

## CHECKLIST ENVIRONMENTAL ASSESSMENT

<b>Project Name:</b>	<b>Jack Creek Westslope Cutthroat Trout Barrier</b>
<b>Proposed Implementation Date</b>	<b>September 2016</b>
<b>Proponent:</b>	<b>Montana Department of Fish, Wildlife &amp; Parks (FWP)</b>
<b>Location:</b>	<b>(45.156, - 112.1289), SENE ¼ Section 7, Township 8 South – Range 4 West (Capital Buildings Trust)</b>
<b>County:</b>	<b>Madison</b>

### I. TYPE AND PURPOSE OF ACTION

The Montana Department of Fish, Wildlife and Parks (FWP) has applied for a Land Use License (LUL) to install a wooden fish barrier into a dry section of Jack Creek, a tributary of the Ruby River in the Greenhorn Mountains south of Alder, Montana. The structure would be located on state land in the SE ¼ NE1/4 of Section 7, T8S – R4W.

The purpose of this project is to protect a genetically unaltered population of Westslope Cutthroat Trout (WCT) in Jack Creek by installing a barrier to upstream fish movement in an ephemeral reach. Although Jack Creek typically goes dry before reaching the nearest downstream tributary (Ruby River), this channel may connect under some flow conditions and place the WCT population at risk from invasion by non-native fishes. The Jack Creek WCT population is one of only two remaining genetically unaltered WCT populations in the Ruby River watershed and resultantly has extremely high conservation value.

This project consists of installation of a wooden check structure with a 5' drop through an 8' throat onto a 10' long floor (see attached design). This structure has been sized to pass and be stable at the 50 year flow event in Jack Creek (104 cfs). The structure would be installed with a tracked excavator in a dry reach of Jack Creek and require about 100 cubic yards of imported fill material in the wing walls, and 80 yards of rip-rap rock. A diagram of the structure design is attached to this checklist EA and is marked as Attachment B.

### II. PROJECT DEVELOPMENT

#### 1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Montana Department of Fish Wildlife & Parks, Matt Jaeger, Fisheries Biologist  
Montana Department of Fish Wildlife & Parks, Dean Waltee, Wildlife Biologist  
Montana Department of Natural Resources & Conservation, Patrick Rennie, Archaeologist  
Montana Department of Natural Resources & Conservation, Jeff Schmalenberg, Soils Scientist  
Maloney Ranches, Lessee  
Madison County Commissioners  
Madison County Planner  
Ruby Watershed Group  
Montana Sage Grouse Habitat Conservation Program  
Martin Miller, Montana Natural Heritage Program

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

Because the proposed work will occur in an ephemeral channel that is typically dry year-round, and does not support wetland plants, no stream or wetland permits are required to complete the proposed work.

### 3. ALTERNATIVES CONSIDERED:

- 1) No Action Alternative: The present conditions in Jack Creek would be maintained, which create the opportunity for non-native fishes to invade when surface flows connect with the Ruby River or downstream ditch networks and genetically or physically extirpate the Jack Creek WCT population.
- 2) Action Alternative: Isolate and protect the Jack Creek WCT population by installing a wooden check structure with a 5' drop through an 8' throat onto a 10' long floor (see attached design). This structure has been sized to pass and be stable at the 50 year flow event in Jack Creek (104 cfs). The structure would be installed with a tracked excavator in a dry reach of Jack Creek and require about 100 cubic yards of locally sourced fill material in the wing walls.
- 3) Installation of a concrete barrier: Isolate and protect the Jack Creek WCT population by installing a concrete drop structure with an elevated apron. This structure would be considerably larger and more expensive (>\$200,000) than the proposed barrier. Because of the cost of this type of barrier, it was eliminated from further consideration.

## III. IMPACTS ON THE PHYSICAL ENVIRONMENT

### 4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

The Natural Resource Conservation Service (NRCS) classifies the soils at the location of this proposal as Kalsted sandy loam 2-8 % slopes. The parent material for these soils is coarse-loamy alluvium. A typical profile is sandy loam in the A layer at 0-7 inches, Bk1 layer, sandy loam from 7 – 30 inches, and Bk2 layer stratified loamy sand to gravelly sandy loam from 30 to 60 inches. The soils are well drained with a land capability classification of 4e. The soils are prime farm land if irrigated.

Kalsted sandy loam soils have a moderate erodibility rating which indicates that some erosion is likely and that simple erosion control measures are needed to mitigate soil erosion. The soils are also moderately resistant to compaction and are rated a poor gravel source. These soils have no significant limitations affecting construction activities.

The installation of the barrier will require importing approximately 80 yards of rip-rap rock and 100 yards of fill material for the front of the barrier.

**No Action Alternative:** No impacts to soils will occur under this alternative

**Action Alternative:** There is a moderate chance of some erosion occurring at the construction site due to the soils in the vicinity of the barrier. Disturbance will be kept to a minimum and can be mitigated by incorporating typical Best Management Practices (BMP's) during the construction phase of the proposal. This would include installing wattles and silt fences and grass seeding the site upon completion of the construction. The site is a dry channel with little precipitation during the year. The yearly average precipitation in the area is 10 inches. Chances of erosion occurring and causing sedimentation to Jack Creek or the Ruby River are very low. No long term or cumulative effects to soils are anticipated from this alternative.

### 5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

**No Action Alternative:** No impacts to water quality, quantity, or distribution will occur under this alternative.

**Action Alternative:** The proposed location of the fish barrier will be in the lower reaches of Jack Creek, approximately 1 mile east of the confluence with the Ruby River. The installation will occur on a dry stretch of

Jack Creek where ground disturbance and disturbance of native vegetation will occur. This disturbance has the potential to cause some mild erosion around the disturbed areas until the site has a chance to recover and re-vegetate. There is potential for surface water runoff at this site with rainfall, snowmelt, or other heavy precipitation events. Mitigation measures will include broadcast seeding with native grass seed, installing silt fences, and installing wattles. Proponent will follow Best Management Practices (BMP's) to decrease excessive amounts of soil erosion. No long term or cumulative effects are anticipated under the action alternative.

## 6. AIR QUALITY:

**No Action Alternative:** No impacts to air quality would occur under this alternative.

**Action Alternative:** An increase in airborne pollutants and particulates would occur from machinery and ground disturbance during the construction phase of this proposal under the action alternative. This disturbance would be of short duration and no long term, or cumulative effects to air quality would be anticipated. The location of this project is in a sparsely populated area of Madison County with good air dispersion. The proposal is not in a Class I Airshed or in a nonattainment area.

## 7. VEGETATION COVER, QUANTITY AND QUALITY:

An NRIS search did not identify any rare plant species or communities at the site of the proposed fish barrier. Existing native species on the site include sagebrush, blue bunch wheatgrass, needle-and-thread grass, Sandberg bluegrass, Blue gramma grass, and threadleaf sedge.

Chuck Maddox, Land Use Specialist for Dillon Unit, conducted a field inspection on June 22, 2011. He identified a number of invader species including broom snakeweed, rubber rabbitbrush, and hairy golden aster.

**No Action Alternative:** Under this alternative, no disturbance of native vegetation would occur and no appreciable changes to current conditions would be anticipated.

**Action Alternative:** Under this alternative, construction equipment and installation of the barrier would cause disturbance to the native vegetation that is currently onsite. In addition, approximately 100 cubic yards of fill would be placed along the wings of the structure. This disturbance has the possibility of introducing noxious weeds. Mitigation measures would include broadcast seeding the disturbed areas with native grass seed and monitoring and spraying weeds for the next 2- 3 years after the installation. If mitigation measures are followed it is not anticipated that any long term or cumulative impacts would occur to the native vegetation cover.

## 8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

**No Action Alternative:** Under this alternative, no disturbance of native vegetation or wildlife would occur and all current conditions would remain the same. There would be no appreciable wildlife impacts. With no barrier in place, this channel may connect under some flow conditions and place the WCT population at risk from invasion by non-native fishes.

**Action Alternative:** A variety of big game, small mammals, reptiles, raptors, upland game birds, and songbirds use this area and the action alternative could temporarily disrupt wildlife during the construction phase of this proposal. The barrier installation will occur close to an open road and the area most likely does not receive extensive use by many wildlife species. The installation will be of short duration and the amount of ground disturbance will be small. No appreciable loss of habitats will occur under this proposal. No long term or cumulative impacts to wildlife would occur.

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

Three Montana Species of Concern have been observed in the general area of the project: Ferruginous Hawk, Greater Sage-Grouse, and Westslope Cutthroat Trout. Because of the timing of project installation (mid-

September) and location (a dry wash) no effects to any of the aforementioned species or their habitats are expected.

**Ferruginous Hawk** (*Buteo regalis*) Ferruginous hawks have been documented using the general area around the project as nesting and hunting habitat. The state of Montana lists the bird as an S3B species, meaning it is at potential risk because of limited and potentially declining numbers, extent, or habitat even though it may be abundant in some areas. The low surface impacts resulting from the project would not significantly alter vegetative composition or nesting habitat for the hawks. The primary vegetation on-site is native grass species and it would not be impacted if the project is approved. Neither of the proposed alternatives would cause direct, indirect, or cumulative effects to this species.

**Greater Sage-grouse** (*Centrocercus urophasianus*) Greater sage-grouse use has been recorded in the project area and the area is listed as general sage-grouse habitat. The FWP has identified 1 lek in the vicinity of the proposal. The lek is approximately 3.5 miles away from the proposed barrier location. Since the proposal is located within greater sage-grouse general habitat, this project was approved by the Montana Sage Grouse Habitat Conservation Program on September 20, 2016. The Montana Sage Grouse Habitat Conservation Program recommended weed management in the disturbed areas. DNRC mitigation measures would include broadcast seeding the disturbed areas with native grass seed, and monitoring and spraying weeds for the next 2- 3 years after the installation. Measurable direct, indirect, or cumulative effects to greater sage-grouse or their habitat would not be anticipated from either of the proposed alternatives.

**Westslope Cutthroat Trout** (*Oncorhynchus clarkia lewisi*) – Westslope cutthroat trout are listed by both the USFS and BLM as a sensitive species and a Species of Concern within the State of Montana. This proposed barrier installation is being done to protect existing WCT habitat in the Jack Creek Drainage from other non-native fish species. The place where the barrier is being installed is a dry wash and no impacts to WCT habitat are anticipated from either of the proposed alternatives.

## 10. HISTORICAL AND ARCHAEOLOGICAL SITES:

A Class I level review (literature review) was conducted by the DNRC staff archaeologist for the area of potential effect (APE). This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I review revealed that no cultural or paleontological resources have been identified in the APE, but it should be noted that Class III level inventory work has not been conducted to date.

The topographic setting and geology suggest a low to moderate likelihood of the presence of cultural or paleontological resources. The proposed fish barrier installation work is expected to have *No Effect to Antiquities*. No additional archaeological investigative work will be conducted in response to this proposed development. However, if previously unknown cultural or paleontological materials are identified during project related activities, all work will cease until a professional assessment of such resources can be made.

## 11. AESTHETICS:

**No Action Alternative:** Under this alternative, no disturbance and no impacts to the aesthetics would occur and all conditions would remain the same.

**Action Alternative:** Under the action alternative, there will be a small impact to the overall aesthetics of the area. A wooden fish barrier located in a dry creek bed will slightly decrease overall aesthetics. However, the proposed barrier location is in a remote area away from populated locations. The barrier will not be visible from the Ruby River County Road and is not located on a prominent topographic feature. No long term or cumulative effects to the overall aesthetics would occur under this alternative.

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

**No Action Alternative:** No impacts will occur.

**Action Alternative:** No demands for additional environmental resources are required for this project. No short term, long term or cumulative effects to environmental resources are expected to result from this proposed alternative.

**13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:**

**No Action Alternative:** No impacts will occur.

**Action Alternative:** No other studies, plans, or projects were identified in this particular area during the scoping process for this proposal.

**IV. IMPACTS ON THE HUMAN POPULATION**

**14. HUMAN HEALTH AND SAFETY:**

Neither of the proposed alternatives should have any effects on human health or safety, nor pose risk factors to the general public or lessee. The Jack Creek road is not open to the general public and the barrier will be far enough off of the county road to prevent people from accessing it.

**15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:**

No direct, indirect, or cumulative impacts would be expected under either alternative.

**16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:**

No direct, indirect, or cumulative impacts would be expected under either alternative.

**17. LOCAL AND STATE TAX BASE AND TAX REVENUES:**

No direct, indirect, or cumulative impacts would be expected under either alternative.

**18. DEMAND FOR GOVERNMENT SERVICES:**

No direct, indirect, or cumulative impacts would be expected under either alternative.

**19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:**

**No Action Alternative:** No impacts will occur.

**Action Alternative:** No known zoning laws or management plans are in place for this location.

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

No direct, indirect, or cumulative impacts would be expected under either alternative.

**21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:**

No direct, indirect, or cumulative impacts would be expected under either alternative.

**22. SOCIAL STRUCTURES AND MORES:**

No direct, indirect, or cumulative impacts would be expected under either alternative.

**23. CULTURAL UNIQUENESS AND DIVERSITY:**

No direct, indirect, or cumulative impacts would be expected under either alternative.

**24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:**

None.

<b>EA Checklist Prepared By:</b>	<b>Name:</b> Tim Egan	Date: September 22, 2016
	<b>Title:</b> Dillon Unit Manager	

**V. FINDING**

**25. ALTERNATIVE SELECTED:**

The Montana Department of Natural Resources and Conservation has completed the checklist environmental assessment (CEA) for the proposed fish barrier installation into a dry section of Jack Creek. After a thorough review of the CEA, public comments, the project file, Department policies, standards, and guidelines, I have made the following decisions concerning this amendment:

The alternatives proposed for consideration in this CEA were the No Action and Action Alternative. Under the Action Alternative, a wooden check structure would be installed to isolate and protect the Jack Creek WCT population.

The Action Alternative has been selected for the following reasons:

- The Action Alternative meets the project Purpose and Need listed under Section I. of the CEA:
  - Protect a genetically unaltered population of Westslope Cutthroat Trout in Jack Creek.
  - Install a barrier to upstream fish movement in an ephemeral reach and protect the WCT population from invasion by non-native fishes.
  - Install a structure has been sized to pass and be stable at the 50 year flow event in Jack Creek.
- The Action Alternative is consistent with State and local policies, laws, and regulations.

**26. SIGNIFICANCE OF POTENTIAL IMPACTS:**

Upon review of the project and analysis herein, I find that none of the impacts are severe, enduring, geographically widespread, or frequent. Further, I find that the quantity and quality of the natural resources, including any that may be considered unique or fragile, will not be adversely affected to a significant degree. I

find no precedent for the future actions that would cause significant impacts, and I find no conflict with local, State, or federal laws, requirements, or formal plans.

**27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:**

EIS

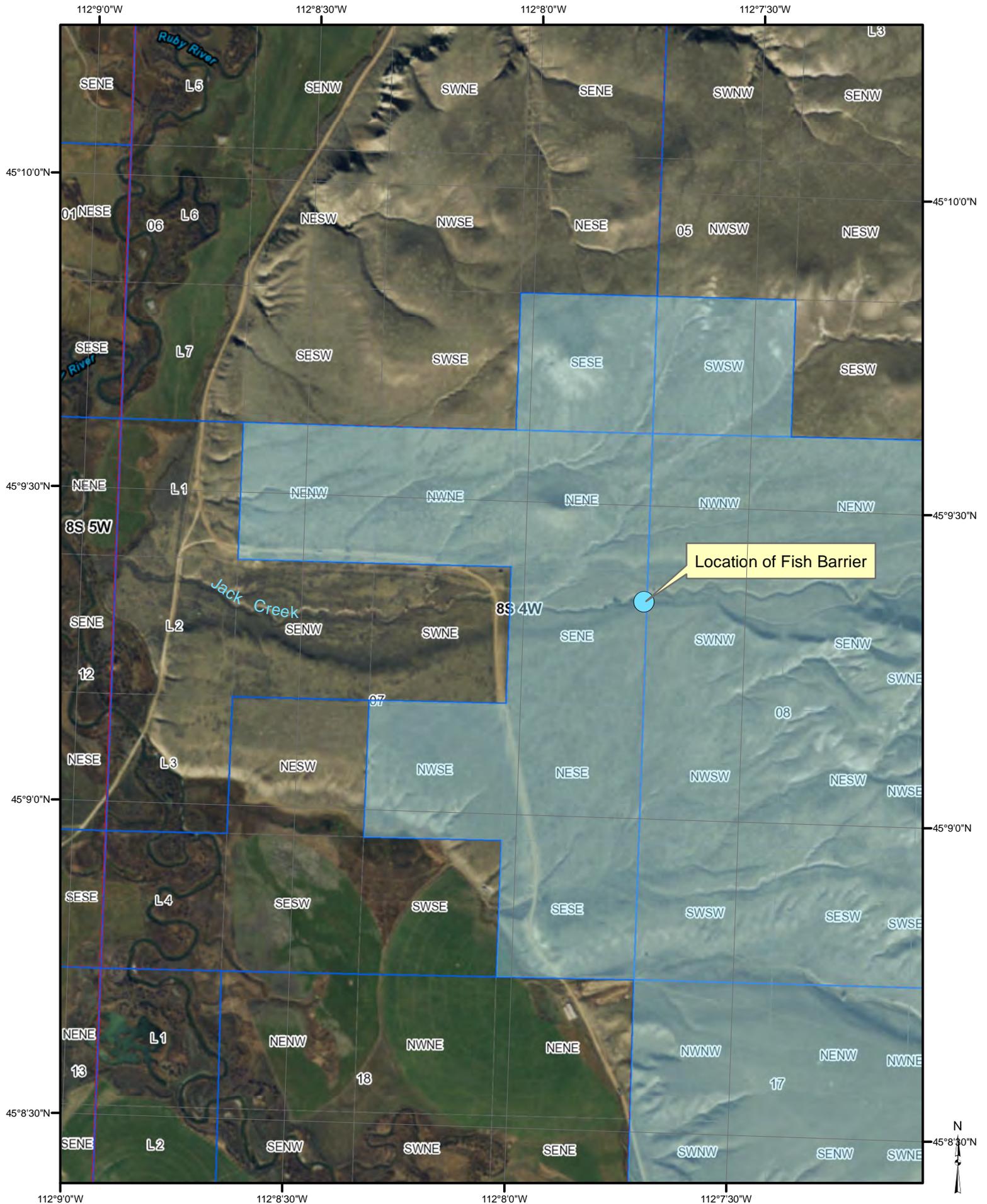
More Detailed EA

No Further Analysis

EA Checklist Approved By:	Name: <i>MARTIN BALUKAS</i>
	Title: <i>TRUST LANDS PROGRAM MANAGER, CLO</i>
Signature: <i>[Signature]</i>	Date: <i>9/22/16</i>

# Jack Creek Fish Barrier

## T8S- R4W Sec. 7 SE1/4 NE1/4



1 inch = 1,167 feet



