Montana Fish, Wildlife and Parks
1420 E 6th Ave, PO Box 200701 Helena, MT 59620-0701

ENVIRONMENTAL ASSESSMENT CHECKLIST

PART 1. PROPOSED ACTION DESCRIPTION

Project Title: Brewery Flats Sediment Plug Removal
Project Location: T15N, R18E, S23; 109.41134; 47.04319; Fergus County

Description of Project:
The project is located on Big Spring Creek about 1 mile south of Lewistown, MT at the Brewery Flats Fishing Access Site (FAS) (Figure 1). Sediment (gravel and silt) has deposited at the interface between a new re-meandered channel constructed in 2000 and a channel straightened in 1912. As a result of the deposition, the channel has lost about 2 feet of depth for a linear distance of 100 yards (see figure 1 on page 7 for project maps). Consequently, Big Spring Creek is spreading out and flooding the Brewery Flats FAS at base flow. The stream channel is currently about 0.5 feet deep in the vicinity of the plug. It is backing up water for a few hundred feet. Water is also flooding a downstream outhouse, sections of trail and vegetation. To prevent channel migration and limit further impacts to infrastructure, Montana Fish, Wildlife and Parks (FWP) proposes to dredge the 100 yards of Big Spring Creek to the approximate depth of 2 ft that was present in 2005. FWP proposes to hire a contractor to excavate the approximately 700 cubic yards of silt and gravel that have deposited in Big Spring Creek in this vicinity with dump truck and excavator. Excavated material would be removed off-site and deposited in an area away from wetlands. Equipment would access the site via the trail and road system. If remediation work is not accomplished in the near future, a channel change in this location may develop, which would have significant adverse impacts to nearby infrastructure, including a road, waterline, trails, FAS parking and a vault latrine.

Big Spring Creek is approximately 150 cfs at base flows. It would not be practical to divert the channel during the work. Consequently, the proposed work would occur in wet conditions which would temporarily increase suspended sediments levels in Big Spring Creek. The proposed work would take less than one week to remove the approximately 700 cubic yards of material that is acting as a channel plug. Mitigation measures that would be implemented include reclaiming trails impacted by heavy machinery as much as would be practical.

Other groups or agencies contacted or which may have overlapping jurisdiction:
Fergus County Planning, Fergus County Floodplain, Montana Department of Environmental Quality (DEQ), City of Lewistown, US Army Corps of Engineers. Required permits would be obtained from these agencies prior to any work is initiated. The Environmental Assessment (MEPA and NEPA compliance) written in 1997 for the original Brewery Flats Channel meander project was consulted for material in this EA.

Reference:

Rehwinkel, B.J. and B. Keeler. 1997. Environmental Assessment for the Big Spring Creek Channel Restoration Project at Brewery Flats. Fisheries Division. Montana Fish, Wildlife and Parks.

PART 2. ENVIRONMENTAL REVIEW

Table 1. Potential impact on physical environment.

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Unique, endangered, fragile, or limited environmental resources				X		X
2. Terrestrial or aquatic life and/or habitats			X			X
3. Introduction of new species into an area				X		
4. Vegetation cover, quantity and quality			X			X
5. Water quality, quantity and distribution (surface or groundwater)			X			X
6. Existing water right or reservation				X		X
7. Geology and soil quality, stability and moisture			X			X
8. Air quality or objectional odors			X			X
9. Historical and archaeological sites				X		X
10. Demands on environmental resources of land, water, air & energy				X		X
11. Aesthetics			X			X

Comments:

1. No known endangered or threatened species are known to rely on the area. In 1995, the only identified Threatened and endangered species were the peregrine falcon and bald eagle which were found to be transient in this area (Rehwinkle and Keeler 1997).

2. There would be temporary disturbance of fish and passerine birds during the implementation of the proposed project. These impacts should be short term and minor. There may be short term impacts to trout. Trout would likely leave the area and some spawning in the creek may be disturbed. There should be long-term benefits. Prior to the formation of the sediment plug, this area held several brown trout redds (Lewistown Area Data files). Much of the substrate now is silty with a slow current and successful trout spawning is unlikely in much of the area due to low water velocities.

4. Short term and minor disturbance to vegetative cover could result from the proposed equipment mobilization, site preparation, repair, mitigation and reclamation. Also, the area recently flooded due to formation of the plug will dry out, and the terrestrial vegetation should return to a similar composition to that seen prior to the 2011 disaster event.

5. There would be short term impacts to water quality while the plug is dredged which would increase sediment in Big Spring Creek during the work. A 318 permit would be obtained from the Department of

Environmental Quality for short term turbidity. Once the dredging is completed, Big Spring Creek would be confined to the stream channel during base flow, which is judged to be a beneficial impact to water quality. Approximately 1.5 acres of the FAS including the center FAS parking lot and latrine area would no longer be flooded. Dredging would help maintain the constructed re-meandered channel. If the proposed work is not completed, it's likely that negative impacts including long-term erosion and water quality impacts would be much larger than the short term impacts resulting from dredging. Work would be done during low flow conditions, in an effort to minimize potential impacts.

6. FWP has a Murphy right for instream flow of 110 CFS on Big Spring Creek. Water will not be diverted out of the stream channel.

7. Short term and minor disturbance to soils would occur during sediment removal. The area will have a 'disturbed' look due to the recent natural disaster and the proposed work. The area would be reclaimed from impacts from heavy machinery used to remove the sediment. Sediment would be hauled off-site to a certified pit or to a landfill. The existing stream channel at Brewery Flats was constructed in 2000 and has withstood several "high flow" (approximately 5-10 year events) since construction. Sediment was transported under those smaller flood scenarios. It took a huge event (about 100 year) to generate the sediment plug causing problems. Sediment removal should be a long-term solution to this problem.

8. The project involves use of diesel powered equipment which emit exhaust and can be loud. It is unlikely that neighbors would be disturbed in any significant level from the noise and odors generated from this project. Any disturbance would be short term and minor in nature.

9. FWP is unaware of any culturally or historically significant resources at the construction site. The site has been disturbed several times. A cultural survey was completed at this site on February 7, 1986. On June 22, 1995, Montana State Historic Preservation Office concurred no eligible properties were likely to exist within the project area.

10. A small amount of bank disturbance would occur. Application of Best Management Practices (BMPs) and site reclamation would reduce risk of unintended impacts.

11. See items 7 and 9.

Table 2. Potential impacts on human environment.

Will the proposed action result in potential impacts to:	Unknown	Potentially Significant	Minor	None	Can Be Mitigated	Comments Provided
1. Social structures and cultural diversity				X		
2. Changes in existing public benefits provided by wildlife populations and/or habitat			X			X
3. Local and state tax base and tax revenue				X		
4. Agricultural production				X		
5. Human health			X			X
6. Quantity and distribution of community and personal income				X		
7. Access to and quality of recreational activities			X			X
8. Locally adopted environmental plans & goals (ordinances)				X		
9. Distribution and density of population and housing				X		
10. Demands for government services				X		
11. Industrial and/or commercial activity				X		

Comments

2. There could be long term changes in habitat and wildlife populations at the Brewery Flats area if the plug is not removed, such as reduced spawning habitat and vegetation changes in flooded areas. The proposed work would return the area to pre-flood condition, which is considered a beneficial impact.

4. This project would restore the Brewery Flats FAS to near pre-flood condition. The trail in the vicinity of the plug, the vault latrine and surrounding area would likely no longer be flooded, which is considered beneficial.

7. Some of the Brewery Flats FAS is inaccessible due to flooding caused by the existing plug. Removal of the plug would allow returning of the trail and parking lot system at Brewery Flats to the pre flood condition (benefit).

Does the proposed action involve potential risks or adverse effects which are uncertain but extremely harmful if they were to occur?

Big Spring Creek contains PCBs. If the proposed project is implemented, silt and sand in the affected area would be sampled and sent to a lab to be tested for PCBs. If levels exceed 0.189 ppm additional remediation would be done; and would likely involve taking the sediment to a land fill. Past sediment and fish sampling from Big Spring Creek indicate levels should be substantially less than the 0.189 level.

Does the proposed action have impacts that are individually minor, but cumulatively significant or potentially significant?

NO; negative impacts are anticipated to be potentially significant if the sediment plug is not removed (see below).

Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action when alternatives are reasonably available and prudent to consider. Include a discussion of how the alternatives would be implemented:

With no action the sediment plug would remain and natural processes may create a new channel. Due to the location of the plug it is likely that the delta would continue to form in this area. Additional deposition will result in an increased risk of channel migration. Channel changes at this site have the potential to impact the adjacent state highway (east side) and water line (west side). Costs to repair impacts to that infrastructure could be substantial. Furthermore, channel repair if the highway and/or road were impacted, would require more work, higher cost and potential impacts than removing the plug. For example, it might be necessary to riprap several yards of bank to protect the infrastructure if the channel moves adjacent to the highway. Most of the parking area would remain flooded and the outhouse would be inaccessible and unusable.

Removing the sediment in the dry by dewatering the stream is a second alternative. Under this alternative the channel would be temporary diverted from the plug, the plug removed and the water returned to the cleaned channel. The amount of turbidity in the stream would likely be less in the short term. However, this option is impractical and would not work due to the large volume of Big Spring Creek (150 cfs). Diverting the water would likely create a new channel and impact the infrastructure this project is designed to protect. Building a pipeline to hold the water would likely have more impacts on the riparian vegetation, terrestrial vegetation and wildlife than dredging under wet condition and be cost prohibitive. The project under this alternative may also be infeasible due to cost.

The proposed alternative of dredging in the wet would have the least long and short-term impacts to the physical and human environment, would be the least expensive, and would be feasible to implement.

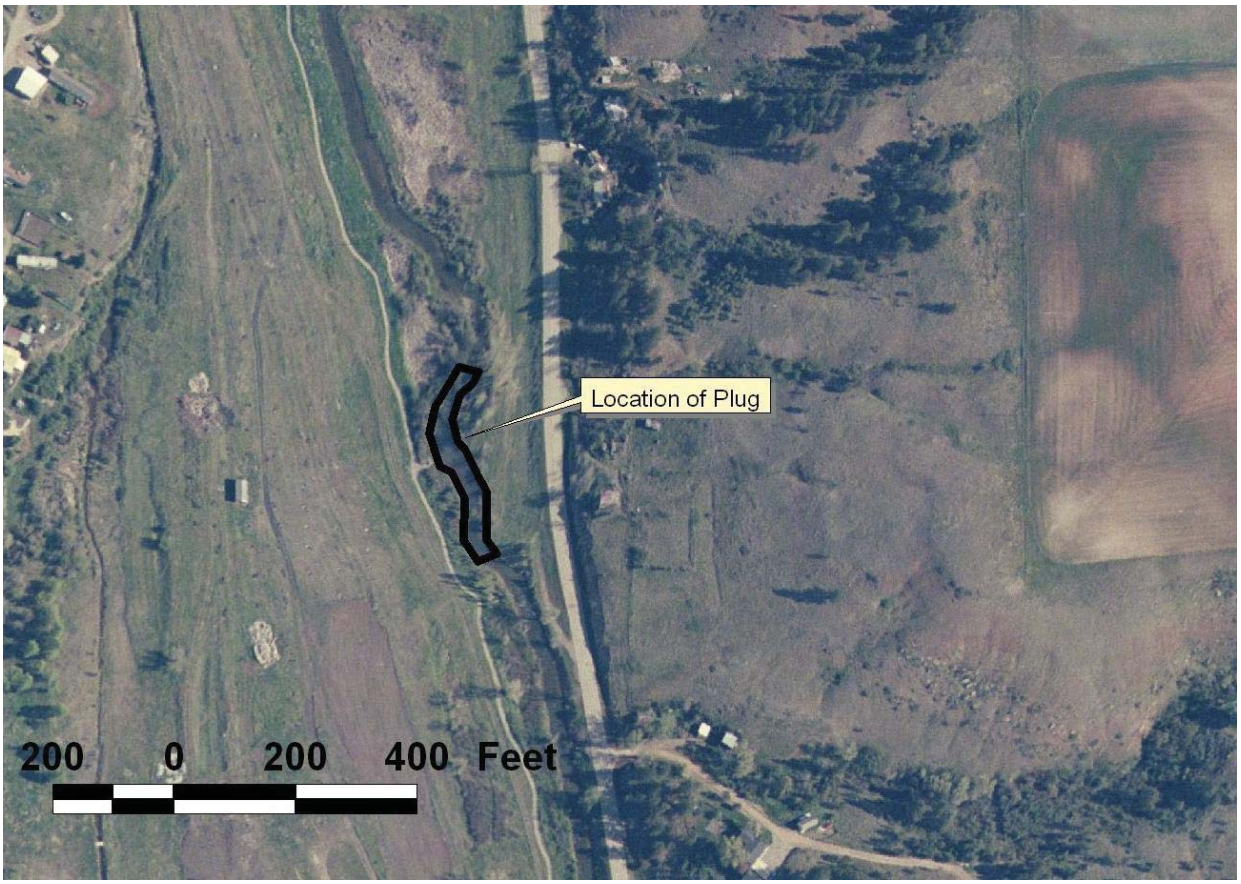
Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

This project will require permits from the County Planning Office (Floodplain coordinator); Montana Department of Environmental Quality (Short-term turbidity permit); possibly and Army Corps of Engineer 404 permit and a 124 permit from Montana, Fish Wildlife and Parks.

Individuals or groups contributing to, or commenting on, this EA:

EA prepared by: Anne Tews & George Liknes
Date Completed: November 7, 2011
Email address for comments: antews@mt.gov
Mail comments to: Brewery Flats Sediment Plug EA
Montana Fish Wildlife & Parks
PO Box 938
Lewistown Montana 59457

Comments due by: December 11, 2011



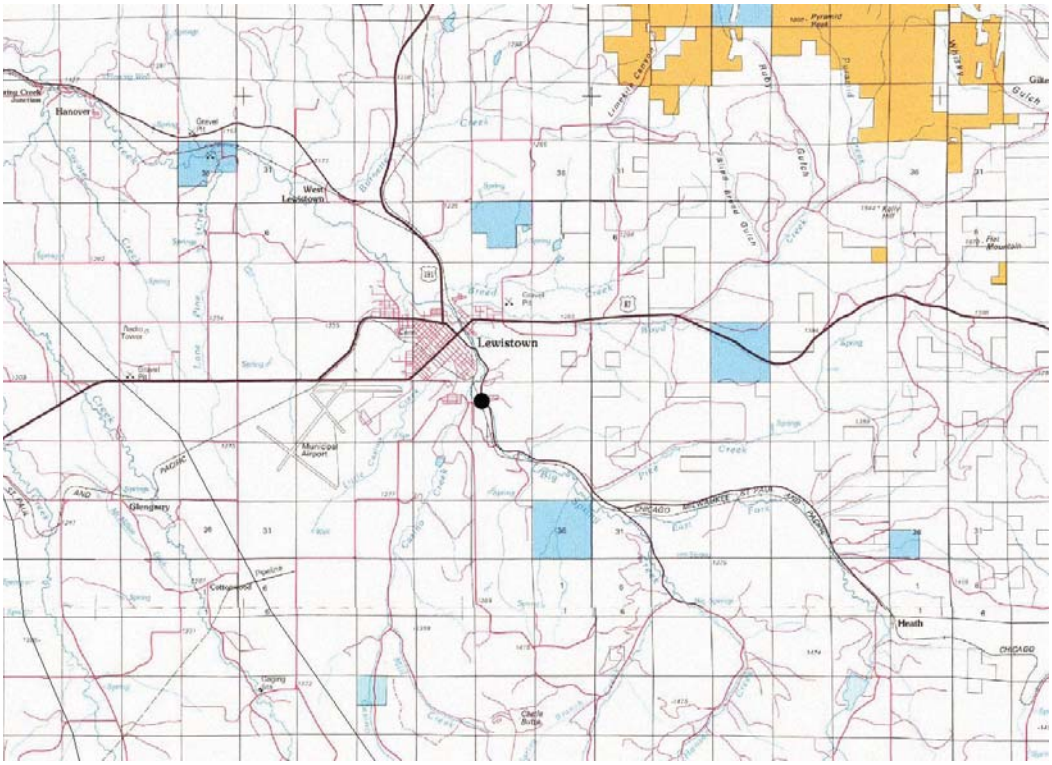


Figure 1. Location of the sediment that needs to be removed at the Brewery Flats Fishing Access Site.