

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Greenhorn Creek Fish Barrier Installation
Proposed Implementation Date:	Summer, 2012
Proponent:	Turner Enterprises
Location:	Section 26, Township 8 South – Range 4 West, MPM
County:	Madison County

I. TYPE AND PURPOSE OF ACTION

Proponent wants to install a fish migration barrier, (dam) on state land in Greenhorn Creek to facilitate remediation of upper Greenhorn Creek, and the restoration of Westslope Cutthroat Trout in the creek. Once constructed, the proponent would be responsible for subsequent annual maintenance of the concrete barrier. Although the barrier is located on DNRC trust land, the barrier will be owned by the proponent who would assume all responsibility for, inspection, maintenance, replacement or removal, and all liabilities associated with the structure once constructed.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED: *Provide a brief chronology of the scoping and ongoing involvement for this project.*

The following parties were contacted seeking comments and input for this project.

- MT Fish Wildlife and Parks, Fisheries Biologist
- US Forest Service, Ennis District Ranger
- BLM, Dillon Field Office
- Madison County Commissioners
- Madison County Planner
- Jim Bower, DNRC Fisheries Biologist
- Patrick Rennie, DNRC Archeologist
- Dennis Meyer, DNRC Water Rights Specialist
- Tony Schoonen, MT Action for Access
- TEI/ Snowcrest Ranch Dave Dixon
- Ledford Grazing Association
- Gilman Cattle Co. & Lombardi Ranches Inc.
- Ruby River Ranch
- Jack Atcheson, Coalition for Appropriate Management of State Land
- Jack Jones, Coalition for Appropriate Management of State Land
- Leroy Mehring, Skyline Sportsmen's Association
- Lorry Thomas, Anaconda Sportsmen
- Alliance for the Wild Rockies
- Garry Frank, DNRC Hydrologist
- NRIS Search with Natural Heritage Program

The MT FWP completed an EA on the Greenhorn Creek Westslope Cutthroat Trout Conservation Project: *Removal of Nonnative Trout*, in 2007. The EA and decision notice are attached and made a part of this EA along with the engineering report. These documents are referenced where appropriate.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

310 permit from Madison Conservation District
404 permit from the Army Corps of Engineers
MT DEQ 318 Permit
Madison County Weed Management Plan

3. ALTERNATIVES CONSIDERED:

Action Alternative: Allow and grant a Land Use License to Turner Enterprises Inc. of Bozeman, MT for the installation of a fish migration barrier in Greenhorn Creek on state land in the SE ¼ NE ¼ of Section 26, Township 8 South, Range 4 West, in Madison County.

No Action Alternative: Deny Turner Enterprises Inc. of Bozeman, MT a Land use License to install a fish migration barrier in Greenhorn Creek on State land in the SE ¼ NE ¼ of Section 26, Township 8 South, Range 4 West, in Madison County.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

An NRCS soil survey indicates that the soils at the location of the proposed Barrier are Cryaquolls and the parent material is gravelly alluvium. Land capability is 5w. These soils are erosive and would require erosion control mitigation measures to be performed at the location of the barrier if the action alternative was chosen.

Mitigation measures would include provisions in the engineering report which would include the Engineering Report under Division 1 & 2 which describes General Requirements and Sitework of the proposal. This includes, Division 1; The Summary of the Work, & General Procedures, Division 2; Site Clearing, Construction Dewatering, Unclassified Excavation, Fill Materials and Placement Requirements, Stream Channels and Diversions, Geosynthetic Materials, & Seeding along with the following provisions recommended by Jim Bower MT DNRC's Forestry Division's Fisheries Biologist. All wasted materials from the construction site would need to be re-contoured in a stable area outside the Streamside Management Zone (SMZ). All waste material sites must be promptly grass-seeded with native grass seed. Certified weed-free straw wattles need to be properly installed at the base of all cut or fill slopes intersecting the stream channel, or floodplain. Straw wattles need to be installed at or slightly above the bankfull slope break and integrate other specified erosion control blankets on the cut or fill slopes. Slash windrows comprising large woody materials need to be constructed along the upper half of all cut or fill slopes intersecting the stream channel or floodplain. These slash windrows need to be designed to deter bison or other large grazing animals from trampling the erosion control materials and raw slopes of constructed cuts and fills.

Also refer to page 7 of the FWP EA which is attached.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

The only surface water present is Greenhorn Creek and its forks and no notable springs or groundwater resources exist proximal to the project. There are no expected changes to any parameters from the present water quality or any cumulative effects that would manifest themselves at this or another location resulting from this project.

If the action alternative is chosen the Engineering Report under Division 1 & 2 describes General Requirements and Sitework of the proposal. This includes Division 1; The Summary of the Work, & General Procedures, Division 2; Site Clearing, Construction Dewatering, Unclassified Excavation, Fill Materials and Placement Requirements, Stream Channels and Diversions, Geosynthetic Materials, & Seeding would all need to be followed. The FWP plans on contracting with the engineering.

All provisions of the 124 permit, the 318, and 404 permits will need to be followed along with the mitigation factors that are found in provision #4 above for soil stability. They include the following provisions recommended by Jim Bower MT DNRC's Forestry Division's Fisheries Biologist. All wasted materials from the construction site would need to be re-contoured in a stable area outside the Streamside Management Zone (SMZ). All waste material sites must be promptly grass-seeded with native grass seed. Certified weed-free straw wattles need to be properly installed at the base of all cut or fill slopes intersecting the stream channel, or floodplain. Straw wattles need to be installed at or slightly above the bankfull slope break and integrate other specified erosion control blankets on the cut or fill slopes. Slash windrows comprising large woody materials need to be constructed along the upper half of all cut or fill slopes intersecting the stream channel or floodplain. These slash windrows needs to be designed to deter bison or other large grazing animals from trampling the erosion control materials and raw slopes of constructed cuts and fills.

Also refer to Page 9 of the FWP EA which is attached.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

No long term or cumulative impacts to ambient air quality standards are anticipated from the installation of a fish migration barrier on Greenhorn Creek. The project will occur in an isolated area away from populated areas and little disturbance will occur that could affect air quality standards.

Also refer to page 8 of the FWP EA which is attached.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

A National Heritage search of the area didn't reveal any rare or sensitive plant species or vegetative communities at this location. Installation of a fish migration barrier would involve disturbance of ground cover near and around the installation site. Disturbed areas would need to be seeded with a native grass seed mixture found in the engineering report, under section 02910 seeding to control sediments from the disturbed areas reaching Greenhorn Creek. The proponent would need to have an approved weed management plan from Madison County and would be a stipulation of any license that was issued.

Mitigation measures would include provisions in the engineering report along with the following. All wasted materials from the construction site would need to be re-contoured in a stable area outside the Streamside Management Zone (SMZ). All waste material sites must be promptly grass-seeded with the approved native grass seed mixture. Certified weed-free straw wattles need to be properly installed at the base of all cut or fill slopes intersecting the stream channel, or floodplain. Straw wattles need to be installed at or slightly above the bankfull slope break and integrate other specified erosion control blankets on the cut or fill slopes. Slash windrows comprising large woody materials need to be constructed along the upper half of all cut or fill slopes intersecting the stream channel or floodplain. These slash windrows needs to be designed to deter bison or

other large grazing animals from trampling the erosion control materials and raw slopes of constructed cuts and fills.

Also refer to Page11 of the FWP EA which is attached.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A Montana Natural Heritage search revealed one aquatic species of concern in this area;

1. Westslope Cutthroat Trout, *Oncorhynchus clarkia lewis* a sensitive species has been identified in Greenhorn Creek on numerous occasions. The installation of a fish migration barrier would enhance this existing population by isolating the population from other nonnative fish (mainly brook trout) that out compete the native population. The project would also facilitate the remediation of upper Greenhorn Creek and help restore this native cutthroat trout population through the poisoning of nonnative species.

The FWP has plans to poison Greenhorn Creek using Piscicide above the new barrier to remove all nonnative species of fish during the summer of 2013. The native species would be removed and put back into the creek once the nonnative fish are removed. The FWP will complete an Environmental Assessment, EA of this proposal in 2013. In the past these types of projects have generated controversy with Sportsman and Sportsmen's Groups opposing the poisoning of the non native fish.

During the scoping process for this proposal I received a call from the Leroy Mehring of the Anaconda Sportsman's Group who is opposed to the poisoning of Greenhorn Creek but didn't mind if the fish barrier was constructed on state land. He is not opposed to mechanical removal of non native trout from the stream. Jack Jones, of the Coalition for Appropriate Management of State Land responded to the scoping notice in strong opposition to the entire proposal. Mr. Jones letter raises two concerns 1. Have there been any successful re- establishments? & 2. Will sportsman be prohibited from fishing Greenhorn Creek after the barrier is installed?

The answer to the first question that Mr. Jones raises is yes restoration of native Westslope Cutthroat trout have been successful. A recent article on April 16, 2012 in the Montana Standard relates the results of a successful project in restoring Montana's state fish to a chain of 21 alpine lakes above the South Fork Flathead River drainage. The project started in 2007 and the westslope cutthroat trout population is close to being self sustaining.

Westslope cutthroat trout occur in just 9% of their historic range following decades of habitat loss and interbreeding with nonnative trout populations.

According to FWP Fisheries Biologist Matt Jaeger the answer to question #2 is that Greenhorn Creek will be open to fishing once the barrier is installed, the nonnative fish are poisoned, and the native fish have been restored. Matt believes that in a few years fishing will be allowed. Leroy Mehring of the Anaconda Sportsman's Group indicated to me in his phone conversation that the stream does not receive much angling pressure due to the fact that the fish in the upper reaches of the creek where the barrier would be located are too small to attract much angling pressure.

Montana DNRC is a cosigner with local, state, and Federal Agencies of a Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout in Montana (1999 MOU) that outlines measures necessary for conservation of WCT in Montana. Reference FWP EA pages 1- provision 2, page 2 - provision 8, and page 3 - provision 9.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A Montana Natural Heritage search revealed three species of concern in the vicinity of this proposal;

1. Grizzly Bear, *Ursus arctos* has been observed in the vicinity of the project. Grizzly bears are listed as a sensitive or endangered species by the US Bureau of Land Management and US Forest Service. This proposal is outside the grizzly recovery area and the project will have very little impact on the overall grizzly bear habitat. No long term or cumulative effects are anticipated from this proposal to the grizzly bear population or habitat.
2. Wolverine, *Gulo gulo* has been identified as sensitive species of concern and is known to exist in the vicinity of the project. The wolverine’s core habitat lies in areas where continuous forest cover exists. The location of the project would not be one of these areas but along the boundaries of where the species may roam. The barrier would not significantly affect any critical habitat and no cumulative effects are anticipated from this project.
3. Western Spotted Skunk, *Spilogale gracillis* was last observed in the vicinity of the proposal in 1994 & 1995 in an area identified by an NRIS search as approximately 5 square miles. This project would disturb less than an acre of habitat and no long term impacts to the area are anticipated. The disturbed areas will be reseeded with native grasses which over time will mitigate any short term impacts. Because of the small scope of this proposal no long term or cumulative impacts are anticipated if this project is approved.

Reference Page11 of the FWP, EA, Fish/Wildlife

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

According to Patrick Rennie MT DNRC archeologist, no archeological, paleontological or historical resources were identified at this location.

Also reference FWP EA Page 14, under Cultural /Historical Resources.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

This proposal is located in isolated country away from any populated area and accessed from private property. If approved and constructed, the barrier will not cause any long term or cumulative impacts to aesthetics in the area. The structure will only be visible when one is near the structure, it is an isolated site with poor access surrounded by private property.

Also Reference FWP EA page 14, under Aesthetics/Recreation.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

The proposal hopes to restore westslope cutthroat trout habitat in the upper reaches of Greenhorn Creek and restore a native population that is experiencing difficulties competing with non native introduced species. The

proposal would not affect any known limited resources in the area and no long term or cumulative effects to environmental resources are anticipated. The project will use a design that was prepared by EMC2 of Bozeman, MT registered professional engineers who will be contracted to oversee the construction of the structure if approved. Carter Kruse, fisheries Biologist with TEI indicates that he has completed other projects with EMC2 before with good results.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

Montana Fish Wildlife and Parks propose to poison the upper tributaries of Greenhorn Creek with a chemical Piscicide treatment in 2013 above the proposed fish barrier site. The FWP plans on completing an EA on this proposed project in 2013. If for some reason chemical treatment doesn't take place and the plan of poisoning the nonnative trout is abandoned the DNRC would expect the fish barrier to be removed from the creek to lower the risk of any future environmental problems to the creek.

The DNRC has no other future proposed actions or projects near this proposal and is unaware of any on neighboring lands.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

No known human health or safety risks are posed by this project. The proposal does not plan on storing a large quantity of water above the barrier location although the DNRC has not been supplied with information on the amount of water that will be impounded by this proposal. If the action alternative is chosen and the barrier would ever breach there is the potential that any water stored above the barrier would be released and cause a flood event. A possible safety risk does exist if a breach of the dam was to occur. A breach however would be very unlikely to affect any buildings or houses downstream, for the few ranch buildings in the area are far enough away from the stream to be damaged.

Please reference Page 12 of FWP EA document for further information.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

There aren't any known industrial, commercial or agricultural activities or production that this proposal will impact.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

This proposal will not create any new employment opportunities or the distribution of employment in Madison County or the State of Montana.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

This proposal will not affect the local or state tax base. There will be no long term or cumulative effects to taxes and revenue from this proposal.

Reference FWP EA Page 13.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

No impacts to government services are anticipated from this proposal. It is located in a remote location without public access surrounded by TEI property.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

The Madison County Planner and County Commissioners were scoped for this project and no concerns were identified by the Madison County Planning Department.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

The purpose of this proposal is the removal of eastern brook trout from the upper reaches of Greenhorn Creek. This will be accomplished through the installation of the barrier and the eventual poisoning of the stream above the barrier to remove the brook trout. This restoration of westslope cutthroat trout will have no long term effects on sport fishing in the stream. Sport fishing will be allowed after the barrier is installed. FWP Fisheries Biologist Matt Jaeger, indicated that for the first few years after the project has been completed the stream will be restricted to catch and release fishing, but eventually fisherman would be allowed to keep the fish they catch if they so desire.

Matt also indicated that these types of projects where barriers have been installed have been successful at restoring native cutthroat trout to streams throughout Montana.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

No effects. Reference FWP EA Page 13, Community Impacts.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

No effects.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

No long term or cumulative impacts to the uniqueness and diversity are anticipated from this proposal.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The granting of a Land Use License will generate \$150.00/ ten year period. The license can be renewed after ten years.

EA Checklist Prepared By:	Name: Timothy Egan	Date: May 24, 2012
	Title: Dillon Unit Manager	

V. FINDING

25. ALTERNATIVE SELECTED:

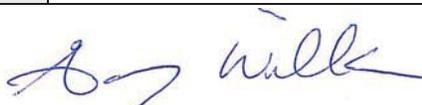
Authorize installation of the fish barrier at the location of the irrigation diversion point.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

Significant impacts are not expected to occur as a result of the proposed project. The proposed barrier is designed to prevent upstream migration of brook trout species which may help conservation of Westslope Cutthroat Trout species in the stream. The project is located at a point used for irrigation diversion, and is well suited for serving the dual purpose of water diversion and fish barrier. The project can only be conducted under conditions imposed and with approval by the agencies with regulatory authority of in stream construction activities.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

EIS More Detailed EA No Further Analysis

EA Checklist Approved By:	Name: Garry Williams
	Title: Area Manager Central Land Office
Signature: 	Date: 7/30/2012

Greenhorn Creek Fish Barrier

Township 8 South - Range 4 North, Section 26, Madison County

