



Draft Environmental Assessment | March 16, 2021

Access & Habitat Improvements at Big Casino Creek Reservoir

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PART 1. PROJECT SUMMARY

Project Title: Access & Habitat Improvements at Big Casino Creek Reservoir

Project Location: Big Casino Creek Reservoir, Fergus County, Montana
SE ¼, NW ¼ of section 27, Township 15 N, Range 18 E

Description of Project

Montana Fish, Wildlife & Parks (FWP) proposes to perform access and habitat improvements at Big Casino Creek Reservoir near Lewistown, MT (Figure 1). The proposed project consists of 3 primary components which include 1) shoreline stabilization to address erosion and access challenges, 2) installing a dock, and 3) placing artificial habitat structures (Figure 2).

Big Casino Creek Reservoir is a flood control impoundment on Casino Creek, roughly 1.4 river miles upstream from the Big Spring Creek confluence. The reservoir is created by a flow-through impoundment structure that was constructed in the mid-1970's as part of the Soil Conservation Service's (now NRCS) efforts to mitigate flooding in the city of Lewistown. The reservoir covers

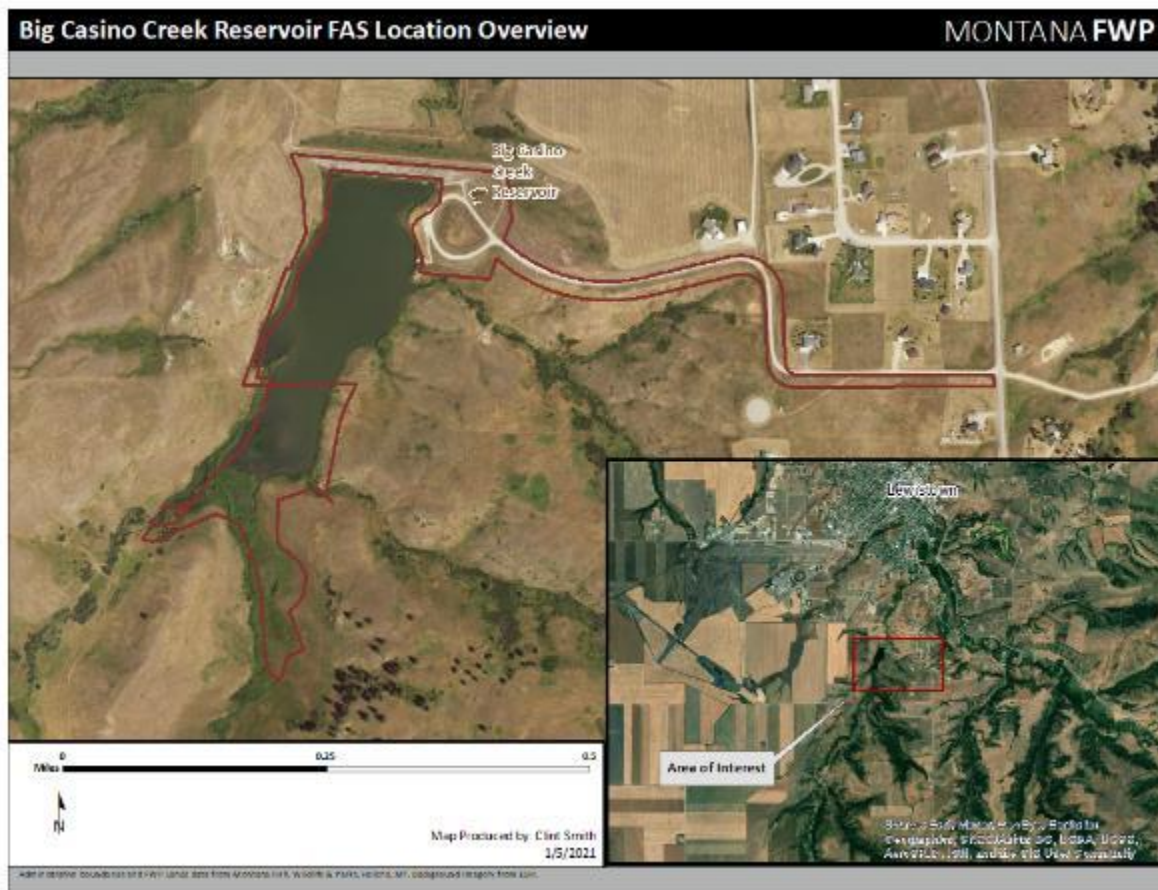


Figure 1. Map showing the general location of Big Casino Creek Reservoir near Lewistown, MT.



Figure 2. Map showing detailed location of proposed shoreline stabilization, dock, and artificial habitat structures.

approximately 17 surface acres and has a maximum depth of approximately 15 feet at normal pool. The City of Lewistown is responsible for the flood control aspects of the reservoir and the dam safety monitoring/maintenance. FWP manages a Fishing Access Site (FAS) at the reservoir and maintenance of the FAS is primarily the responsibility of Fergus County via an agreement between the county and FWP. The fishery of the reservoir contains Largemouth Bass, Yellow Perch, Black Crappie, and tiger muskie. The reservoir receives regular use from locals primarily in the form of angling, non-motorized boating/floating, and dog walking.

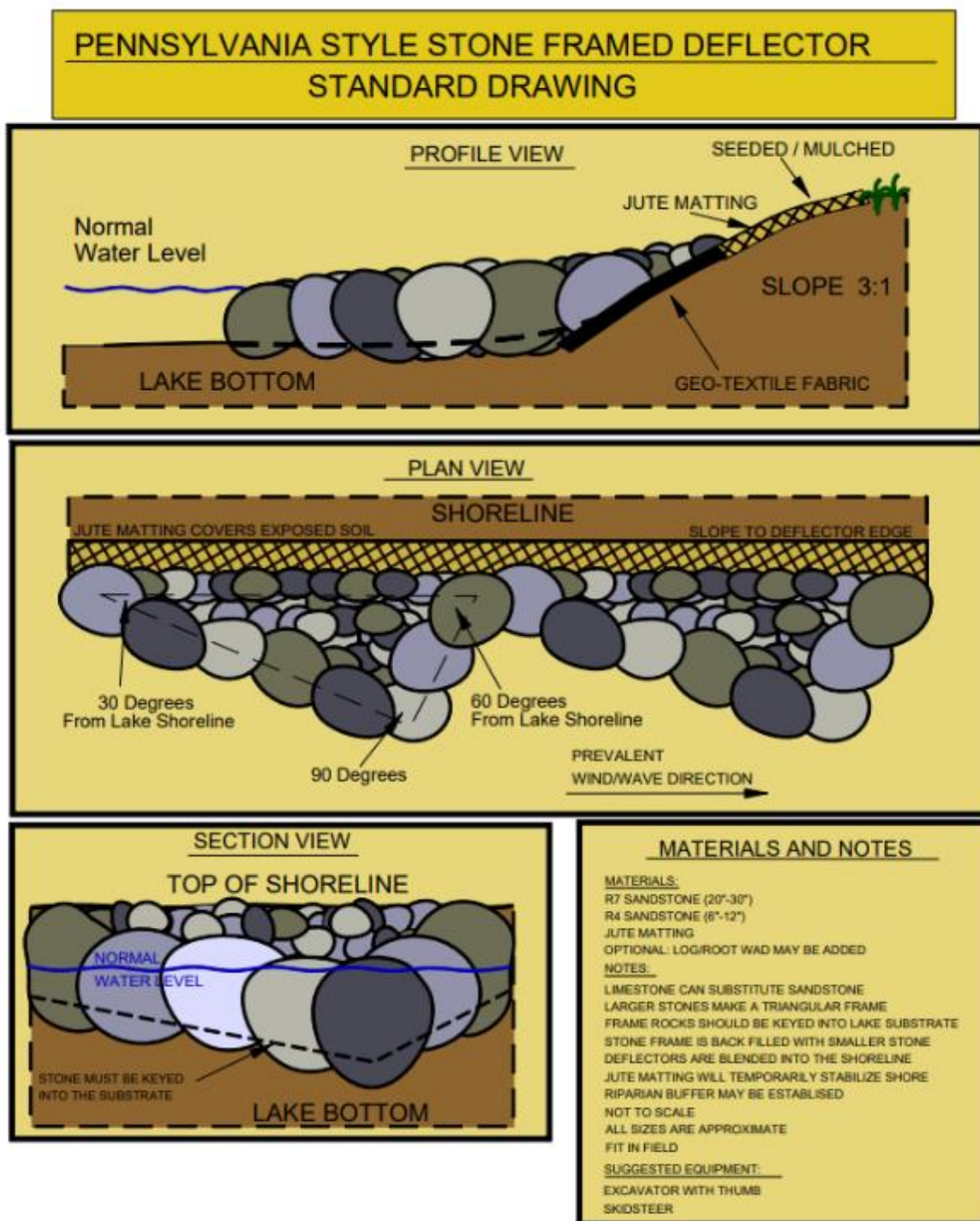
The shoreline stabilization efforts would apply to approximately 100-feet of shoreline in the vicinity of the primary access point to the reservoir (Figure 2). The shoreline stabilization would consist of stone framed deflectors (Figure 3), which utilize large rock frames filled with smaller rock fill to act as barbs that dissipate wave energy before it encounters the deformable shoreline. Behind the deflectors, the existing ground would be recontoured and vegetated. In addition to



the shoreline stabilization, the deflectors would improve angler access by providing convenient, flat areas at the water's edge to recreate from. The work would be completed using an excavator and skid-steer. Although not anticipated, some material may need to be wasted. A location within the FAS boundaries has been identified as the waste location if needed (Figure 2). The approximate cost of materials, labor, and equipment operator to perform the shoreline stabilization would be \$11,000. The shoreline stabilization efforts would be funded from a Community Pond Grant (~60%) and FAS Site Protection funds (~40%), with in-kind contributions from local sporting groups and contractors.

The dock consists two 16-ft x 5-ft wooden sections connected endwise to create a finished structure 32-ft long. The dock structures were salvaged from the FAS program. The floating dock would be placed near the shoreline stabilization (Figure 2). A gangway would be constructed and installed to access the floating dock. The dock and gangway structure would be stored and deployed as the seasons dictate. The estimated cost of dock/gangway components and placement would be approximately \$2,000. The funding would come from FWP Region 4 Fisheries and FAS programs.

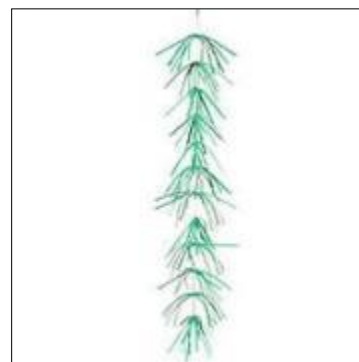
Big Casino Creek Reservoir lacks habitat complexity and diversity. Artificial habitat structures have been shown to locally increase fish abundance and susceptibility to angling. This project would place artificial habitat structures which would utilize natural and artificial materials. The structures would be placed throughout the near-shore area from the shoreline stabilization to the existing fishing pier (Figure 2). The structures would include porcupine spheres, poly shrubs/trees, dock droppers, brush bundles, and Georgia cubes. See Figure 4 for a detailed summary of the artificial habitat structures. The habitat structures would cost approximately \$1,000, with funding from the FWP Region 4 Fisheries program.



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Figure 3. Schematic drawing showing proposed stone framed deflector technique to be used for shoreline stabilization at Big Casino Creek Reservoir. Drawing is from the Pennsylvania Fish and Boat Commission, available at <https://www.fishandboat.com/Resource/Habitat/Pages/default>.



Structure	Description	Target Species & Benefits
<i>Porcupine sphere</i>	Plastic, anchored sphere with multiple limbs made up of 1/2" PVC pipe extending in all directions.	Designed to attract all fish species. The structure is intended to provide nursery, cover, and ambush habitat. May increase local abundance and angler catch rates.
<i>Poly shrub</i>	Anchored base with multiple limbs made of flexible polyethylene pipe extending in all directions.	Designed to attract all fish species. The structure is intended to provide nursery, cover, and ambush habitat. May increase local abundance and angler catch rates.
<i>Dock dropper</i>	Hanging stem and canopy cover made of polyethylene. Hung from docks.	Designed to attract primarily panfish species by providing cover habitat thus making them more susceptible to angling. Designed to be snag free.
<i>Brush bundles</i>	Anchored bundles of woody materials (e.g. recycled Christmas trees).	Designed to attract all fish species. The structure is intended to provide spawning, nursery, cover, and ambush habitat. May increase local abundance and angler catch rates.
<i>Georgia cubes</i>	Anchored 2" PVC cube with intertwined 4-6" corrugated drainpipe.	Designed to attract all fish species. The structure is intended to provide nursery, cover, and ambush habitat. May increase local abundance and angler catch rates.

Figure 4. Summary of proposed artificial habitat structures to be placed in Big Casino Creek Reservoir. Photos show example structures. Clockwise from top left: porcupine sphere (photo credit: thepondguy.com), poly shrub (photo credit: Nevada Dept. of Wildlife), dock dropper (photo credit: thepondguy.com), Georgia cube (photo credit: Bureau of Land Management), and brush bundle (photo credit: Nevada Dept. of Wildlife).



Project Timeline

The proposed action would occur in Summer/Fall of 2021, with the project being completed within a week of the commencement of work.

Need and Benefits

Montana FWP and local angling groups have identified the need to address shoreline erosion at the site. The shoreline area around the primary access point at the reservoir is actively eroding due to wave action and has created a 3-4' cutbank (Figure 5). The cutbank makes angling access difficult, especially for less mobile anglers. Additionally, the eroding sediments create an area of high turbidity and shallow, silt dominated substrates in the area of highest angler use. These conditions do not lend themselves to a quality angling experience. This project would attempt to address the bank erosion by placing stone framed deflectors along the shoreline. The addition of a dock would further improve angler access. Big Casino Creek Reservoir lacks habitat diversity and structure. Cover habitat is limited to deep water which most shore-based anglers can't access. Installing artificial habitat would increase fish abundance in near-shore habitats that are more available to anglers.

The proposed project would improve fishing opportunity by creating easier access to the reservoir and also improving the near-shore habitat. Recontouring the cutbank would make angling access easier and the fill areas of the stone deflectors would provide convenient, flat locations for anglers to use (Figure 6). Eliminating the shoreline erosion would reduce the turbidity which should improve angling conditions in the vicinity of the primary access point to the reservoir. The placement of the dock in the area would also make reservoir access easier and provide a point from which anglers could launch small boats or fish from. The addition of the artificial habitat structures would be expected to make fish more available to anglers, drawing them to near-shore areas where they may be more susceptible to angling.

Relevant Authorities

Montana Fish, Wildlife and Parks has the authority under state law (§ 87-1-201 (3) Montana Code Annotated (MCA)) to "spend for the protection, preservation, management, and propagation of fish...." and under § 87-1-209 (1) MCA to "develop, operate, and maintain acquired lands or waters (c) for public... fishing..." and under § 23-1-127 MCA to prioritize maintenance at fishing access sites for "(8) erosion control, (9) streambank stabilization..."

Furthermore, it is the policy of Montana FWP, under Administrative Rules of Montana (ARM) 12.8.107, that the purpose of State Fishing Access Sites is "To provide permanent public access to high-quality rivers, streams, and lakes."

The proposed project is intended to take action to address erosion and streambank stabilization in concert with access developments thereby improving recreational use and the aquatic habitat present at Big Casino Creek Reservoir.



Relevant Plans

The 2019-2027 *Statewide Fisheries Management Program and Guide* identifies the management direction at Fishing Access Sites and the Aquatic Habitat Program to “conserve, protect and enhance fish and wildlife populations, their habitats, and the public’s opportunity to enjoy them.” Additionally, the document identifies the management direction at Big Casino Creek Reservoir to focus on Yellow Perch, Largemouth Bass, and Black Crappie and developing a recreational fishery for those species. The proposed project would be anticipated to benefit the stated management direction.

Alternatives to Proposed Action

Alternative A

The **No Action Alternative** would result in the status quo and no alterations to the site would occur.

Decision to be Made

The decision to be made is whether FWP should move forward with the proposed alternative of installing stone framed deflectors as bank stabilization, placing a seasonal dock, and installing artificial habitat structures at Big Casino Creek Reservoir. Following completion of the Environmental Assessment (EA) and public comment period, the FWP Region 4 Regional Supervisor will issue a decision notice recommending a course of action. This course of action could be the Proposed Alternative, the No Action Alternative, or an action that is within the scope of the analyzed alternatives. This EA and the public comments FWP receives are part of the decision-making process.

Other groups or agencies contacted, or which may have overlapping jurisdiction

Groups contacted to date include the Big Spring Creek Watershed Council, the Crooked Creek Chapter of Walleyes Unlimited, and the Snowy Mountain Chapter of Trout Unlimited. To date, conversations with those groups have been supportive of the concept of the proposed action.

Overlapping jurisdictions over the proposed action include the City of Lewistown which operates the flood control aspect of the impoundment and is responsible for dam safety and Fergus County which is responsible for maintenance of the site. Both parties will be consulted as part of the EA process. Additional jurisdictions include the Army Corps of Engineers 404 permitting, Montana FWP 124 permitting, Montana DEQ 318 authorization, and Fergus County Floodplain permitting. Those entities will be contacted as part of the permitting process.



PART 2. ENVIRONMENTAL REVIEW

Physical Environment

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		
7. Geology and soil quality, stability and moisture			X (Benefit)			
8. Air quality or objectionable odors			X			X
9. Historical and archaeological sites				X		
10. Demands on environmental resources of land, water, air & energy				X		
11. Aesthetics			X			X

Comments

1. At the HUC-6 level, no aquatic species of concern are known to be present. At the HUC-5 level, Sauger, Northern Redbelly Dace, and Westslope Cutthroat Trout are known species of concern present. Sauger have been documented in lower Big Spring Creek below the Cottonwood Creek confluence. Northern Redbelly Dace are present in Big Spring Creek and many of the tributaries. Westslope Cutthroat Trout are present primarily in the isolated headwaters of Cottonwood Creek and East Fork Big Spring Creek within the drainage. Associated risks to species of concern are considered negligible. The proposed work is not anticipated to impact any species of concern due to their absence from the work area and existing distributions within the drainage.



Additionally, bald eagles are known to occur throughout the Big Spring Creek drainage. Anticipated impacts to bald eagle presence, nesting, foraging, and distribution from the listed actions would be negligible.

2. Impacts to terrestrial or aquatic life would not be anticipated. The Proposed Alternative would be expected to temporarily disturb the existing terrestrial and aquatic habitats while work occurs. Upon completion, the Proposed Alternative would be expected to improve the terrestrial and aquatic habitat by stabilizing the shoreline and reducing sedimentation and turbidity. The artificial habitat structures would be expected to increase local habitat complexity and diversity present in the reservoir. The artificial habitat structures would be expected to locally increase abundance of fish, aquatic invertebrates, and periphyton, however population level changes would not be expected.

The No Action Alternative would not result in any impacts to terrestrial or aquatic life and/or habitats.

4. The proposed action would result in the disturbance and modification of the vegetation within the impacted shoreline area. Initially, the existing vegetation, primarily willows and shallow-rooted grass, would be removed. The new shoreline would be reconstructed and roughly 100 linear feet would be modified by the stone framed deflectors. Disturbed areas would be revegetated via salvaged sod mats and seeding. Management of noxious weeds in the area would be a concern and would be monitored and mitigated via biocontrol, mechanical removal, and/or spraying.

The No Action Alternative would not impact vegetation.

5. The proposed action would be anticipated to decrease erosion and reduce turbidity thereby improving water quality. The proposed action would temporarily impact water quality by inducing turbidity during shoreline work. Turbidity increases anticipated from the proposed work would not be expected to have biological impacts. No action would occur until a DEQ 318 Authorization for turbidity related to construction activities for the work is issued. All guidelines of the 318 Authorization would be followed. All applicable best management practices would be followed. Construction equipment would be cleaned prior to working near the water and inspected to ensure no oil or hydraulic fluid leaks are present. Equipment fueling would occur outside the floodplain area.

The No Action Alternative would not directly impact water quality however no action would result in continued erosion and turbidity that negatively impact water quality.

7. The proposed action be anticipated to improve soil stability. The stone framed deflectors would be intended to decrease erosion along the cut bank that is currently occurring from wave action. These beneficial minor impacts would be expected to remain for the functional life of the deflectors.

The No Action Alternative would not alter the current geology and soil quality, stability



and moisture at the site. The site would be expected to continue to experience wave action erosion and have poor soil stability.

8. The presence of construction equipment would result in exhaust and noise stemming from their operation. Anticipated impacts be temporary and minor in nature.

The No Action Alternative would not impact air quality or odors.

11. The presence of construction equipment and the proposed work would temporarily alter the aesthetics of the area. These impacts would be short-term and minor in nature. The installation of the dock and gangway would alter the aesthetics of the area when placed in the water and during off-season storage. While considered minor in nature, these impacts would persist as long as the dock is present.

The No Action Alternative would not alter existing aesthetics.



Human Environment

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 (Benefit)			X
3. Local and state tax base and tax revenue				X		
4. Agricultural production				X		
5. Human health				X		
6. Quantity and distribution of community and personal income				X		
7. Access to and quality of recreational activities			X (Benefit)			X
8. Locally adopted environmental plans & goals (ordinances)				X		
9. Distribution and density of population and housing				X		
10. Demands for government services			X			X
11. Industrial and/or commercial activity				X		

Comments

2 & 7. The proposed action would be intended to improve access to and local habitat conditions at the site, thereby improving recreational angling conditions and opportunity at Big Casino Creek Reservoir FAS.

The No Action Alternative would not impact public benefits.

10. The proposed action would result in a slight increase in demands for government services in the form of EA & permit preparation, on-site monitoring, and post-implementation monitoring and maintenance. These responsibilities would be absorbed



into the existing responsibilities of the Lewistown Area Fisheries Management project and Region 4 FAS without impacting other services of the project.

The No Action Alternative would not impact government services.



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

No, the proposed action does not involve uncertain risks or adverse effects that would be extremely harmful.

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

No, this environmental review found that cumulatively/potentially significant impacts from the proposed action would not be anticipated.

PART 3. NARRATIVE EVALUATION AND COMMENT

This analysis did not reveal any significant impacts to the human or physical environment.

The No Action Alternative would result in no impacts to the physical or human environments. Maintaining the status quo at the proposed site is not preferable from a land management, recreational opportunity, or habitat perspective. The No Action Alternative is not recommended because it does not meet the objectives of providing shoreline stabilization, access improvements, and habitat enhancements.

After consideration of the alternatives listed, the desired objectives, and any limitations identified in this analysis, it is recommended that the Proposed Alternative, as described in this Environmental Assessment, has the greatest potential of fulfilling the desired objectives while having minimal impacts to the human and physical environments.

PART 4. PUBLIC PARTICIPATION

Describe the level of public involvement for this project if any, and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?

Notice of this draft EA will be distributed to neighboring landowners, local recreational groups, local sporting goods stores, and other interested parties to ensure awareness of the proposed action. This EA will be posted on the FWP website and copies will be available upon request at FWP Offices. A notice of the proposed project and EA will be advertised in a statewide press release.

Due to the simple nature and minor impacts of the proposed action, the level of public involvement is appropriate for the proposed project.

Duration of comment period, if any:



The draft EA will be open for public comment for a period of 30 days from March 16, 2021 through April 15, 2021.

Comments can be submitted electronically via email to clsmith@mt.gov or can be mailed to the address below:

Montana Fish, Wildlife & Parks
Big Casino Access and Habitat Comments
333 Airport Road, Ste. 1
Lewistown, MT 59457

PART 5. EA CONCLUSION

Based on the significance criteria evaluated in this EA, is an EIS required?

No, an EIS is not required.

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

Based on an evaluation of impacts to the physical and human environment stemming from the proposed action, this assessment revealed no significant negative impacts from the proposed action. Additionally, the proposed action is not expected to be highly controversial. Therefore, an EIS is not necessary and an environmental assessment is the appropriate level of analysis.

Name, title, address and phone number of the person(s) responsible for preparing the EA:

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List of agencies consulted during preparation of the EA:

Montana Fish, Wildlife, & Parks

Date Completed

March 16, 2021