.00		$ 3,125.00
Fence	500	feet	$2.50	$ 1,250.00			1,250.00	$ 1,250.00
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
			Sub-Total	$ 4,375.00	$ -	$ 3,125.00	$ 1,250.00	$ 4,375.00
Equipment, Labor, and Mobilization								
Excavator	300	Hours	$150.00	$ 45,000.00	25,000.00	20,000.00		$ 45,000.00
Operator	300	Hours	$40.00	$ 12,000.00	9,000.00	3,000.00		$ 12,000.00
Mobilization	2	each	$3,000.00	$ 6,000.00	6,000.00			$ 6,000.00
UTV	15	days	$400.00	$ 6,000.00		6,000.00		$ 6,000.00
Fencing Labor	40	Hours	$40.00	$ 1,600.00			1,600.00	$ 1,600.00
Volunteer	120	Hours	$25.00	$ 3,000.00		3,000.00		$ 3,000.00
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS

				$ -				$ -
			Sub-Total	$ 73,600.00	$ 40,000.00	$ 32,000.00	$ 1,600.00	$ 73,600.00
			TOTALS	$ 113,832.00	$ 40,000.00	$ 67,482.00	$ 6,350.00	$ 113,832.00

OTHER REQUIREMENTS:

All of the columns in the budget table and the matching contribution table MUST be completed appropriately or the application will be invalid. Please see the example budget sheet for additional clarification.

*Units = feet, hours, inches, etc. Do not use lump sum unless there is no other way to describe the costs.

**Can include in-kind materials. Justification for in-kind labor (e.g. hourly rates used). Do not use government salaries as match. Describe here or in text.

***The Review Panel suggests that design and oversight costs associated with a proposed project not exceed 15% of the total project budget. If design and oversight costs are in excess of 15%, applications must include a justification or minimum of two competitive bids for the cost of undertaking the project.

****The Review Panel recommends a maximum fencing cost of $1.50 per foot. Additional costs may be the responsibility of the applicant and/or partners.

Additional details:

APPLICATION MATCHING CONTRIBUTIONS

(do not include requested funds or contributions not associated with the application)

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
MT DEQ 319	$ -	$ 60,000.00	$ 60,000.00	Y
MT Wild	$ -	$ 4,000.00	$ 4,000.00	Y
Snowy Mountain Chapter of Trout Unlimited (Lewistown)		$ 482.00	$ 482.00	
Volunteer Labor	$ 3,000.00	$ -	$ 3,000.00	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
TOTALS	$ 3,000.00	$ 64,482.00	$ 67,482.00	

OTHER CONTRIBUTIONS

(contributions not associated with the application)

CONTRIBUTOR	IN-KIND	CASH	TOTAL	Secured? (Y/N)
USFS	$ 6,350.00	$ -	$ 6,350.00	Y
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
	$ -	$ -	$ -	
TOTALS	$ 6,350.00	$ -	$ 6,350.00	

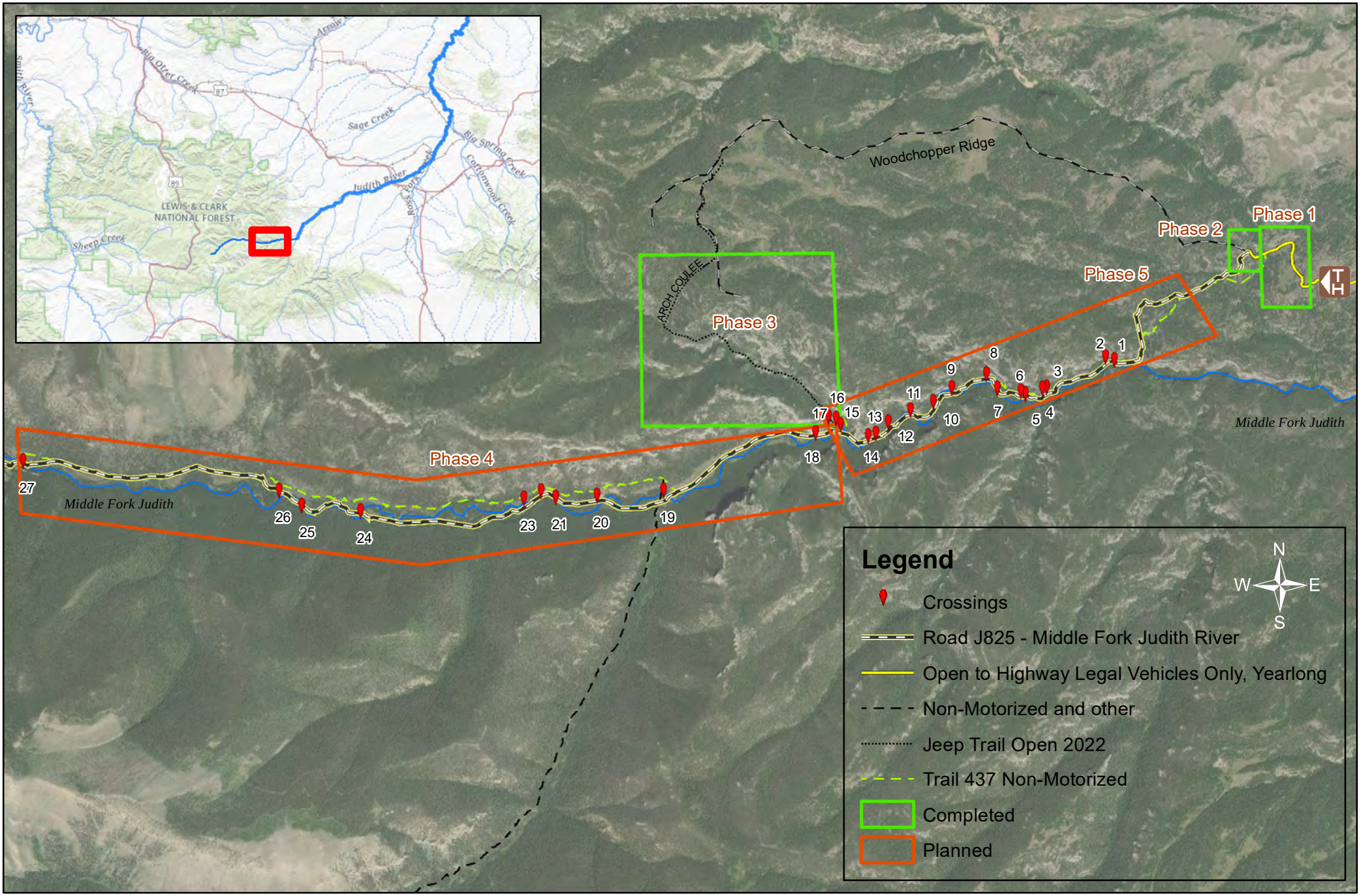
Add Info Online

Middle Fork Judith Restoration

Middle Fork Judith road decommissioning and restoration

017-2022

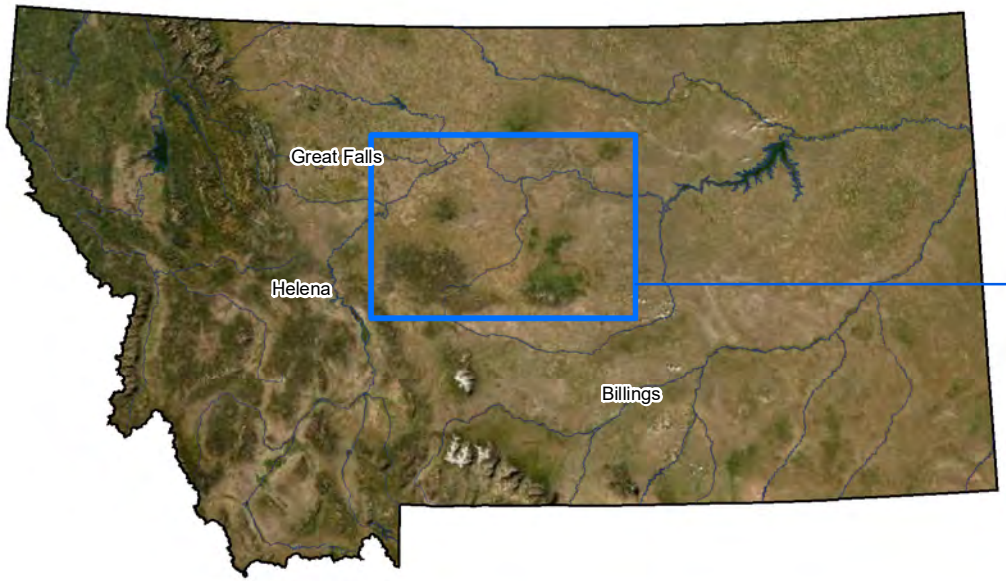
Overview Map

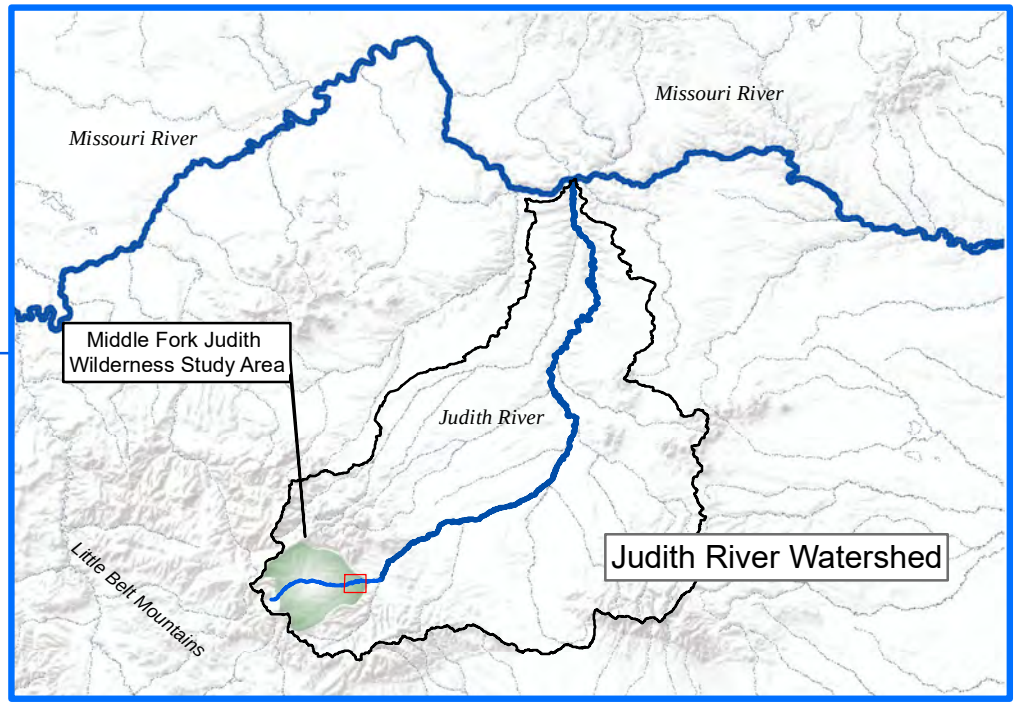


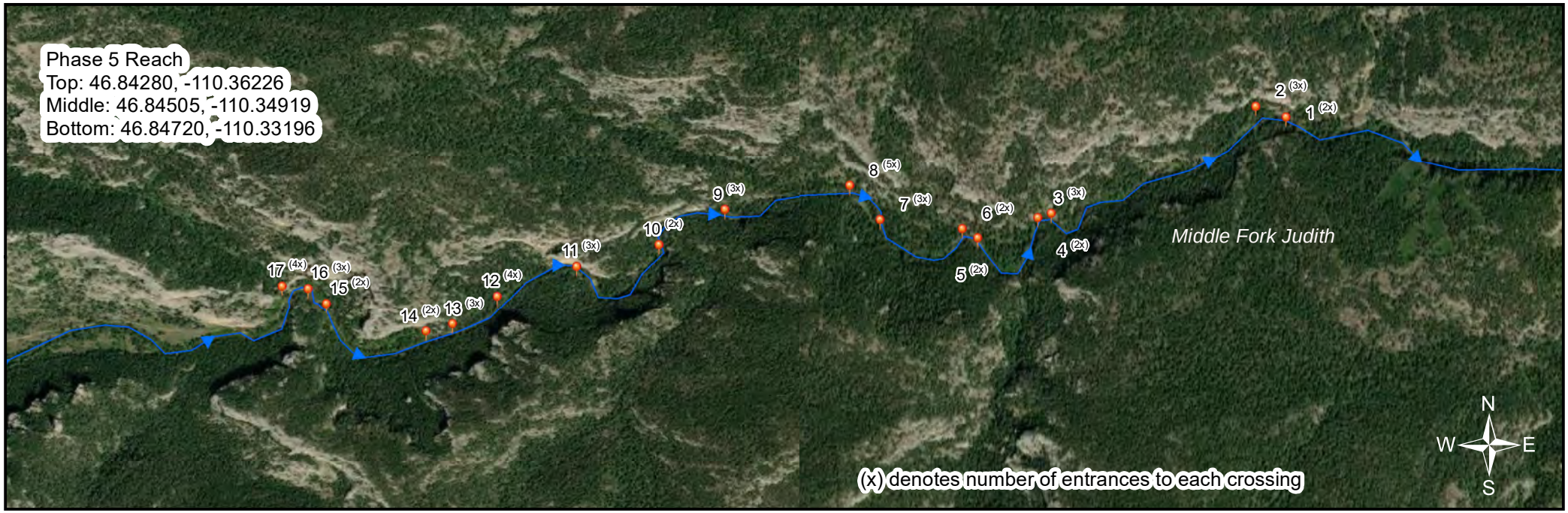
Montana Trout Unlimited. M.Althaus. 2021 Middle Fork Judith
MT State Library - State Plane, Major Rivers & Lakes Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Middle Fork Judith

Riparian Road Decommisioning and Rehabilitation, Phase 5







0 0.25 0.5 1 Miles

M.Althaus, Montana Trout Unlimited. 2021
Middle Fork Judith Phase 5
MT State Library - State Plane, Major Rivers & Lakes
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

May 12, 2022

Future Fisheries Improvement Program
FWP Fisheries Division
PO Box 200701
Helena, MT 59620

RE: Support for the 2022 FWP Future Fisheries Improvement Program Grant

Dear Future Fisheries Review Panel:

On behalf of the Board of Directors for Montana Trout Unlimited (MTU), I am writing to express our support for MTU's application to the FWP Future Fisheries Improvement Program Grant.

We are grateful for this opportunity. We're especially delighted that this project allows for even greater collaboration among MTU and local TU Chapters. The Missouri River Fly Fisher and Snowy Mountain Chapters have been and will continue to assist financially, with outreach, and volunteers as needed.

The Chapters leveraged funds raised via MTU's mini-grant program, essentially making every dollar invested grow. This project will be highlighted in *Trout Line* (MTU's quarterly newsletter that goes to nearly 5,000 households), and via MTU's robust social media channels.

As volunteers, we are so happy to support MTU's talented and dedicated staff. Thank you again for the opportunity to apply. Please don't hesitate to contact me with any questions.

Kind Regards,

Brian Neilsen
State Council Chairman

CIRCLE BAR

Future Fisheries Improvement Program

FWP Fisheries Division

P.O. Box 200701

Helena, MT 59620

Dear Future Fisheries Review Panel:

We would like to voice our support for Phase 5 funding for the Middle Fork of the Judith project. As a sponsor and supporter of the project, Circle Bar Ranch is providing lodging for the staff and workers while working on the project, as well as financial support. We have witnessed first-hand the thoroughness and diligence applied by Montana Trout Unlimited and the Forest Service to this worthwhile project.

The Middle Fork project is an example of the collaborative effort needed to save our wilderness. With the increasing impact from climate change on our forests and streams, these projects will be needed more in the future than ever before. We urge all potential resources to roll up our sleeves and pull out our wallets!

Sincerely,

Jaye H. Wells, Managing Partner

True Ranch Hospitality, LLC
1090 East River Rd.
Tucson, AZ 85718
520-360-2049 (direct)

Circle Bar Guest Ranch | Hobson, MT
Kay El Bar Guest Ranch | Wickenburg, AZ
Rancho de la Osa | Sasabe, AZ
Tombstone Monument Ranch | Tombstone, AZ
White Stallion Ranch | Tucson, AZ

May 6, 2022

Jason Oltrogge

District Ranger Judith - Musselshell District

Helena – Lewis and Clark National Forest Service

109 Central Avenue

Stanford, MT 59479

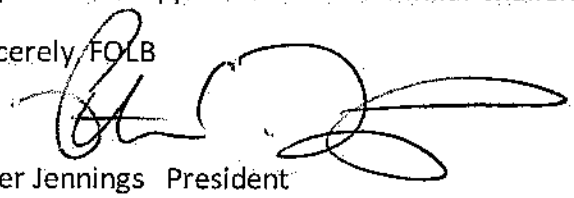
Dear Jason,

The Friends of the Little Belts wish to reaffirm our support for the ongoing reclamation project in the Middle Fork of the Judith, specifically Phase 5, which includes the road decommissioning and stream bank rehabilitation from crossing 1 to 17 near Arch Coulee. We are very happy to see the progress that has been made in the first 4 phases and are looking forward to the result.

As you know, the Friends of the Little Belts is an organization comprised of groups and individuals of different forest-use interests and backgrounds that works with state and federal agencies to promote sustainable use of the Little Belt Mountain range. Our mission is: To preserve, promote, and improve responsible, sustainable access in the Little Belt Mountains area for ALL recreational users by protecting natural resources and improving recreation management in the area. The organization is represented by groups including Charlie Russell Backcountry Horsemen, Missouri River Offroaders, Island Range Chapter of Wild Montana, Silvercrest Trails Association, Great Falls Trail Bike Riders Association, Great Falls Snowmobile Club, Great Falls Bicycle Club, Great Falls Ski and Board Club and the Montana Wildlife Federation.

Please share our thanks with all USFS staff involved with this project. We look forward to applying the same approach to other similar challenges in the forest.

Sincerely, FOLB



Peter Jennings President

Future Fisheries Improvement Program
FWP Fisheries Division
PO Box 200701
Helena, MT 59620

Clint Smith
Fisheries Biologist – Lewistown Area
Montana Fish, Wildlife & Parks
333 Airport Road, Ste. 1
Lewistown, MT 59457
(406) 538-2445 *227

SUBJECT: Middle Fork Judith River Restoration

DATE: April 28, 2022

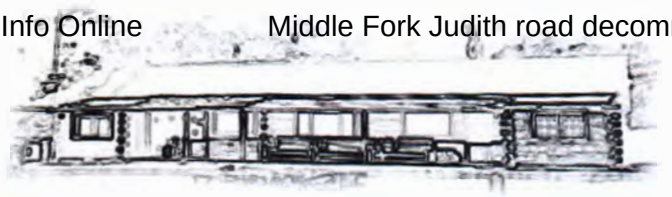
Future Fisheries Review Panel,

This letter is to indicate Montana FWP Region 4's continued support of efforts to seek funding for the proposed work to rehabilitate and restore the Middle Fork Judith River. The existing jeep trail and its many stream crossings are the source of chronic degradation to the aquatic and riparian habitat, resulting in excessive sedimentation of the streambed. Our fisheries monitoring has demonstrated this for decades and it is extremely exciting to see this project near completion.

Currently, the Middle Fork Judith River provides only a fraction of its fisheries potential, both from a conservation and recreational perspective. Addressing the sedimentation and restoring the Middle Fork Judith River has been a priority in the Lewistown Management Area since the Forest Service's Travel Management Plan decision back in 2007. FWP Region 4 staff have assisted with this project by assessing the fishery, monitoring habitat, evaluating westslope cutthroat trout status in the drainage, and offering support to implement the trail reroute and address the numerous stream crossing. It is our sincere hope that through continued collaboration and funding assistance the jeep trail reroute can be completed and the habitat can be restored, with the end goal of restoring the integrity of the watershed and its resources while perpetuating continued opportunity to enjoy and experience the majestic Middle Fork Judith River.

Sincerely,

Clint Smith
Lewistown Area Fisheries Biologist



Middle Fork Cattle Company, Inc
P.O.Box 424
Hobson, MT 59452

Future Fisheries Improvement Program
FWP Fisheries Division
P.O. Box 200701
Helena, MT 59620

April 21, 2022

Dear Future Fisheries Citizen Review Panel:

As an outfitter, landowner, inholder, fisherman and resident of Judith Basin County for the past 39 years, I urge you to assist in the rehabilitation and restoration of the Middle Fork of the Judith. The fishery has been virtually destroyed due to sedimentation. The stream is in desperate need of intervention to reduce the 49 separate entrances over the 17 fords in the lower reaches of the river. The water quality is suffering and something needs to be done.

I have been meeting with the United States Forest Service regularly due to our outfitting permit and Montana Trout Unlimited and due to the fact that we are the largest single private inholder in the Wilderness Study Area of the Middle Fork of the Judith River. The project up to this point has been ahead of schedule and under budget which is a small miracle considering the remoteness of the project. Clearly it is being well managed.

Please consider giving a Future Fisheries grant to fund phase 5 of this project to aid in the speedy recovery and rehabilitation of our beautiful and once highly productive fishery.

Sincerely,

Peter Hollatz

Peter Hollatz Outfitter #24268
President, Middle Fork Cattle Company Inc. DBA Middle Fork Outfitting
Owner, The Purple Toothbrush LLC, Inholder

United States Department of Agriculture
Forest Service
Helena-Lewis and Clark National Forest
Judith Musselshell Ranger District
109 Central
P.O. Box 484
Stanford, MT 59479
406 566-2292
FAX 406 566-2408

File Code: 1950

Date: April 21, 2022

Future Fisheries Improvement Program
FWP Fisheries Division
P.O. Box 200701
Helena, MT 59620

Dear Future Fisheries Review Panel:

I am writing to provide you with a letter of support for the Montana Trout Unlimited application for Future Fisheries Funding, to support the Middle Fork Judith River restoration project.

The Helena Lewis and Clark National Forest has a keen interest in this project as it helps to further implement the 2007 travel plan decision for Little Belt, Castle, and (North Half) Crazy Mountains "to emphasize non-motorized recreation in the Middle Fork of the Judith Wilderness Study Area, while still providing legal historic motorized access by private landowners in the Middle Fork." The project also provides many benefits to aquatic resources and the public, listed below.

Benefits of this project:

- Improve the fishery and fishing opportunities for the public
- This project will reduce nonpoint source pollution, in this case, sediment to the Middle Fork Judith River by removing 17 stream crossings.
- The reduction in the sediment will have a positive effect on all aspects of aquatic life in both the Middle Fork and mainstem Judith River
- Restore stream function and natural processes that have been interrupted by the current trail location
- The removal of the stream crossing will improve downstream water quality in both the Middle Fork Judith and mainstream Judith River
- Upon completion this collaborative effort will eliminate the primary sources of habitat degradation in the Middle Fork while maintaining important access to an amazing landscape and access to the existing inholdings.
- Improve rider safety by providing alternate and improved access to the Middle Fork.

The Helena-Lewis and Clark NF have been partners in this project with Montana Trout Unlimited since its beginning. The Forest Service has also directly contributed $57,500 in project funding and a significant amount of in-kind work on the ground to keep the project moving forward. We also believe that this project has many benefits to the public and aligns with many of the goals of the Future Fisheries program, including but not limited to, restoring naturally functioning stream channels and riparian areas and restoring native fish populations. The Forest Service has provided several other letters of support for this project and plans to continue to play a role in the implementation of the project. I am in full support of this grant application and project.

Sincerely

Jason Oltrogge
District Ranger

WILD MONTANA

April 29, 2022

Future Fisheries Improvement Program
FWP Fisheries Division
P.O. Box 200701
Helena, MT 59620

Dear Future Fisheries Review Panel,

On behalf of Wild Montana and the Island Range Chapter of Wild Montana, we offer our support for Montana Trout Unlimited's submission for funding through the Future Fisheries Program.

This Middle Fork Judith restoration is a major priority for Wild Montana and for the Island Range Chapter. Volunteers and staff have worked to protect the wild nature of the Middle Fork Judith River as well as the wider Wilderness Study Area. The Island Range Chapter Board agreed to contribute $4,000 of their funds for matching the Montana DEQ 319 grant and river restoration project. Additionally, the Island Range Chapter has contributed to prior phases of the project and has been heartened by the progress made so far. Island Range members look forward to contributing in-kind (volunteer) support toward the restoration work. It is a true testament to the leadership shown by Montana Trout Unlimited that the project is ahead of schedule and under budget.

Wild Montana played a key role in the Travel Management Plan revision and the decision to relocate a highly impactive motor vehicle trail running up the Middle Fork Judith River riparian corridor. The route relocation and subsequent river restoration work will facilitate recovery of water quality, aquatic habitat and fish populations in this severely degraded section of the Middle Fork. We look forward to the time when the destructive and highly impactful 49 stream entrances on 17 fords are rehabilitated and don't contribute to the sedimentation of the Middle Fork Judith.

Fortunately, the contentiousness that in the past has characterized public land issues in this area has subsided. In fact, it has been encouraging to see the interest and support for this project that has grown among a broad range of forest users. This is largely because of the obvious degraded condition of the stream, but equally important, the efforts to collaborate and address the concerns of all parties. With funding of this fifth phase, the stage will be set for the restoration of the Middle Fork Judith River and its wild trout fishery to become a great conservation success story. Once work is complete, the fishery is expected to return to its former status as a blue-ribbon trout stream, and this scenic canyon will again be more like the one cowboy artist Charlie Russell viewed in the late 19th century.

We applaud the efforts of all those involved in the restoration and those who have continued to push this project forward. We welcome the opportunity to be a part of this historic project and contribute our resources as we are able.

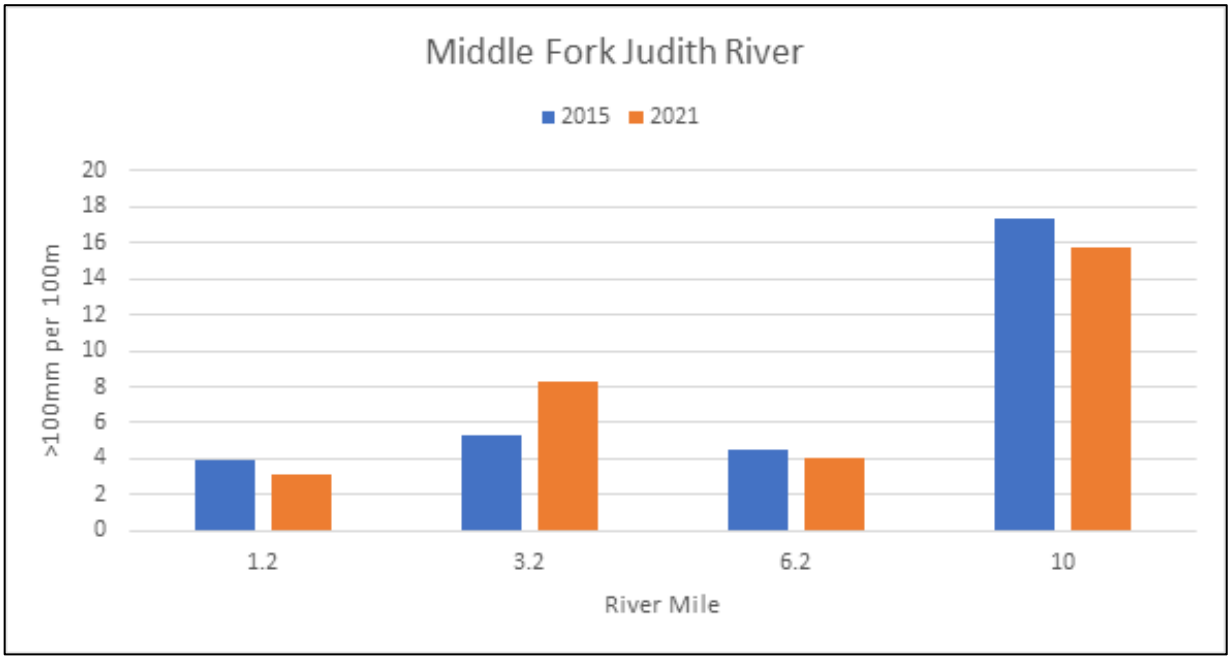
Sincerely,

Zach Angstead
Wild Montana Field Director

Andrew Stucker
Wild Montana Island Range Chapter President

Middle Fork Judith

Fish Population Estimate Data



This figure illustrates the Catch Per Unit Effort for fish 100mm and greater along the MFJ in the 2015 and 2021 sampling. River mile 1.2 is the Judith Ranger Guard Station, river mile 3.2 is the first river crossing, river mile 6.2 is above the Lost Fork confluence (upstream of Phase 5), and river mile 10 is just below the private inholdings. As you can see, above the degraded sections, fish numbers dramatically increase.

Middle Fork Judith River
Riparian Road Decommissioning and Rehabilitation Project
Phase 5

Introduction

The Middle Fork Judith River is a tributary of the Judith River near Lewistown, MT, with a watershed size of 86,257 acres. The watershed is managed primarily by the Helena-Lewis and Clark National Forest as a Wilderness Study Area (WSA). The 82,127-acre WSA interior includes 19 private in-holdings, totaling 970 acres, with 7 cabins. These in-holdings are accessed by jeep road J825 that runs along and through the stream corridor, resulting in 27 stream crossings or fords. The legacy of off-road vehicle use has resulted in an over-widened channel characterized by unstable banks, high sediment loads, atypical riffles and bars, and reduced riparian vegetation.

The US Forest Service and partners have developed a phased project approach (Table 1) to realign the road network and remove the majority of the stream crossings. The ultimate objective of this project is to improve the stream channel, streambanks, and riparian vegetation to reduce sediment, so that the wild westslope cutthroat and rainbow trout fishery can be restored, while maintaining historic, legal access to Forest in-holdings. Rehabilitation of the road network will emphasize road decommissioning, stream restoration, and other components as outlined below. This document presents the results of an inventory of the jeep road impacts on Phase 5 and discusses restoration treatments.

Phases of the Middle Fork Judith Road Rehabilitation Project

Table 1.

Phase	Activity	Restoration Schedule
1	Road realignment from Middle Fork Judith trailhead to Yogo Creek to allow access for heavy machinery for subsequent phases.	Completed September 2020
2	Decommission and replaced erosive, 35° road on hillslope from the Yogo Creek crossing to the top of Yogo Hill, with sustainable road design, including switchbacks and drainage.	Completed September 2020
3	Upgrade motorcycle trail #424 from the top of Woodchopper Ridge down Arch Coulee to a 50” wide jeep road to effectively circumvent the stream section scheduled for treatment in Phase 5.	Completed September 2021
4	Decommission 13 duplicative entrances to 10 stream crossings from the bottom of Arch Coulee to the private in-holdings. Improve remaining entrances to the river to minimize erosion.	Scheduled September 2022 **Funding secured*
5	Decommission 2.5 miles of erosive forest road and 49 stream entrances to 17 river crossings.	Scheduled September 2023
6	Improve the foot and horse trail in the Phase 5 reach with volunteers.	Scheduled October 2023

Survey Data

A survey of the project area was completed in August 2021 for the 17 stream crossings (Table 2) in the lower Middle Fork Judith River, Phase 5, along approximately 2.5 miles of jeep road J825 that runs through the river corridor and canyon. 49 discrete access points were inventoried where vehicles have created fords over the streambanks. The photos below show the typical conditions of the ford access points in this section of the river.

The survey started at the upstream end of Phase 5, adjacent to the outlet of Arch Coulee (construction of Phase 3, Arch Coulee connector, was completed in September 2021 with funding through an FWP-Recreational Trails Program grant to circumvent the stream section scheduled for treatment in Phase 5) and proceeded downstream to the lowest jeep road crossing, crossing 1. For the purposes of documenting the sites, all stream fords were given a unique identifying number, starting with 1 and progressing upstream to 17, and given a location with a handheld GPS. The letters L (left) and R (right) were used to describe which streambank the access point was located on (looking downstream). Finally, if there were multiple access points at a ford, letters A, B, C, etc. were used to describe relative location (starting upstream) as shown below. For example, 5LB would be the fifth ford location on the left bank and the second access. Finally, measurements were taken to characterize the scale of impact at each site as shown below to calculate historic bank loss. Additional Water Erosion Prediction Project (WEPP) measurements were taken to estimate yearly sediment contributions to the river from the road.

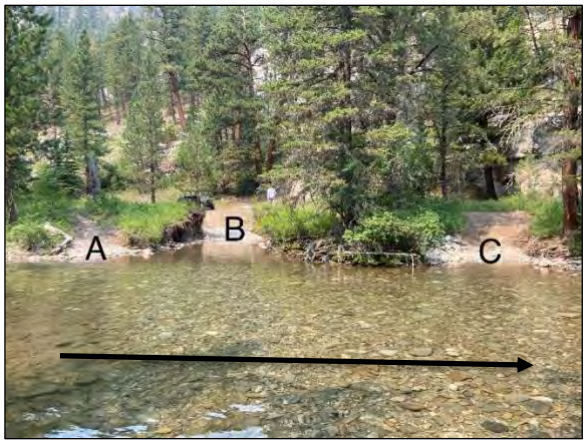


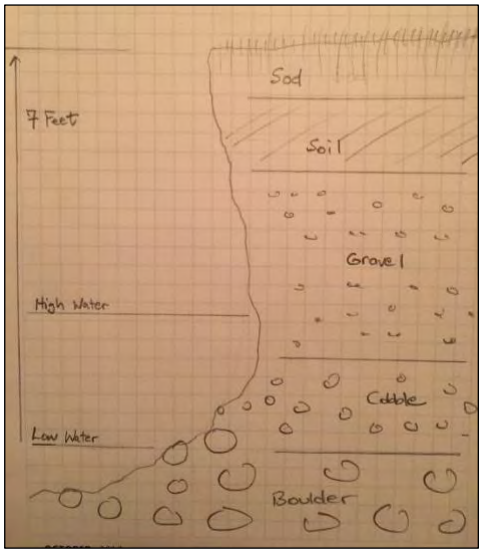
Table 2. Summary of the findings of this survey:

Road Crossing (ID #)	Lat	Long	Bank Length (ft)	Bank Height (ft)	Bank Width (Toe to Crest)	Bank Toe Rock (Avg mm)	Bank Soils (Sand, Loam, etc.)	Historic Loss (tons)	WEPP Estimate (Lbs./year)
Phase 5									
1LA	46.84720	-110.33196	15	2	15	50	Cobble, Gravel	10.8	43.22
1RA	46.84720	-110.33196	45	1.5	15	40	Gravel	32.5	38.29
2LA	46.84742	-110.33288	16	4	25	50	Cobble, Gravel, Sand	19.3	189.09
2LB	46.84742	-110.33288	30	3.5	35	60	Cobble, Gravel, Sand	50.6	18.85
2RA	46.84742	-110.33288	25	2	20	30	Gravel	24.1	23.54
3LA	46.84517	-110.33914	12	4	18	50	Cobble, Gravel	10.4	23.75
3LB	46.84517	-110.33914	15	4	25	50	Cobble, Gravel	18.1	622.05
3RA	46.84517	-110.33914	14	1	10	30	Gravel	6.7	100.01
4LA	46.84508	-110.33956	20	2.5	30	70	Cobble, Gravel	28.9	473.4
4LB	46.84508	-110.33956	12	1.5	12	100	Cobble	6.9	86.21
4RA	46.84508	-110.33956	23	4	30	80	Cobble, Gravel, Sand	33.2	22.19
5LA	46.84466	-110.34139	12	1.5	25	120	Cobble	14.4	44.4
5RA	46.84466	-110.34139	15	1.5	N/A (pt. bar)	40	Cobble, Gravel, Sand	N/A	N/A
6LA	46.84485	-110.34186	12	1	N/A (pt. bar)	50	Cobble, Gravel	N/A	N/A
6RA	46.84485	-110.34186	12	3	15	50	Gravel	8.7	1625.26
7LA	46.84504	-110.34438	40	30	35	100	Cobble, Gravel	67.4	480.6
7RA	46.84504	-110.34438	15	2	15	60	Cobble, Gravel	10.8	40.62
7RB	46.84504	-110.34438	15	3	20	40	Gravel	14.4	83.89
8LA	46.84608	-110.34555	8	2	10	50	Gravel, Loam	3.9	25.07
8LB	46.84608	-110.34555	16	3.5	40	70	Cobble, Gravel	30.8	63.23
8LC	46.84608	-110.34555	14	1.5	25	70	Cobble, Gravel	16.9	47.39
8RA	46.84608	-110.34555	10	4	18	50	Cobble, Gravel	8.7	46.63
8RB	46.84608	-110.34555	25	5	35	40	Gravel	42.1	55.85
9LA	46.84505	-110.34919	10	2	17	50	Gravel, Silt	8.2	20.52
9LB	46.84505	-110.34919	30	4	30	50	Gravel, Silt	43.3	42.4
9RA	46.84505	-110.34919	50	1.5	10	70	Cobble, Gravel	24.1	51.74
10LA	46.84402	-110.35114	50	1	10	30	Gravel, Sand	24.1	29.57
10RA	46.84402	-110.35114	10	3	18	180	Cobble, Loam	8.7	86.19
11LA	46.84338	-110.35356	10	4	15	100	Cobble, Gravel	7.2	36.22
11RA	46.84338	-110.35356	10	2	20	30	Gravel	9.6	42.79
11RB	46.84338	-110.35356	2	15	7.5	40		13	141.64
12LA	46.84250	-110.35591	12	2.5	15	140	Cobble	8.7	63.03
12LB	46.84250	-110.35591	10	2.5	12	30	Gravel, Sand	5.8	6.1
12LC	46.84250	-110.35591	15	1	6	50	Cobble, Gravel	4.3	7.19
12RA	46.84250	-110.35591	30	4	30	60	Cobble, Gravel, Sand	43.3	27.34
13LA	46.84167	-110.35723	15	3	25	80	Cobble, Gravel	18.1	5.62
13LB	46.84167	-110.35723	15	3	20	60	Gravel, Loam	14.4	137.03
13RA	46.84167	-110.35723	8	2	10	50	Gravel, Sand	3.9	38.45
14LA	46.84146	-110.35802	30	1.5	15	10	Gravel, Sand, Loam	21.7	27.47
14RA	46.84146	-110.35802	20	1	10	30	Gravel, Sand	9.6	5.75
15LA	46.84228	-110.36096	10	1	10	60	Cobble, Gravel	4.8	19.34
15LB	46.84228	-110.36096	20	4	20	60	Cobble, Gravel, Loam	19.3	5.19
16LB*	46.84273	-110.36149	15	2	13	100	Gravel, Sand, Loam	9.4	15.44
16RA	46.84273	-110.36149	8	1	15	20	Gravel, Sand, Loam	5.8	145.4
16RB	46.84273	-110.36149	30	3	45	220	Cobble, Gravel	65	30.3
17LA	46.84280	-110.36226	30	3	30	80	Gravel, Sand	43.3	210
17LB	46.84280	-110.36226	14	1	1	80	Gravel	0.7	N/A
17RA	46.84280	-110.36226	Road Capture	Road Capture	Road Capture	Road Capture	Cobble, Gravel, Sand	N/A	N/A
17RB	46.84280	-110.36226	14	2	13	160	Cobble, Gravel, Sand	8.8	6.06
49 Entrances in Phase 5			923 feet of streambank restored					884.7 Tons	5,354/2.68 T/Y

*No 16LA recorded.

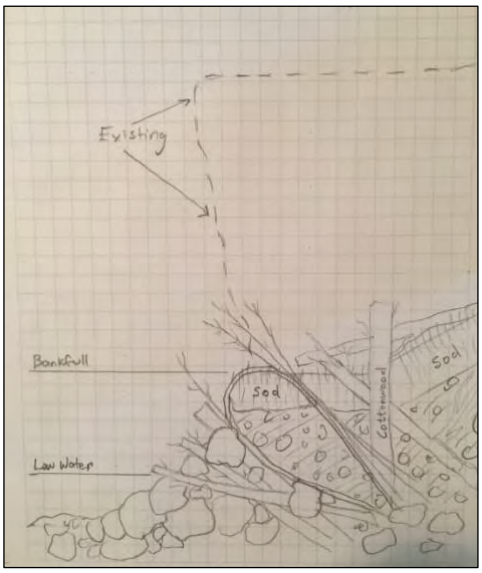
Restoration Treatments

Existing conditions on the project site include raw, nearly vertical streambanks that range from 1 to 7 feet high and large cavities that have been caused by off-road vehicle use and erosion. The project proposes to restore these access points at the ford crossing using a variety of techniques depending on site conditions (Table 3), but generally, all treatments will use onsite materials such as rock, logs, general dirt fill, etc. due to the remote location and cost and disturbance of importing materials.



Example Existing Conditions

In most cases, restoration treatments will include leaving the existing gravel, cobble, or boulder toe of the streambank in place and augmenting with onsite cobble (40-220 mm) above the ordinary low water mark. The existing stream-bank alignment will be maintained. When available, live cuttings of willows, dogwood and other vegetation will be placed at the toe of the slope along with brushy/woody material to provide roughness and create long term bank stability. Contractors will then fill the streambank with general fill material, logs and other debris to bankfull height (2 feet), add transplants or salvaged woody plants and reslope the streambank above the high-water mark, tying into the surrounding hillslope features, to facilitate vegetation growth and stability. In some cases, especially where the access points are extremely large and general fill is less available, multiple trees, including rootwads and limbs will need to be used to partially form the bank line in order to fill space, provide roughness and deflect the river current away from the bank.



Example Restoration Treatment

Slash and other woody material will be placed on top of disturbed surfaces to prevent erosion and provide shade and microsites for plants. Ideally, the project will be completed during late-September or October when low seasonal flows will minimize any impact to the waterway, planting conditions are more optimal and recreational use is less frequent.

Table 3. Restoration Treatment Plan by Site

Road Crossing (ID #)	Notes
1LA	Standard Treatment* (Pull in rock toe, build brushy matrix with cuttings, contour bank line to match up and downstream)
1RA	Borrow rock toe from riffle crest material. Transplant dogwood clumps, sod mats. Lots of Large Woody Debris (LWD) available.
2LA	Move vegetated penisula in as large of pieces as possible. Keep large fir as bank edge. Transplant dogwood and sod.
2LB	Treat in conjuction with 2LA. Sediment trap.
2RA	Lots of LWD available. Standard treatment.
3LA	Standard treatment. Heavy LWD
3LB	Standard treatment with riffle material. LWD.
3RA	Recontour to match bank line.
4LA	Plug hole with large boulder. Cobble toe, sod mat and transplants available. Sediment trap
4LB	Cobble toe, woody-brush fill, top with sod mats. Recontour bank line. Sediment trap
4RA	Riffle crest material, fill with trees and shrubs. Pull in steep slopes.
5LA	Small point bar. Riffle crest material. Recontour bank line.
5RA	Small point bar. Raise point bar with riffle crest material. Plant willow cuttings and drop trees.
6LA	Small point bar. Rock toe with riffle crest material. Standard treatment.
6RA	Small point bar. Point bar with willow. Minor recontouring.
7LA	Rock toe w/ riffle crest material. Fill w/ woody material. Lots of trees, transplants, and sod available. Finish with LWD. Sediment trap.
7RA	Treat as one with 7RB. Standard treatment. Lots of trees available for stability.
7RB	Treat as one with 7RA. Standard treatment. Lots of trees available for stability.
8LA	Minor, tie in w/ 8LB
8LB	Rock toe, wood, reslope with fill. Sediment trap.
8LC	Tie in w/ 8LB. Leave large riparian trees. Pull in cobble from ramp. Transplants on backside and resplope.
8RA	Minor, harden toe. Transsplant and reslope.
8RB	Rock toe, wood, reslope with fill. Sediment trap. Match bank height at river, ~2'.
9LA	Heavily degraded site. Use available cottonwood w/ roots as fill. Borrow pit available for fill, sod, and trasplants.
9LB	Heavily degraded site. Pull in dead and down trees. Build large LWD complex. Some large cobble available. NEED FILL.
9RA	Reslope. Rock toe, transplants clumps and sod mats. Drop a few large trees.
10LA	Pull in gravel bar,transplant clumps and sod mats.Reshape.
10RA	Standard treatment. Riffle crest material, wood, brush, fill.
11LA	Several downed trees and root wads available. Hillside excavation for fill. Total recontour.
11RA	Standard treatment. Horse trail to consider.
11RB	Standard treatment.
12LA	Standard treatment. Fill available from hillside.
12LB	Standard treatment. Fill available from hillside.
12LC	Recontour with rock.
12RA	Standard treatment. LWD complex.
13LA	Boulder and wood fill. Transplant clumps, top with more wood. Fill material and cuttings. Horse trail to consider.
13LB	Riffle crest toe, woody-brush matrix. Swail on upper end, leave island intact.
13RA	Recontour.
14LA	Brushy-woody matrix to tie between large boulder and upstream bank. Lots of small conifer available. Improve horse trail.
14RA	Recontour.
15LA	Road capture. Boulders and trees avail. LWD at head of side-channel. Move sod mat at side-channel confluence to river left. Spanners across river. Hvy. armoring to prevent tresspass.
15LB	Road capture. Bank meander to match bank lines. Rock from downstream road. Tie into Birch. Drop spanners.
16LB*	No 16LA. Standard treatment. Handwork. Add heavy LWD complex. Add spanners to prevent trespass. *Good willow source.
16RA	Scarify. Low-to-no treatment.
16RB	Avulsion channel connected to 17LA. Blend cut slopes and create rock toe. Add LWD.
17LA	Use Arch Coulee spoils as fill. Grade bank to match bank line. Add Hvy. LWD to armor against trespass.
17LB	No bank treatment. Scarify and recontour. Block with trees.
17RA	*Do after 17RB.* Boulder-cobble toe, sand-soil plug. LWD complex w/ live trees. Fill and trasplant source at avulsion. Downstream swail.
17RB	Riffle crest material as bank toe. Woody-shruby fill to match bank line. Transplant dogwood and willow. Backfill

Vegetation Restoration Guidelines

The majority of the woody riparian plant species in the project area consist of red osier dogwood, willow sp., river birch, and serviceberry, with transitional species including woods rose, snowberry and Rocky Mountain maple. Conifers include Douglas fir and Engelmann spruce, with Ponderosa pine found in drier site conditions. The long-term maintenance of properly functioning streambank conditions will require the development of deciduous cover in the streamside zone to provide large root systems for mitigating the erosive power of high flows and for developing optimal aquatic habitat conditions. Subsequently, the objective of the proposed treatments is to increase the rate of establishment of desirable native plant species on the streambanks and within the riparian corridor.

The primary factors which will inhibit establishment and development of a desirable native plant community within the Middle Fork Judith River project area are improper planting conditions and timing. Browsing or trampling by wildlife or livestock would also affect establishment of some desirable species but is not likely to be critical to the overall establishment of vegetation, because of the robust vegetation up and downstream of the stream entrances. Monitoring for animal damage, as well as encroachment by off-road vehicles, should be done regularly and steps taken to prevent significant damage if necessary.

Ensuring the establishment of species appropriate to site conditions and succession status will require a combination of: site stabilization, site-specific seeding or planting techniques, and proper handling and timing of transplants. Some of these techniques can be accomplished during channel restructuring work while others are best applied later. Appropriate techniques and species to use will vary in relation to the restructured channel, variations in groundwater levels and slope of the ground surface. Specific treatment techniques and species to be used for each of these three types are listed in the following section.

In general, locally obtained clump transplants with large excavated root masses will attain the desired planting goals most rapidly. Vegetated cuttings of locally sourced willow or dogwood can be used to augment the availability of plant material. Using transplants and cuttings should be done in the fall, if possible, when temperatures are lower, moisture is more reliable, and plants may have reached dormancy. Additionally, paying attention to the natural landscape conditions and microsites during planting will help to identify/distinguish/determine appropriate locations for plants within disturbed areas requiring restoration.

The following general guidelines will help increase plant survival:

1. Plant materials should be kept in the shade and moist prior to planting.

2. Whenever practical, plants should be watered after planting. However, if soil conditions are wet or very moist “watering in” is not necessary.

3. Once planted, excess soil should be placed around the plant to help collect and retain water.

Example Treatments

Example treatment using logs and woody debris

Example treatment with live cuttings and transplants

Example treatment with live cuttings and transplants

Example treatment with live cuttings and transplants

Road Crossing 1: Latitude:46.84720, Longitude:-110.33196

Road Crossing 2: Latitude:46.84742 Longitude:-110.33288


2RA

Road Crossing 3: Latitude:46.84517 Longitude:-110.33914


3RA

Road Crossing 4: Latitude:46.84508 Longitude:-110.33956

Road Crossing 5: Latitude:46.84466 Longitude:-110.34139

Road Crossing 6: Latitude:46.84485 Longitude:-110.34186

Road Crossing 7: Latitude:46.84504 Longitude:-110.34438


7RB

Road Crossing 8: Latitude:46.84608 Longitude:-110.34555


8LC


8RA


8RB

Road Crossing 9: Latitude:46.84505 Longitude:-110.34919


9RA

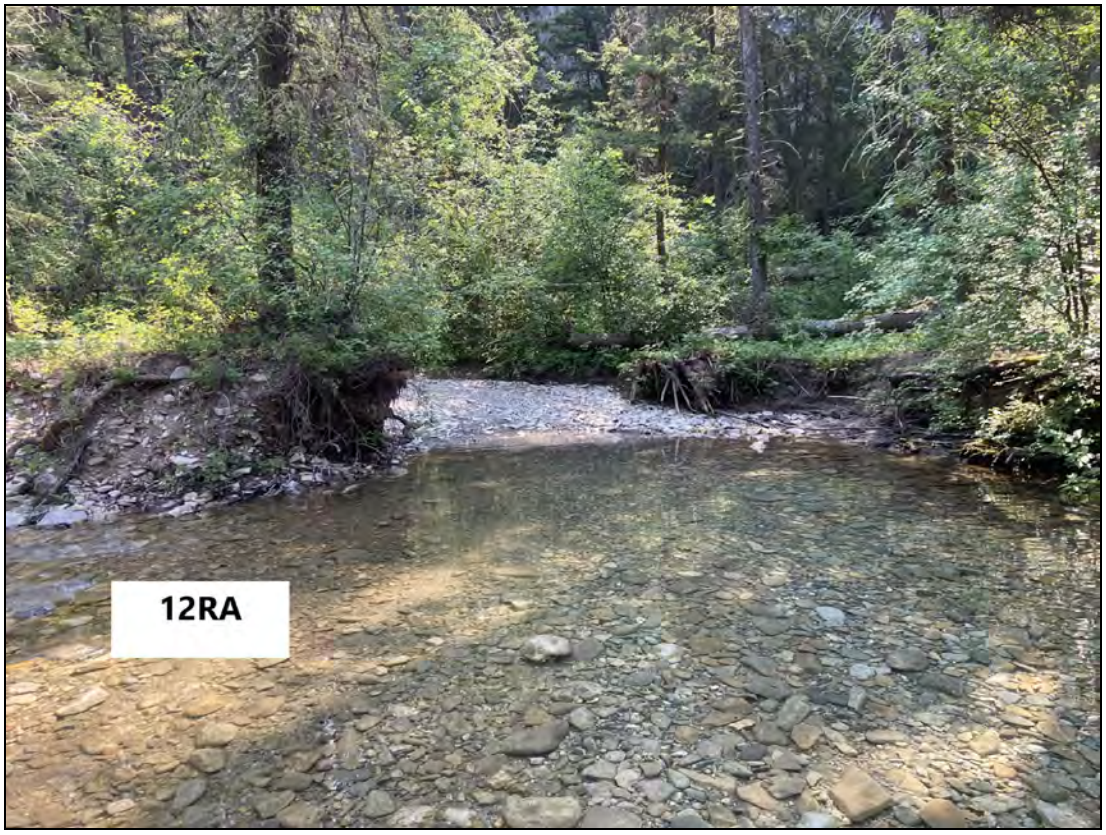
Road Crossing 10: Latitude:46.84402 Longitude:-110.35114

Road Crossing 11: Latitude:46.84338 Longitude:-110.35356


11RB

Road Crossing 12: Latitude:46.84250 Longitude:-110.35591


12LC


12RA

Road Crossing 13: Latitude:46.84167 Longitude:-110.35723


13RA

Road Crossing 14: Latitude:46.84146 Longitude:-110.35802

Road Crossing 15: Latitude:46.84228 Longitude:-110.36096

Road Crossing 16: Latitude:46.84273 Longitude:-110.36149


16RB

Road Crossing 17: Latitude:46.84280 Longitude:-110.36226


17RA


17RB