Draft
Environmental Assessment

Fish Creek Habitat Enhancement

July 2012

Montana Fish, Wildlife & Parks

Environmental Assessment
MEPA, NEPA, MCA 23-1-110 CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. Proposed state action:

Montana Fish, Wildlife & Parks (FWP), Trout Unlimited (TU), and Montana Department of Natural Resources and Conservation (DNRC), hereafter "Project Partners," propose to construct a series of logjams consisting of native green and aged woody debris along a portion of lower Fish Creek on DNRC and FWP properties. The logjams are intended to increase native trout populations in project reaches and in Fish Creek overall by providing enhanced cover and channel complexity in a key trout rearing area and migratory corridor. The project would also likely improve the quality of angling in this reach.

2. Agency authority for the proposed action:

FWP has the authority to implement improvements in fish habitat by placement of habitat improvement structures (ARM Rule 12.2.454 (b)).

FWP also has the authority to develop outdoor recreational resources in the state per 23-1-101 MCA: *"for the purpose of conserving the scenic, historic, archaeologic, scientific, and recreational resources of the state and providing their use and enjoyment, thereby contributing to the cultural, recreational, and economic life of the people and their health."*

3. Name of project: Fish Creek Habitat Enhancement Project

4. Project sponsor:

Montana Fish, Wildlife & Parks
3201 Spurgin Road
Missoula, MT 59804
406-542-5500

5. Estimated Schedule of Events:

Estimated Construction/Commencement Date: August 2012
Estimated Completion Date: By September 1, 2012
Current Status of Project Design: 80% complete

6. Location:

Lower Fish Creek is located 37 miles west of Missoula on Interstate 90, then 6-8 miles south of Exit 66 on Fish Creek Road. The site is located in Mineral County, T14N, R24W, Sections 19, 20, and 30. Figure 1 shows the general location of the project reach near the Big Pine Fishing Access Site. (See Appendix A for aerial maps of the project location.)

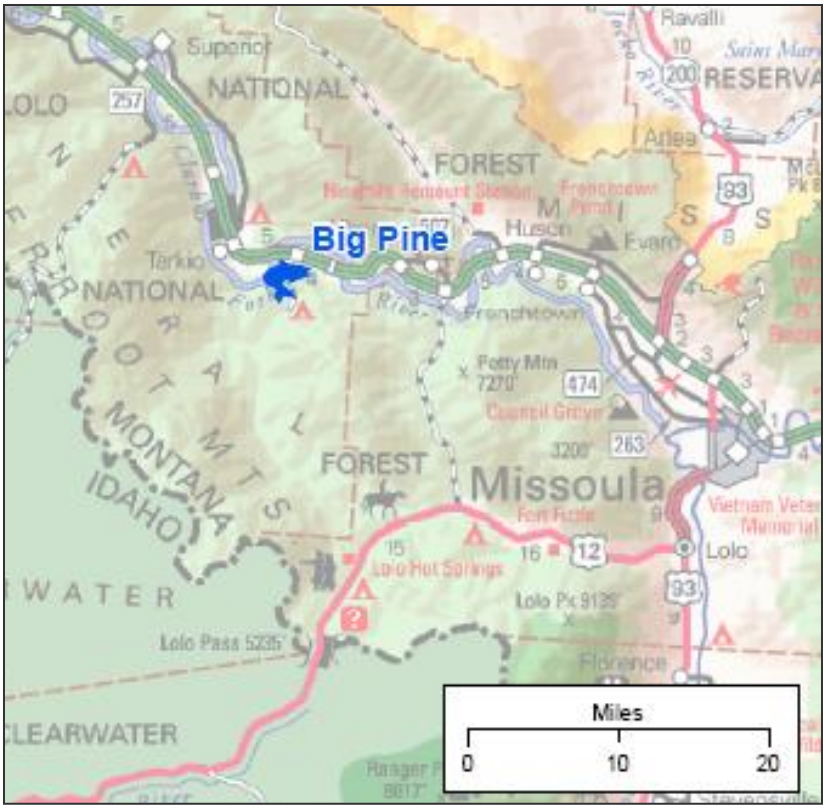

Figure 1. Location Map of Big Pine FAS (near project) on main stem Fish Creek

7. Project size:

	Acres		Acres
(a) Developed:		(d) Floodplain	4-5
Residential	0		
Industrial	0	(e) Productive:	
		Irrigated cropland	0
(b) Open Space/ Woodlands/Recreation	0	Dry cropland	0
		Forestry	3-4
(c) Wetlands/Riparian Areas	4-5	Rangeland	0
		Other	0

8. Permits, Funding and Overlapping Jurisdictional Responsibilities:

(a) Permits: All required permits would be secured prior to construction.

Agency Name	Permit	Date Filed/#
US Army Corps of Engineers	404	July 2012
Mineral County	Floodplain	July 2012
MT Fish, Wildlife & Parks	124	July 2012
MT Dept. of Environmental Quality	318 Authorization	July 2012
US Fish & Wildlife Service	ESA Consultation – Bull Trout	

(b) Funding:
$20,000 was provided by PP&L Montana as part of funds allocated to mitigate loss of juvenile bull trout at Thompson Falls Dam.
Up to $10,000 would be provided by TU.

(c) Other Overlapping or Additional Jurisdictional Responsibilities:
MT Department of Natural Resources & Conservation (DNRC) - Landowner

9. Summary of the proposed action:

A collaborative group comprised of FWP, TU, and DNRC proposes to strategically add large woody debris to select portions of lower Fish Creek where habitat complexity and fish habitat is limited. The addition of large woody debris to mountainous streams is a practical management technique for improving stream function and native fish habitat and has a well documented record of implementation and monitoring in the Pacific Northwest. Therefore, the Project Partners propose to construct approximately 20 logjams on a 2-mile reach of Fish Creek on land owned and managed by DNRC and FWP during the summer of 2012.

The logjam structures would consist of 4 to 10 trees, with portions of the trees outside the bankfull channel (see Appendix B for examples of logjams). This arrangement not only mimics the natural process of trees falling into a stream, but research shows that maximum stability is achieved when greater than 75% of the tree bole is on the floodplain or outside the bankfull channel. Trees would be passively anchored along the streambank margins by tying them into the base of existing live trees and terrain features. In this manner, the weight and shape of each structure is the anchor and disturbances to the streambank are minimized. This project is expected to take 1 to 2 weeks to complete and is intended to begin in mid-August 2012.

Trees for the project would be selectively removed from DNRC and FWP properties. Where possible, “cull” trees would be removed (as identified by DNRC foresters) to benefit adjacent merchantable trees or to remove road-side hazard trees. Trees would not be removed from Streamside Management Zones (SMZ)

10. Alternatives:

Alternative A: No Action
If no action is undertaken, the project reaches would continue to function with limited complexity and limited habitat for fish.

Alternative B: Installation of Logjams to Increase River Complexity and Benefit Native Fish
Under this alternative, approximately 20 logjams (consisting of 80-140 trees total) would be installed using a tracked excavator to provide increased habitat complexity to stream reaches where habitat is limited. Logjams would be passively anchored at each site. Ground disturbance and damage existing riparian vegetation is expected to be minimal based on similar applications on nearby streams.

PART II. ENVIRONMENTAL REVIEW CHECKLIST

1. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. **Soil instability or changes in geologic substructure?		X				1a
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X			1b
c. **Destruction, covering or modification of any unique geologic or physical features?		X				1c
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X			1d
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

1a: The project would create instream structure and there would be no change in the geologic substructure.

1b: There would be minor disruption or compaction of soils when using equipment to access the stream channel and in collecting trees for project.

1c: No unique geological or physical features exist within the immediate project area.

1d: The project would create logjam structures in the stream channel, which would cause scour of the streambed and deposition of stream sediment, thereby improving spawning and rearing habitat for native fish. Some minor, short-term siltation is expected during placement of the logs within the stream channel.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

2. AIR Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. **Emission of air pollutants or deterioration of ambient air quality? (Also see 13 (c).)			X			2a
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. ***For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regs? (Also see 2a.)		n/a				

2a: A minor amount of emissions from construction equipment exhaust would be emitted for a short time during the project period.

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3. WATER Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. *Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X			3a
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of floodwater or other flows?			X			3c
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. ****For P-R/D-J, will the project affect a designated floodplain? (Also see 3c.)		n/a				
m. ***For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a.)		n/a				

3a: Short-term increases in turbidity would occur during project construction. To minimize turbidity, construction would occur during a low flow period and operation of equipment in the creek channel would be minimized to the extent practical. All required permits/authorizations would be obtained prior to construction.

3c: The construction of the logjams would redirect Fish Creek in the immediate location of the structures causing pool scour. These minor course changes are not intended to affect the overall flow and direction of the creek's path in the area, but are intended to create non-uniform flow patterns and cover for fish as would naturally occur with large wood in streams.

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4. VEGETATION Will the proposed action result in?	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				
b. Alteration of a plant community?			X			4b
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				4c
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				4e
f. ****For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		n/a				

4b: Live, native green trees would be selected from areas close to the project location for placement in the logjams. The number of trees required for the project and individual tree selection are not expected to have long-term adverse impacts on local plant communities and trees would only be taken from outside the SMZ limits along Fish Creek.

4c: A search of the Montana Natural Heritage Program's (MNHP) Species of Concern database found no vascular or non-vascular plants of significance within the boundaries of the project area.

4e: The project area currently contains high densities of spotted knapweed. To minimize spread of this and other plant species, equipment would be washed and inspected prior to mobilization.

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** 5. FISH/WILDLIFE Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?		X				
c. Changes in the diversity or abundance of nongame species?		X				
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?			X			5f
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?		X				
h. ****For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f.)		n/a				
i. ***For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d.)		n/a				

5f: A search of the MNHP database revealed 8 species of concern in the vicinity of the project area. Species of concern include gray wolf (endangered status), Canada lynx (threatened status), wolverine, fisher, bald eagle (threatened status), black-backed woodpecker, bull trout (threatened status) and westslope cutthroat trout. FWP does not expect terrestrial species or their habitats to be negatively affected by the proposed project. Bull trout do inhabit the creek and spawn during fall months of the year; however spawning areas are located a considerable distance upstream of the project area, and this project would enhance the migration corridor or the ability of juvenile bull trout to rear in this reach. Addition of large wood would enhance natural channel complexity and is viewed as a benefit to fish habitat conditions. The creek channel would remain passable by all fish species throughout the duration of the project, and any minor sediment releases in the creek as a result of the project are not expected to have a negative impact on fish habitat or passage. Current and potential nesting trees for raptors would be avoided in selection of trees for the project.

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B. HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Increases in existing noise levels?			X			6a
b. Exposure of people to serve or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

6a: There would be an increase in noise near the project site from equipment used to do the work. This would only occur during project construction.

7. LAND USE Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				7a.
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?			X			7d.

7a. Most of the project reach lies on DNRC School Trust lands that are managed for cabin site leases and timber management. Removal of selected trees would benefit the productivity of these parcels by removing less desirable trees, i.e., Douglas-fir encroachment on ponderosa pine and those trees which are exhibiting poor phenotype. In addition, trees that have the potential to create a hazard to either the stability of the Fish Creek road or that may fall across the road would be selected for removal if possible. Any cottonwood trees adjacent to Fish Creek that would be selected for removal would not have any commercial value; therefore, their removal would not have any monetary impact upon the Trust beneficiaries.

7d. The project reach begins just downstream of existing DNRC cabin lease sites. Project work in this area would be completely expeditiously and would not occur on weekends to minimize disturbance for leases.

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8. RISK/HEALTH HAZARDS Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan, or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. ***For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		n/a				

9. COMMUNITY IMPACT Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				

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10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased use of any energy source?		X				
e. **Define projected revenue sources						10e
f. **Define projected maintenance costs.						10f

10e: The proposed project would be paid for with funds from PPL Montana and TU.

10f: Future maintenance costs are expected to be minimal and coverable under existing operating budgets.

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** 11. AESTHETICS/RECREATION Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?		X				
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. **Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report.)		X				11c
d. ***For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c.)		n/a				

11c: This project is likely to improve the quantity and/or quality of tourism and recreation opportunities, as fishing in the project reach would likely improve significantly.

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. **Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				12a
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. ****For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a.)		n/a				

12a: Based on consultation with the Montana State Historic Preservation Office (SHPO), there is a low likelihood that cultural properties would be impacted. Should cultural materials be discovered during this project, FWP would temporarily halt project activities and notify SHPO.

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SIGNIFICANCE CRITERIA

13. SUMMARY EVALUATION OF SIGNIFICANCE **Will the proposed action, considered as a whole:**	**IMPACT ***					
	Unknown	**None**	**Minor**	**Potentially Significant**	**Can Impact Be Mitigated**	**Comment Index**
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. ***For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e.)		n/a				
g. ****For P-R/D-J, list any federal or state permits required.		n/a				

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2. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

The final plans and specifications for the project would be developed collaboratively by project partners. All local, state and federal permits would be obtained by FWP. The project construction would be completed by a private contractor skilled in stream work and directed by FWP and TU staff. The private contractor would be hired by TU and selected in accordance with the State's purchasing procedures.

PART III. NARRATIVE EVALUATION AND COMMENT

The proposed action is not expected to have negative cumulative effects on the physical and/or human environments. The minor impacts identified in the previous sections are most likely to occur in relation to the construction phase of the project. There are no lasting negative effects anticipated in relation to this project. Project is designed to provide long-term benefits to native fish populations and stream habitat.

The proposed project would utilize the least intrusive construction techniques whenever possible to limit short-term effects associated with the project. Any disturbed areas on banks would be restored. Once completed, the proposed habitat structures would blend in with the riparian environment in order to maintain the aesthetics of the surrounding viewshed. The project would improve instream habitat for native and threatened fish species, with minimal impact to other resources. The project would also likely improve the quality of angling in this reach.

PART IV. PUBLIC PARTICIPATION

1. Public Involvement:

The public would be notified in the following manner to comment on this current EA, the proposed action and alternatives:

- One legal notice in each of these newspapers: *Missoulian, Independent Record,* and *Mineral Independent.*
- One statewide press release;
- Direct mailing (or email notification) to adjacent landowners and interested parties;
- The EA would be posted on the FWP web page (*http://fwp.mt.gov*) under " Public Notices."
- The EA would be available at FWP Region 2 Headquarters.

This level of public notice and participation is deemed appropriate for a project of this scope having few minor impacts.

2. Duration of comment period.

The public comment period would extend for 15 days following the publication of the legal notice in area newspapers. Written comments will be accepted until 5:00 p.m. on August 3, 2012 and can be mailed to:

Montana Fish, Wildlife & Parks
Attn: Sharon Rose
Region 2 Headquarters
3201 Spurgin Road
Missoula, MT 59804

Or email comments to: shrose@mt.gov

Or phoned to 406-542-5540

PART V. EA PREPARATION

1. **Based on the significance criteria evaluated in this EA, is an Environmental Impact Statement (EIS) required? (YES/NO)?** No

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

Based upon the above assessment, which has identified a small number of minor impacts associated with the proposed action, an EIS is not required because this environmental assessment provides an appropriate level of review and analysis.

2. **Person responsible for preparing the EA:**

Ladd Knotek
Fisheries Biologist
Montana Fish, Wildlife & Parks
3201 Spurgin Road
Missoula, MT 59804
406-542-5506

3. **Agencies consulted during preparation of the EA:**

Montana Fish, Wildlife & Parks:
- -Parks Division
- -Wildlife Division
- -Fisheries Division
- -Legal Bureau

Montana Department of Natural Resources & Conservation
Montana State Historic Preservation Office (SHPO)
Montana Natural Heritage Program (MNHP)– Natural Resources Information System (NRIS)
Mineral County – Conservation District; Flood Plain Administrator

APPENDIX A. Aerial maps of project locations.
APPENDIX B. Examples of logjam structures.