Draft
Environmental Assessment

Black Bridge Fishing Access Site Development

October 23, 2007

Montana Fish, Wildlife & Parks

Black Bridge Fishing Access Site Development
Draft Environmental Assessment
MEPA, NEPA, MCA 23-1-110 CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. Type of Proposed Action:

Development	___X___
Renovation	_____
Maintenance	_____
Land Acquisition	_____
Equipment Acquisition	_____
Other (Describe)	_____

2. Agency authority for the proposed action: The 1977 Montana Legislature enacted statute 87-1-605 MCA, which directs Montana Fish, Wildlife & Parks (FWP) to acquire, develop, and operate a system of fishing access sites. The legislature established a funding account to ensure that this function would be accomplished. Sections 23-1-105, 23-1-106, 15-1-122, 61-3-321, and 87-1-303, MCA, authorize the collection fees and charges for the use of state park system units and fishing access sites, and contain rule-making authority for their use, occupancy, and protection. Sections 23-1-101 MCA allows FWP to plan and develop outdoor recreational resources in the state and receive and expend funds, including federal funds. The opportunity for public comment regarding the proposed project is provided under MCA section 23-1-110. See Appendix 1 for HB 495 qualification.

The Boat Fee in Lieu of Tax revenue includes 20% of all fees in lieu of tax collected by the county treasurer and FWP uses these funds to improve regional boating facilities under the control of FWP (Section 23-2-518, MCA).

The Dingell-Johnson bill was passed in the U.S. Legislature August 9, 1950, and was amended to the Wallop-Breaux bill in 1984. A percentage of funds spent on fishing equipment and motorboat-associated fuel are apportioned back to the states based on the land and water area and the number of fishing licenses sold. This bill requires that 15% of these funds be spent on motorboat access projects. Twenty five percent of the total project cost must be from nonfederal funds. The U.S. Fish & Wildlife Service administers Wallop-Breaux funds, which would be requested for use in this project.

2. Name of Project

Black Bridge Fishing Access Site (FAS) Development

3. Project Sponsor(s)

Allan Kuser	John Little
Fishing Access Site Coordinator	Regional Parks Manager
Montana FWP, HQ	Montana FWP, Region 7
PO Box 200701	Industrial Site West, PO Box 1630
Helena, MT 59620	Miles City, MT 59301
406-444-7885	406-234-0923

4. Estimated Timeline:

Estimated Construction/Commencement Date:	Spring 2008
Estimated Completion Date:	Fall 2008
Current Status of Project Design (% complete):	50%

5. Location of Proposed Action:

The Black Bridge Fishing Access Site is located in sections 34 and 35, Township 16 North, Range 55 East, at Glendive in Dawson County, Montana. The FAS is 71 acres.

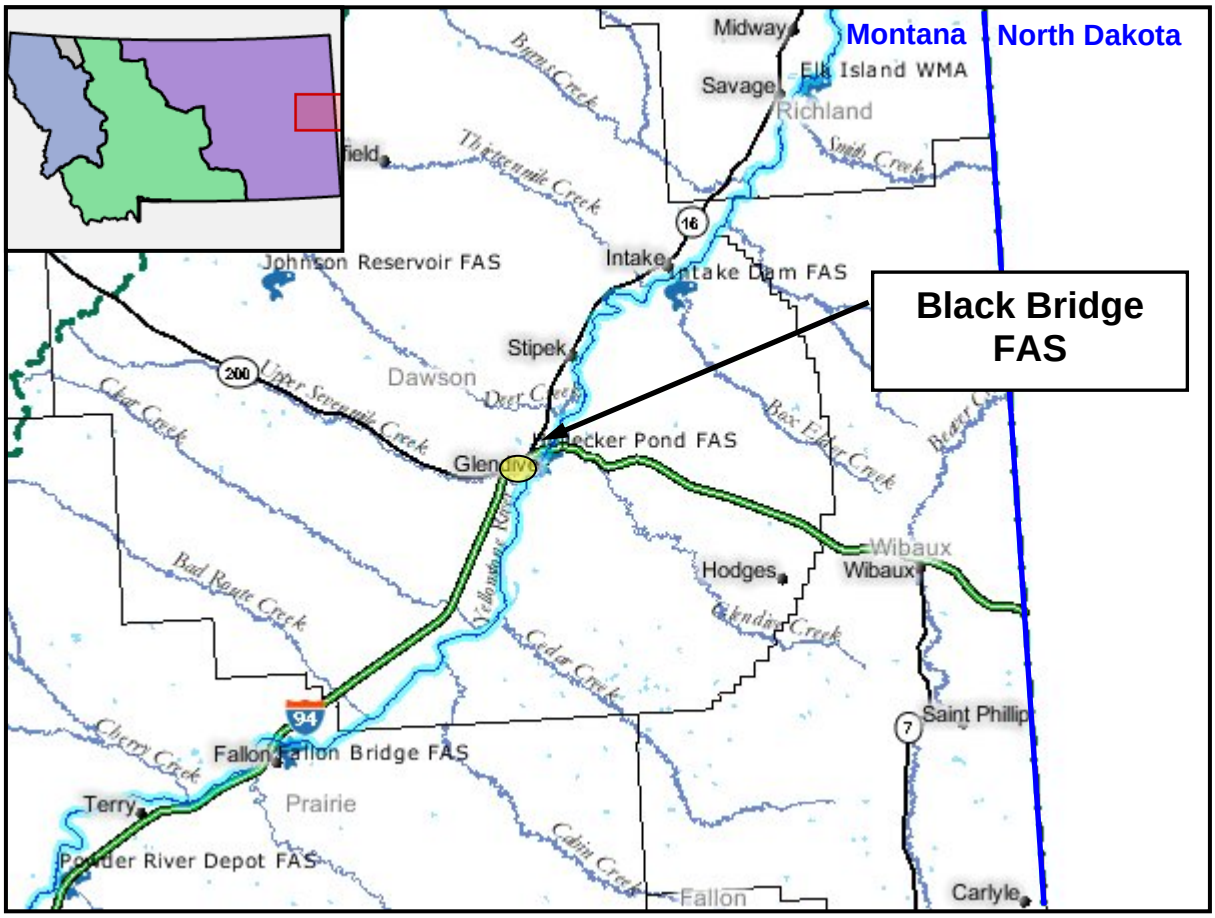

Figure 1: Yellow circle delineates location of Black Bridge FAS. Blue line delineates Montana-North Dakota border.

6. Project Size: Estimate of the number of acres that would be directly affected that are currently:

(a) Developed:
Residential..... 0 acres
Industrial..... 0 acres

(b) Open Space/Woodlands/
Recreation..... 2 acres

(c) Wetlands/Riparian
Areas ..... 0 acres

(d) Floodplain ..... 0 acres

(e) Productive:
Irrigated cropland ..... 0 acres
Dry cropland ..... 0 acres
Forestry..... 0 acres
Rangeland ..... 0 acres
Other..... 0 acres

7. Map/site plan

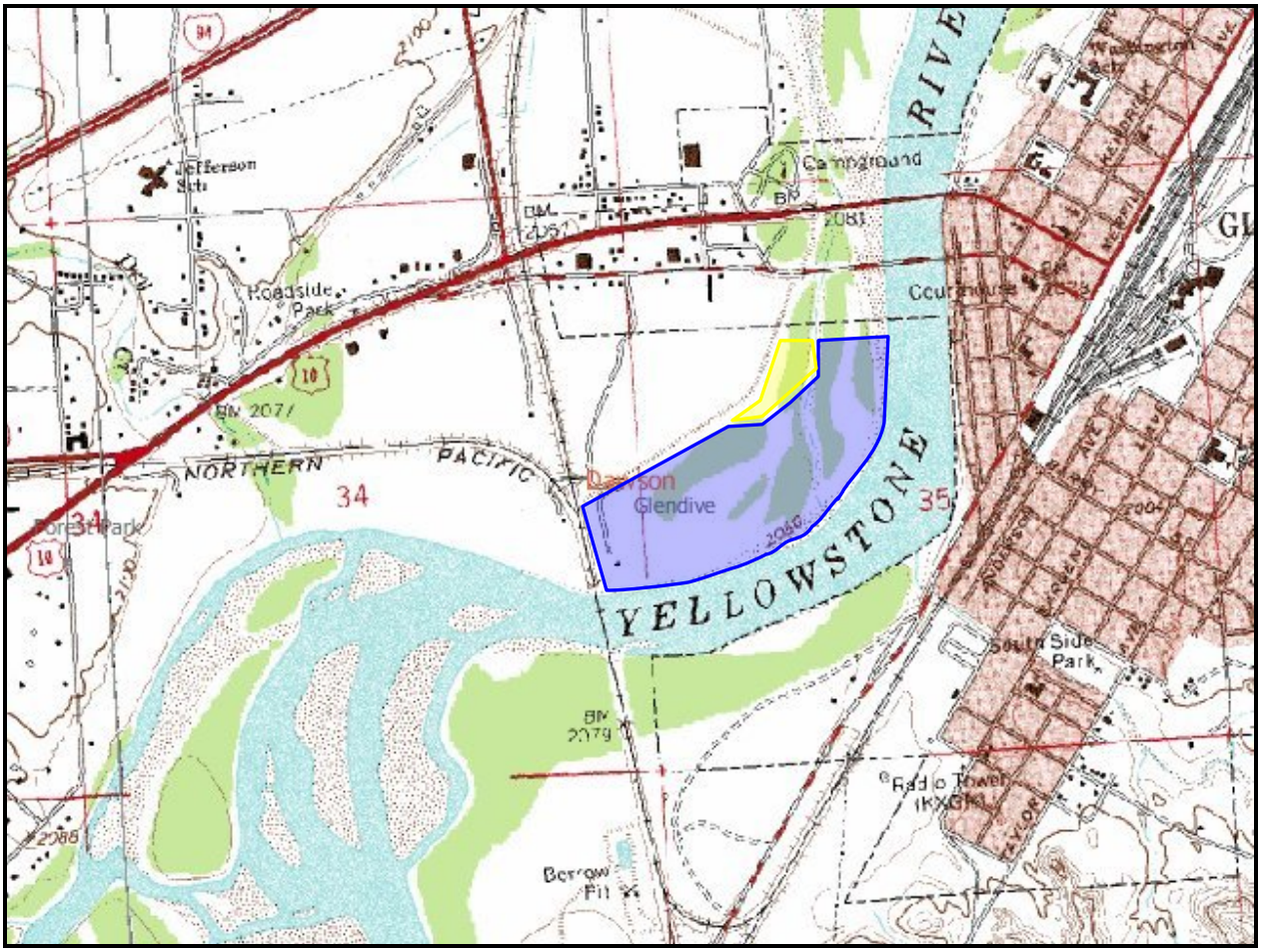

Figure 2: Topographic map depicting approximate boundaries (blue polygon; 71 acres) of the Black Bridge FAS (Base photo source: Montana Natural Resources Information Service (NRIS) Topofinder). Yellow polygon depicts the approximate boundaries of City of Glendive property (9.4 acres) adjacent to the proposed FAS.

Figure 3: Aerial Photograph depicting approximate boundaries (blue polygon; 71 acres) of the Black Bridge FAS (Base photo source: NRIS Topofinder).

Figure 4. Aerial photograph depicting property boundaries and surrounding landowners at FWP Black Bridge FAS (Montana Cadastral Mapping Program 2006).

8. Listing of any other Local, State, or Federal agency that has overlapping or additional jurisdiction

(a) Permits:

Agency Name	Permit	Date Filed/#
Montana Fish, Wildlife & Parks		124
Montana Department of Environmental Quality		318
US Corps of Engineers		404
Dawson County		Floodplain Permit

(b) Funding:

Agency Name	Funding Amount
FWP Boat-in-Lieu of Tax Account Funds	$25,000 (25%)
State Federal Aid Motorboat Funds	$75,000 (75%)
Total	$100,000 (100%)

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	Type of Responsibility

9. Summary of the Proposed Action

In April 2006, FWP acquired the Black Bridge FAS, a 71-acre property along the Yellowstone River at Glendive. This purchase fulfilled the substantial need for public river access to the Yellowstone River near Glendive. The Black Bridge FAS is the only FAS on a 53-mile stretch of the Yellowstone River between Fallon FAS (upstream) and Intake FAS (downstream). The FAS is attractive for public use because of its proximity to Glendive, the high quality of the river fishery in the reach, the onsite wildlife habitat, and the history of public use provided by the landowner.

Picture 1: Picture was taken looking west and shows the Black Bridge crossing the Yellowstone River. Bank in the foreground is proposed boat-launch site.

<u>Black Bridge FAS Description</u>

The Black Bridge FAS is located adjacent to the Yellowstone River and lies across the river from Glendive, Montana, in Dawson County. The FAS lies between the Bell Street Bridge (walking bridge) and the Black Bridge (Burlington Northern Railroad Bridge; Picture 1). The south and east sides of the FAS are bordered by the Yellowstone River, the southwest side is bordered by the Burlington Northern Railway, the west side is bordered by a county constructed levee, and the north side is privately owned (Figure 4). Public access over the levee to the FAS was granted to Walleyes Unlimited by Dawson County. After FWP's acquisition of the property, Walleyes Unlimited formally granted their levee access to FWP. Land owned by the City of Glendive (9.4 acres) is fenced into the FAS and is currently being leased by FWP (25 year lease for $100/ year).

Picture 2: Picture was taken from Black Bridge looking east at the bank of the Yellowstone River. Road in the background is the access road on FAS.

The FAS consists of 0.75 miles of river frontage (Picture 2), a stand of mature cottonwood trees (Picture 3), and a large hay field (Picture 4). Prior to FWP acquisition, the field was cut every year, with two or three cuttings per season. Alfalfa, brome grass, or wheat grass were the typical crop rotations. Pheasants, turkeys, deer, songbirds, fox, raccoon, and skunk currently use the property. An existing trail forms a loop through the property, part of which is adjacent to the river. The existing trail provides excellent opportunities for fishing, camping, and hiking.

The previous landowner allowed public access since ownership in 1974. Recreational activities that were permitted under private ownership were camping, fishing, hiking, dog walking, boating, snowmobiling, four wheeling, ice skating and agate hunting. Hunting (firearm or archery) was not permitted on the property. FWP permits camping in the NE area of the property in the cottonwood forest. Hunting is not currently permitted at the site.

Picture 3: Cottonwood forest is located in the NE corner of the FAS.

The Yellowstone River has survived as one of the last, large, free-flowing rivers in the continental United States. Lack of main stem impoundments allows spring peak flows and fall and winter low flows to influence a unique ecosystem and aesthetic resource. From the clear, coldwater cutthroat trout fishery in Yellowstone National Park to the warmer water habitat at its mouth, the river supports a variety of aquatic environments that remain relatively undisturbed. The adjacent terrestrial environment, through most of the 550 Montana miles of river, is an impressive cottonwood-willow bottomland. The river has been a major factor in the settlement of southeastern Montana, and retains much cultural and historical significance. Game fish opportunities include burbot, channel catfish, paddlefish, sauger, smallmouth bass, and walleye.

Picture 4: Hayfield located at the property. Picture was taken in the SW corner of property looking NE.

The Montana Natural Heritage Program (MNHP) located ten species of concern within one mile of the proposed Black Bridge FAS: two plant species (bittersweet and bractless mentzelia) and eight animal species (pallid sturgeon, sturgeon chub, paddlefish, blue sucker, sauger, spiny softshell, least tern, and bald eagle). Development and management by FWP would ensure that human use of the property would be managed to protect habitat and wildlife populations while providing public access. The haying of the field has been discontinued and will be returned to nesting cover. Habitat and the diversity of game and non-game animals would not be adversely affected by the proposed project.

The Montana Noxious Weed Trust Fund through the Weed Survey and Mapping System project located leafy spurge and spotted knapweed at the site. The FAS is managed by the FWP Region 7 Weed Management Plan. FWP contracts with either the county or

private herbicide applicator, in addition to providing mechanical and biological control.

Proposed Action, Purpose, and Benefits of the Action

Montana Fish, Wildlife & Parks proposes to develop the Black Bridge FAS using 25% of funds from FWP Boat-in-Lieu of Tax Account Funds ($25,000) and 75% of funds from State Federal Aid Motorboat Funds ($75,000) for a total of $100,000. Development would include constructing a 16-foot wide gravel access road (with 4 pullouts), constructing a new parking area (9 truck/trailer parking spaces and 10 single vehicle parking spaces), constructing a new concrete boat ramp, installing a precast vault latrine, installing signs, and installing fencing (Figures 5 and 6). This amount of construction is appropriate for the size of the FAS and its proximity to Glendive. The parking area and access road would be set back at least 50 feet beyond the normal high water mark due to the highly erosive nature of the bank. Since the site was acquired in the spring of 2006, spring flows have severely eroded the river bank immediately downstream of the proposed boat ramp location (see photos in Appendix 3). High water events due to ice jams have historically flooded the area every 3 to 7 years. In addition, FWP would manage noxious weeds on the site in accordance with the Region 7 Weed Management Plan and in concert with the county weed program. This development would protect the site, allow safe motor boat access, and enhance recreation opportunities in the Glendive community.

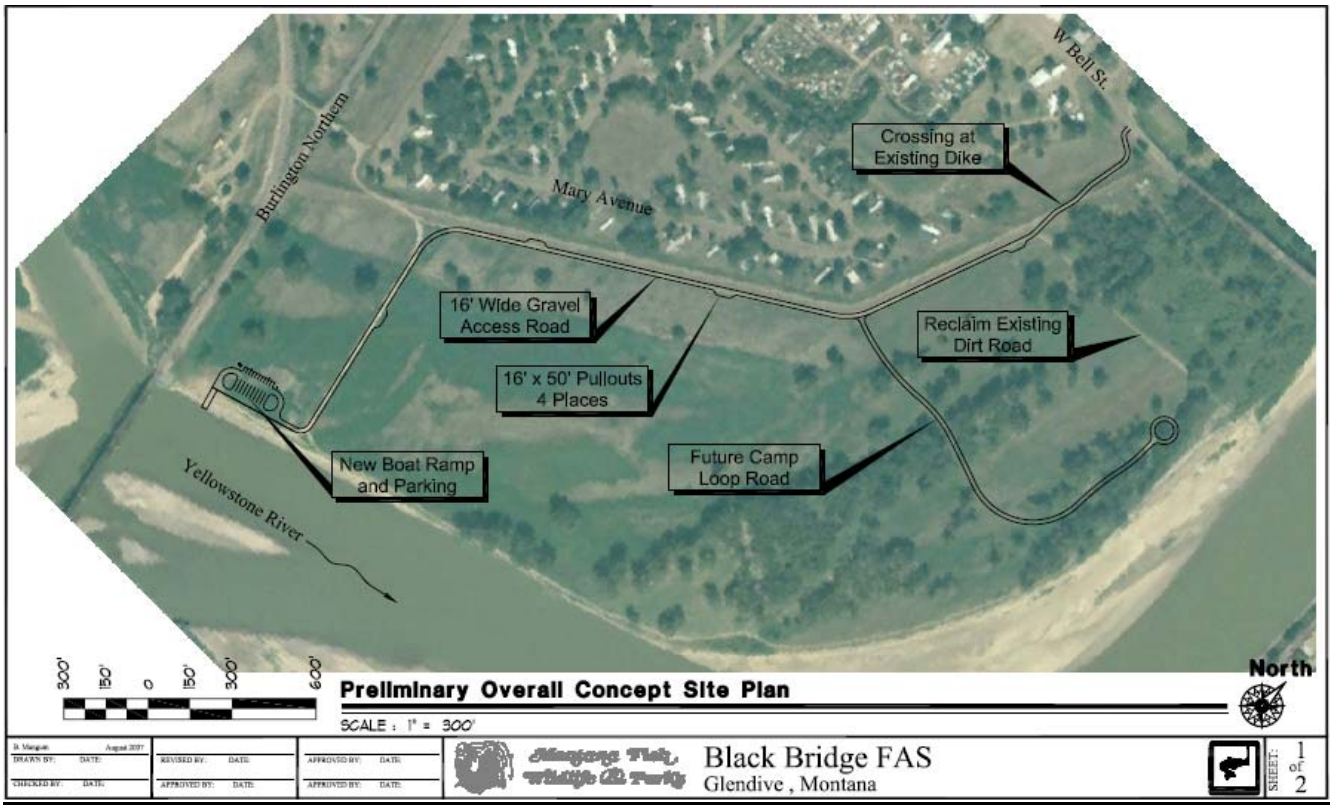

Figure 5. Preliminary overall site plan of proposed development at Black Bridge FAS.

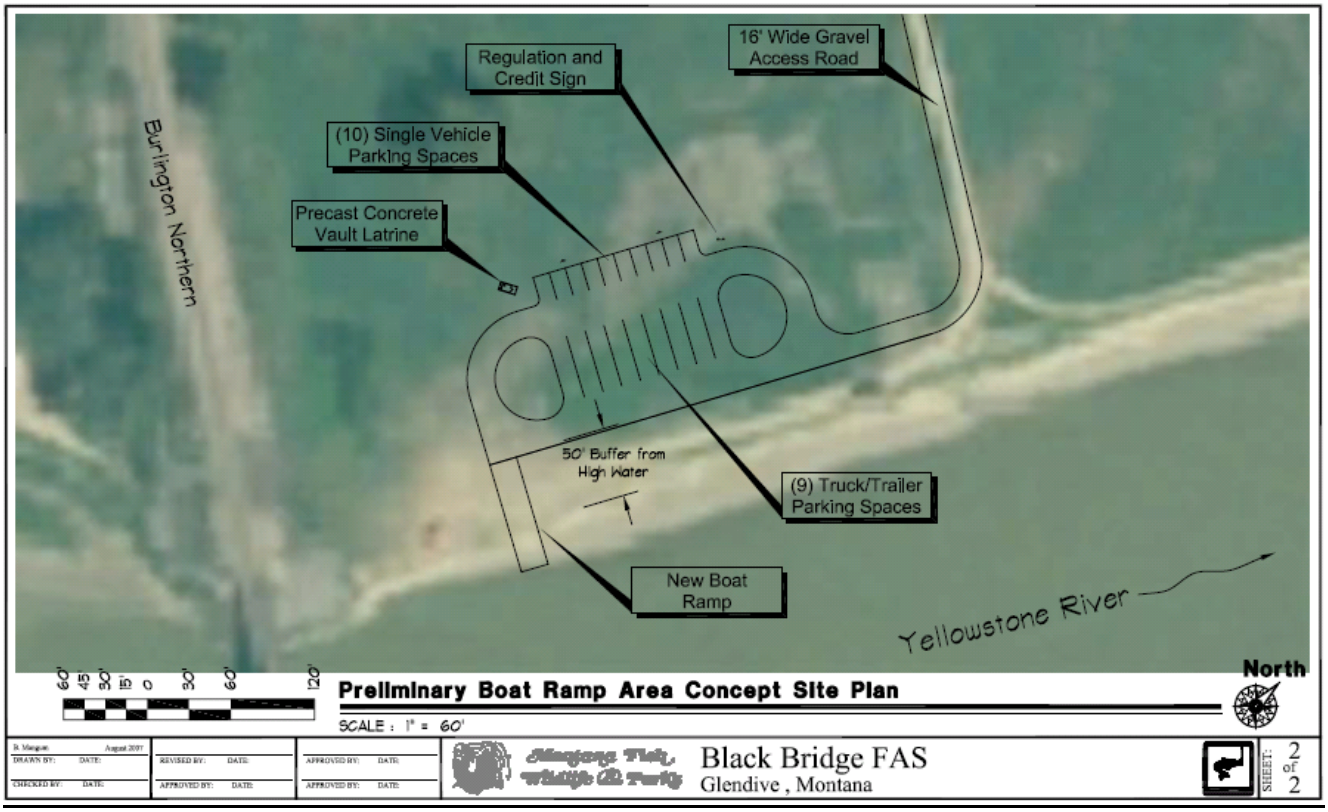

Figure 6. Preliminary site plan for proposed development of boat ramp area at Black Bridge FAS

PART II. ENVIRONMENTAL REVIEW

1. Alternatives:

Alternative A: No Action
FWP would not develop Black Bridge FAS. The FAS would remain in its undeveloped state. Public access would be permitted, but no formal access road, parking area, latrine or boat launch would be developed. Access would be limited to walk-in only and boat launching would be limited to carry-in only. The FAS would remain in its primitive state, which could create site protection and sanitation issues. FWP would not accomplish its objective of motorboat access to the Yellowstone River in Glendive.

Alternative B: Develop Black Bridge Fishing Access Site
Develop Black Bridge Fishing Access Site for public motorboat access to the Yellowstone River. Development would include constructing a 16-foot wide gravel access road (with 4 pullouts), constructing a new parking area (9 truck/trailer parking spaces and 10 single vehicle parking spaces), constructing a new concrete boat ramp, installing a precast vault latrine, installing signs, and installing fencing. This amount of construction is appropriate for the size of the FAS and its proximity to Glendive. The parking area and access road would be set back at least 50 feet beyond the high water mark due to the highly erosive nature of the bank.

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

FWP engineering staff would oversee project construction; thus, the contractor would be held to the terms of the project, such as limiting soil and vegetation disturbance to the immediate project area and seeding disturbed areas to aid in reclamation.

The Dawson County Sanitarian would approve the location and installation of the sealed vault latrine.

A short-term turbidity permit would be received from the Department of Environmental Quality prior to construction. FWP engineering staff has designed this project using Best Management Practices (Appendix 4), which would limit changes in surface water runoff or drainage patterns once project is completed.

Noxious weeds would be monitored by FWP after completion and controlled in accordance with methods outlined in the Region 7 Weed Management Plan.

FWP designed the project to maintain vegetation for wildlife habitat and yet provide a stable ramp and efficient site use. Surrounding areas disturbed by construction would be reclaimed.

Montana's Fishing Access Site Program is designed to increase public access to public waters. Increased public access sometimes results in increased pollution, noise,

vandalism, fire threat, safety hazards, dust, weeds, trespass, and theft. The proposed project is designed to mitigate these impacts through site design, regulation signs, enforcement activities, and site size. FWP would follow the guidelines of the good neighbor policy for public recreation lands (MCA 23-1-126.) to have “no impact upon adjoining private and public lands by preventing impact on those adjoining lands from noxious weeds, trespass, litter, noise and light pollution, streambank erosion and loss of privacy.”

PART III. MEPA CHECKLIST

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

If the No Action Alternative were, selected FWP would not develop Black Bridge FAS. There would be no change to the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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				
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			1e.
f. Other			X			1f.

1a. The proposed project would not alter geological substructure. Soil stability would be minimally impacted by constructing the access road, boat launch and parking area. The FAS is located in an area that receives occasional flooding. High water events due to ice jams inundate the area every 3-7 years. Erosion and surface runoff would be minimal due to the low slope (0-4% slope). The access road and parking area would be built at least 50 feet from the high water mark to prevent erosion of these structures. Best Management Practices (see Appendix 4) would be utilized to minimize these impacts during design and construction of the proposed project.

1b. The proposed project would cause minor disruption, displacement, compaction, and over-covering of the soil in the areas of construction. All construction would occur in areas that have been primitively disturbed. To protect the site from degradation, vehicles would be confined to designated areas. The proposed project would cause minor erosion of the riverbank due to the increased use by recreationists and the establishment of a boat launch. This impact would be minimized, as vehicle traffic and boat-launching activities would be confined to a small area.

1d. The proposed project would construct a new boat launch into the Yellowstone River. This may cause changes in deposition and erosion patterns in the Yellowstone River.

1e. Developing the Black Bridge FAS would increase the potential for untended campfires. Fires would be permitted in metal fire rings, or below the high water mark on gravel or sand bars void of vegetation.

1f. The Black Bridge FAS is located on an erosive bank on the Yellowstone River (Appendix 3). Due to the erosive nature of this bank, location of the parking area, latrine, and access road would be set back at least 50 feet beyond the high water mark. These high water events may cause silting or wash out of the

access road and parking area.

PHYSICAL ENVIRONMENT

2. AIR **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))			X			2a.
b. Creation of objectionable odors?			X			2b.
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)		X				2e.
f. Other		X				

2a. Minor amounts of dust would be temporarily created during construction of the access road, parking area, and boat launch. Best Management Practices (see Appendix 4) would be utilized to minimize the dust during construction. Dust would increase due to vehicle traffic on the new access road. FWP would apply dust abatement materials on the access road if needed.

2b. Vault latrines can emit foul odors; but proper siting of the latrine as well as regular maintenance would diminish the problem. Current design of vault toilets minimizes odors by using black, passively—heated vent pipe to increase airflow through the structure and remove objectionable odors. Not having a latrine would likely result in sanitation problems that could potentially lead to health and safety issues.

2e. The project would not result in any discharge that would conflict with federal or state air quality regulations.

PHYSICAL ENVIRONMENT

3. WATER **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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			3b.
c. Alteration of the course or magnitude of flood water 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)			X			3l.
m. For P-R/D-J, will? (Also see 3a)		X				3m.
n. Other:		X				

3a. The proposed project would cause a minor increase in the discharge of sediments into river during construction due to exposing soil for the access road, parking area, and boat launch. This impact would be minimized by constructing the access road and parking area at least 50 feet above the high water mark. Boat launching activities would also cause a minor increase in discharge into the Yellowstone River.

3b. To help minimize changes in drainage pattern caused by construction, the parking area, road, and latrine would be located on an area with low slope (0-4%) The proposed plan may increase surface runoff, due to changes in vegetative cover. A vegetative buffer would be left to trap sediments.

3c. The FAS is located in an area that receives occasional flooding. The proposed project is designed to minimize alterations to the course and magnitude of floodwaters by constructing the access road and parking area 50 feet beyond the high water mark.

3l. The access road, parking area and boat launch would be located in a special flood hazard area (Zone A) as mapped by the US Department of Housing and Urban Development Federal Insurance Administration, (Flood Insurance Rate Map, Map Number 1400011A, effective date April 11, 1978).

3m. The proposed project would not result in any discharge that would affect federal or state water quality regulations.

PHYSICAL ENVIRONMENT

4. VEGETATION Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X			4a.
b. Alteration of a plant community?			X			See 4a.
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		X	4e.
f.For P-R/D- J, will the project affect wetlands, or prime and unique farmland?		X				4f.
g. Other:						

4a. Development would occur in areas that have been previously disturbed. There would be a minor change in plant species in the area of construction.

4c. The Montana Natural Heritage Program (MNHP) located two plant species of concern within one mile of the Black Bridge FAS: bittersweet *Celastrus scandens* and bractless mentzelia *Mentzelia nuda.* Bittersweet is listed as S1, G5 by the MNHP. The S1 ranking indicates the species is at high-risk of extirpation in the state. The G5 ranking indicates the species is not vulnerable globally. Bractless mentzalia is listed as sensitive by the U.S. Bureau of Land Management (USBLM) and S3, G5 by MNHP. The S3 ranking indicates the species is potentially at risk of extirpation in the state. The G5 ranking indicates the species is not vulnerable to extinction globally.

In addition, the FAS is located in and area of ecological importance (the Yellowstone River Corridor) as classified by MNHP. Important plant species in this important ecological corridor include narrowleaf cottonwood, black cottonwood, plains cottonwood, beaked spikerush, and Schweintz's flatsedge. The proposed project would not impact the cottonwood forest on the northern portion of the FAS.

4e. Leafy spurge and spotted knapweed are present at the FAS. Increased recreational use may increase weeds present at the site. FWP would continue weed control and weed monitoring of the FAS with development of the property. Weed control would follow FWP Region 7 Weed Management Plan, including chemical, mechanical, and biological control methods. Region 7 contracts with Dawson County for biological and chemical control.

4f. No wetlands or prime and unique farmland would be altered by the proposed project.

A search of the Montana Natural Resource Information System (NRIS) web site (http://maps2.nris.state.mt.us/scripts/esrimap.dll?name=LocMap&Cmd=Map) found that no Natural Heritage Program Wetlands, DEG High Priority Wetlands, or Riparian Wetland Research program sites existed on or near Black Bridge FAS.

The FAS is located on Hanly soils 0-4% slope, occasionally flooded (Bk) and Glendive fine sandy loam, 0-2% slope, occasionally flooded (Tn; listed by SSURGO soil mapping web site

http://maps2.nris.state.mt.us/mapper/PLSSSearch.asp). Tn is listed as a farmland of statewide importance in Dawson County (http://soildatamart.nrcs.usda.gov/Report.aspx?Survey=MT083&UseState=MT).

PHYSICAL ENVIRONMENT

5. FISH/WILDLIFE Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Deterioration of critical fish or wildlife habitat?			X			5a.
b. Changes in the diversity or abundance of game animals or bird species?			X			See 5a.
c. Changes in the diversity or abundance of nongame species?			X			See 5a.
d. Introduction of new species into an area?			X			5d.
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)			X			See 5f.
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)		X				See 5d.
j. Other:		X				

5a. There would not be deterioration of critical fish and wildlife habitat. The proposed project would cause minor changes in the diversity and abundance of game and nongame animals. The development would occur in areas that have received recreational use in the past. The proposed project would increase this use and allow better access to the FAS and Yellowstone River. Development would be kept minimal along the bank of the Yellowstone River. In addition, development would not occur in the cottonwood forest on the FAS.

5d. Establishing a new boat launch increases the chances of Aquatic Nuisance Species (ANS) being transported to the area. Signs would be posted regarding this potential.

5f. MNHP located eight animal species of concern within one mile of the Black Bridge FAS: pallid sturgeon *Scaphirhynchus albus*, sturgeon chub *Macrohybopsis gelida*, paddlefish *Polyodon spathula*, blue sucker *Cycleptus elongatus*, sauger *Sander canandensis*, spiny softshell *Apalone spinifera*, least tern *Sterna antillarum*, and bald eagle *Haliaeetus leucocephalus*.

Pallid sturgeon is listed as endangered by the U.S. Fish & Wildlife Service (FWS) and the U.S. Forest Service (USFS), special status by the US Bureau of Land Management (BLM) and S1, G1 by MNHP. The S1 ranking indicates the species is at high-risk of extirpation in the state. The G1 ranking indicates the species is at high-risk of extirpation globally. There would be no impacts to this species from the proposed action.

Sturgeon chub is listed as sensitive by USFS and BLM and S2, G3 by MNHP. The S2 ranking indicates the species is at risk of extirpation in the state. The G3 ranking indicates the species is potentially at risk of extinction globally. There would be no impacts to this species from the proposed action.

Paddlefish is listed as sensitive by BLM and S2S3, G3G4 by MNHP. The S2S3 ranking indicates the species

is at risk or potentially at risk of extirpation in the state. The G3G4 ranking indicates the species is potentially at risk or uncommon globally. There would be no impacts to this species from the proposed action.

Blue sucker is listed as sensitive by BLM and S2S3, G3G4 by MNHP. The S2S3 ranking indicates the species is at risk or potentially at risk of extirpation in the state. The G3G4 ranking indicates the species is potentially at risk or uncommon globally. There would be no impacts to this species from the proposed action.

Sauger is listed as sensitive by the BLM and S2, G5 by MNHP. The S2 ranking indicates the species is at risk of extirpation in the state. The G5 ranking indicates the species is not vulnerable to extinction globally. There would be no impacts to this species from the proposed action.

Spiny softshell is listed as sensitive by BLM and S3, G5 by MNHP. The S3 ranking indicates the species is potentially at risk of extirpation in the state. The G5 ranking indicates the species is not vulnerable to extinction globally. A survey of spiny softshell in recent years has not located any turtles at the site. Spiny softshell turtles have been located across the river on gravel bars. Spiny softshell turtles use muddy or gravel shorelines for nesting. The location of the FAS is not the right type of habitat for nesting or feeding areas. There would be no impacts to this species from the proposed action.

Least tern is listed as endangered by the USFS, special status by BLM and S1B, G4 by MNHP. The S1 ranking by MNHP indicates the species is at high-risk of extirpation in the state. The G4 ranking indicates the species is uncommon globally. The least tern record is down river at least 1.5 miles away (on the other side of Glendive Bridge). There are several visual barriers. There would be no impacts to this species from the proposed action.

The bald eagle has been delisted by FWS, is listed as threatened by USFS, special status by BLM, and S3, G5 by MNHP. The closest known nest is at least 1 mile (straight-line distance) from the FAS, with several visual barriers. Therefore, there should be no impacts to nesting bald eagles. There is a possibility of bald eagles in the area. Since there has been human use in the past, the proposed project would not impact bald eagle feeding and roosting in the area. There is no known nest; however, if an eagle nest were located at the FAS, FWP would follow the Montana Bald Eagle Management Plan adopted in July of 1994. There would be no impacts on bald eagles from the proposed project due to the sites close proximity to the city of Glendive and the history of public use at the.

In addition, the FAS is located in an area of ecological importance (the Yellowstone River Corridor) as classified by MNHP. This is largely due to the diversity of aquatic, riverine, and wetland habitats. In addition, the previously mentioned species of concern contribute to its ecological importance.

B. HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Increases in existing noise levels?			X			6a.
b. Exposure of people to severe or nuisance noise levels?		X				See 6a.
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				
e. Other:		X				

6a. Public access has historically been available at this site and the access was formalized by the acquisition of the property by FWP in 2006. There is a trailer court located on the opposite side of the flood levee. This earthen barrier should prevent noise from the FAS from reaching the trailer court. The proposed project is designed to improve access and provide motorboat access at the FAS. Noise at the site would increase with the proposed project. Motor boat traffic on the Yellowstone River would increase and likely result in increased noise along the river corridor. Across the river from the boat launch site there is an industrial site. The nearest private residence on the Yellowstone River is at least 0.25 miles from the boat launch. FWP would follow the guidelines of the good neighbor policy for public recreation lands (MCA 23-1-126.) to have “no impact upon adjoining private and public lands by preventing impact on those adjoining lands from noxious weeds, trespass, litter, noise and light pollution, streambank erosion and loss of privacy.”

HUMAN ENVIRONMENT

7. LAND USE Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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				
e. Other: _____		X				

7a. The proposed project is designed to improve public access and provide a public boat launch on the Yellowstone River. Land use in the area would not change.

HUMAN ENVIRONMENT

8. RISK/HEALTH HAZARDS Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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		Yes	8a.
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)			X			See 8a.
e. Other:		X				

8a. The FWP Region 7 Weed Management Plan calls for an integrated method of managing weeds, including the use of herbicides. The use of herbicides would comply with application guidelines and conducted by people trained in safe handling techniques. Weeds would also be controlled using mechanical or biological means in certain areas to reduce the risk of chemical spills or water contamination.

HUMAN ENVIRONMENT

9. COMMUNITY IMPACT Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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			9e.
f. Other:		X				

9e. The proposed project would construct a new access road to the FAS. Traffic hazards are possible with the establishment of a new road. Best Management Practices (see Appendix 4) would be utilized in the planning and construction of the new access road to minimize traffic hazards. The new road would be constructed with several pullouts that would allow vehicles to safely pass each other.

HUMAN ENVIRONMENT

10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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			10a.
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 used of any energy source?		X				
e. Define projected revenue sources						10e.
f. Define projected maintenance costs.						10f
g. Other:_____						

10a. There would be maintenance responsibilities associated with the proposed project, but FWP would assume all responsibility and integrate maintenance of these sites in its existing FAS maintenance schedule.

10e. There would be no revenue generated from the proposed action.

10f. It would cost approximately $5,000 per year to maintain this site; weed control, road grading, toilet pumping, and grounds keeping. Emergency maintenance repairs may be necessary from damage caused by high water events.

HUMAN ENVIRONMENT

11. AESTHETICS/RECREATION Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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)		NA				
e. Other:		NA				

11c. The proposed project has the potential to positively impact the tourism & recreation industry economy, and it improves the quality of tourism & recreational opportunities (See Appendix 2: Tourism Report).

HUMAN ENVIRONMENT

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
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)		X				
e. Other:						

12a. FWP has consulted with SHPO to identify any heritage properties that are located within the area affected by the proposed project and how to address any impacts the project would have on any cultural site. In a letter dated September 14, 2007 and signed by Damon Murdo, Cultural Records Manger, SHPO it was concurred that there is a low likelihood of adverse impacts to cultural resources by the proposed project. The original letter is on file at the FWP Design and Construction Bureau office.

HUMAN ENVIRONMENT

13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which 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)		X				13f.
g. For P-R/D-J, list any federal or state permits required.						13g.

13f. The proposed project is not expected to have organized opposition or generate public controversy. The proposed project is expected to be embraced by the public. The public comment period for acquisition of the property in 2006 received 12 comments, all in favor of acquisition. These comments represented Montana Wildlife Federation, Walleyes Unlimited, Montana's Custer Country, and the public.

13g. Please see Part I, #8 for state and federal permits required.

PART IV. NARRATIVE EVALUATION AND COMMENT

This analysis did not reveal any significant impacts to the human or physical environment. The site has been used in the past for public recreation, and this action would continue and improve that use.

The proposed project would minimally impact the physical environment. Best Management Practices (see Appendix 4) would be utilized to minimize impacts to the land and water during design and construction of the proposed project. The MNHP located two plant species (bittersweet and bractless mentzelia) and eight animal species (pallid sturgeon, sturgeon chub, paddlefish, blue sucker, sauger, spiny softshell, least tern, and bald eagle) within one mile of this property. Since the property has historically been used for public recreation, this action should have no additional impacts on these species. The FAS has a minor infestation of leafy spurge and spotted knapweed. FWP would continue with the Region 7 weed management program to control this problem.

The proposed project would minimally impact the human environment. The proposed FAS is a good access point to the Yellowstone River. This site has many recreational uses. Initial development would increase access for all users, as well as increase motorboat access to the river. Noise at the site would likely increase, however; neighbors to the west of the site are behind a flood levee and the neighbor across the river is an industrial site. Traffic safety hazards may increase with developing a new access road. BMP's would be utilized during design and construction of the project to minimize hazards.

The proposed FAS would increase the quality and quantity of tourism near Glendive and on the Yellowstone River.

PART VI. PUBLIC PARTICIPATION

1. Public Involvement:

The public would be notified in the following ways to comment on the EA of the Black Bridge FAS Development

1. Legal notices would be published in the *Billings Gazette,* the Glendive *Ranger Review,* and the *Helena Independent Record*
2. Legal notice and the draft EA would be posted on the Montana Fish, Wildlife, & Parks web page: *http://fwp.mt.gov/publicnotices*
3. Direct notice would be given to adjacent landowners.
4. Draft EA's would be available at the Region 7 headquarters in Miles City and the State Headquarters in Helena.

This level of public involvement is appropriate for a project of this scale.

2. Duration of comment period:

The public comment period would be 30 days. Comments may be emailed to jlittle@mt.gov, or written comments may be sent to the following address:

John Little
Regional Parks Manager
Montana FWP, Region 7
Industrial Site West, PO Box 1630
Miles City, MT 59301
406-234-0923

PART V. EA PREPARATION

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

NO

Based on an evaluation of impacts to the physical and human environment under MEPA, this environmental review revealed no significant negative impacts from the proposed action: therefore, an EIS is not necessary and an environmental assessment is the appropriate level of analysis.

2. Person(s) responsible for preparing the EA:

Allan Kuser
FWP FAS Coordinator
1420 East Sixth Ave
Helena, MT 59601
(406) 444-7885

John Little
FWP Regional Parks Manager
Industrial Site West
Miles City, MT 59301
(406) 234-0923

Sally Schrank
Independent Contractor
1416 Winne Ave
Helena, MT 59601
(406) 443-3585

3. List of agencies consulted during preparation of the EA:

Montana Fish, Wildlife & Parks
- Parks Division Region 7
- Wildlife Division Region 7
- Fisheries Division Region 7
- Lands Section
- Design and Construction Bureau

Montana Department of Commerce—Tourism
PO Box 200533
1424 9th Ave.
Helena, MT 59620-0533

Montana Natural Heritage Program—Natural Resources Information System
PO Box 201800
1515 East Sixth Avenue
Helena, MT 59620-1800

State Historic and Preservation Office
1410 8th Ave.
PO Box 201202
Helena, MT 59620-1202

APPENDIX 1
HB495
PROJECT QUALIFICATION CHECKLIST

Date September 8, 2007 **Person Reviewing** Sally Schrank

Project Location: The Black Bridge Fishing Access Site (FAS) is located in sections 34 and 35, Township 16 North, Range 55 East, at Glendive in Dawson County, Montana. The FAS is 71 acres.

Description of Proposed Work: Montana Fish, Wildlife & Parks proposes develop Black Bridge Fishing Access Site for public motorboat access to the Yellowstone River. Development would include constructing a 16-foot wide gravel access road, constructing a new parking area (9 truck/trailer parking spaces and 10 single vehicle parking spaces), constructing a new concrete boat ramp, installing a precast vault latrine, installing signs, and installing fencing.

The following checklist is intended to be a guide for determining whether a proposed development or improvement is of enough significance to fall under HB 495 rules. (Please check _ all that apply and comment as necessary.)

[ ] A. New roadway or trail built over undisturbed land?
Comments: The access road would be constructed over a primitive road on the property.

[ ] B. New building construction (buildings <100 sf and vault latrines exempt)?
Comments:

[ ] C. Any excavation of 20 c.y. or greater?
Comments: Construction of the access road and parking area would cause an excavation of 20 c.y. or greater.

[ ] D. New parking lots built over undisturbed land or expansion of existing lot that increases parking capacity by 25% or more?
Comments: Construction of the parking area would establish a parking capacity of nine truck/trailers and ten single vehicle parking spaces.

[ ] E. Any new shoreline alteration that exceeds a double wide boat ramp or handicapped fishing station?
Comments:

[ ] F. Any new construction into lakes, reservoirs, or streams?
Comments: The proposed development of the site would include a new boat ramp into the Yellowstone River.

[ ] G. Any new construction in an area with National Registry quality cultural artifacts (as determined by State Historical Preservation Office)?

Comments:

[ ] H. Any new above ground utility lines?
Comments:

[ ] I. Any increase or decrease in campsites of 25% or more of an existing number of campsites?
Comments:

[ ] J. Proposed project significantly changes the existing features or use pattern; including effects of a series of individual projects?
Comments:

If any of the above are checked, HB 495 rules apply to this proposed work and should be documented on the MEPA/HB495 CHECKLIST. Refer to MEPA/HB495 Cross Reference Summary for further assistance.

APPENDIX 2
TOURISM REPORT
MONTANA ENVIRONMENTAL POLICY ACT (MEPA)/HB495

The Montana Department of Fish, Wildlife & Parks has initiated the review process as mandated by HB495 and the Montana Environmental Policy Act in its consideration of the project described below. As part of the review process, input and comments are being solicited. Please complete the project name, project description portions, and submit this form to:

Carol Crockett, Tourism Development Specialist
Travel Montana-Department of Commerce
PO Box 200533
301 South Park
Helena, MT 59620-0533

Project Name: Black Bridge Fishing Access Site Development

Project Description: The Black Bridge Fishing Access Site (FAS) is located in sections 34 and 35, Township 16 North, Range 55 East, at Glendive in Dawson County, Montana. The FAS is 71 acres. Montana Fish, Wildlife & Parks proposes to develop Black Bridge Fishing Access Site for public motorboat access to the Yellowstone River. Development would include constructing a 16-foot wide gravel access road (with 4 pullouts), constructing a new parking area (9 truck/trailer parking spaces and 10 single vehicle parking spaces), constructing a new concrete boat ramp, installing a precast vault latrine, installing signs, and installing fencing.

1. Would this site development project have an impact on the tourism economy?
   NO **YES** If YES, briefly describe:

As described, the project has the potential to positively impact the tourism & recreation industry economy.

2. Does this impending improvement alter the quality or quantity of recreation/tourism opportunities and settings?
   NO **YES** If YES, briefly describe:

As described, the project would improve the quality of tourism & recreational opportunities.

Signature: Carol Crockett
Date: 9/24/07

Appendix 3
Aerial photographs of Black Bridge FAS Showing Erosion of Bank

Picture 1: Aerial photograph of Black Bridge FAS taken in 2004 (Base photo source: Montana Natural Resources Information Service Topofinder). Compare the amount of sandy shoreline in this photo to the photo taken in 2005 (Picture 2).

Picture 2: Aerial photograph of Black Bridge FAS taken in 2005 (Base photo source: Montana Natural Resources Information Service Topofinder). Compare the amount of sandy shoreline in this photo to the photo taken in 2004.

Appendix 4

MONTANA FISH, WILDLIFE & PARKS
BEST MANAGEMENT PRACTICES FOR FISHING ACCESS SITES
10-02-02

I. ROADS

A. Road Planning and location

1. Minimize the number of roads constructed at the FAS through comprehensive road planning and recognizing foreseeable future uses.

2. Use existing roads, unless use of such roads would cause or aggravate an erosion problem.

3. Fit the road to the topography by locating roads on natural benches and following natural contours. Avoid long, steep road grades and narrow canyons.

4. Locate roads on stable geology, including well-drained soils and rock formations that tend to dip into the slope. Avoid slumps and slide-prone areas characterized by steep slopes, highly weathered bedrock, clay beds, concave slopes, hummocky topography, and rock layers that dip parallel to the slope. Avoid wet areas, including seeps, wetlands, wet meadows, and natural drainage channels.

5. Minimize the number of stream crossings.

6. Choose stable stream crossing sites. "Stable" refers to streambanks with erosion-resistant materials and in hydrologically safe spots.

B. Road Design

1. Design roads to the minimum standard necessary to accommodate anticipated use and equipment. The need for higher engineering standards can be alleviated through proper road-use management. "Standard" refers to road width.

2. Design roads to minimize disruption of natural drainage patterns. Vary road grades to reduce concentrated flow in road drainage ditches, culverts, and on fill slopes and road surfaces.

C. Drainage from Road Surface

1. Provide adequate drainage from the surface of all permanent and temporary roads. Use outsloped, insloped or crowned roads, installing proper drainage features. Space road drainage features so peak flow on road surface or in ditches will not exceed their capacity.

a. Outsloped roads provide means of dispersing water in a low-energy flow from the road surface. Outsloped roads are appropriate when fill slopes are stable, drainage will not flow directly into stream channels, and transportation safety can be met.

b. For in-sloped roads, plan ditch gradients steep enough, generally greater than 2%, but less than 8%, to prevent sediment deposition and ditch erosion. The steeper gradients may be suitable for more stable soils; use the lower gradients for less stable soils.

c. Design and install road surface drainage features at adequate spacing to control erosion; steeper gradients require more frequent drainage features. Properly constructed drain dips can be an economical method of road surface drainage. Construct drain dips deep enough into the subgrade so that traffic will not obliterate them.

2. For ditch relief/culverts, construct stable catch basins at stable angles. Protect the inflow end of crossdrain culverts from plugging and armor if in erodible soil. Skewing ditch relief culverts 20 to 30 degrees toward the inflow from the ditch will improve inlet efficiency.

3. Provide energy dissipators (rock piles, slash, log chunks, etc.) where necessary to reduce erosion at outlet of drainage features. Crossdrains, culverts, water bars, dips, and other drainage structures should not discharge onto erodible soils or fill slopes without outfall protection.

4. Route road drainage through adequate filtration zones, or other sediment-settling structures. Install road drainage features above stream crossings to route discharge into filtration zones before entering a stream.

D. Construction/Reconstruction

1. Stabilize erodible, exposed soils by seeding, compacting, riprapping, benching, mulching, or other suitable means.

2. At the toe of potentially erodible fill slopes, particularly near stream channels, pile slash in a row parallel to the road to trap sediment. When done concurrently with road construction, this is one method to effectively control sediment movement and it provides an economical way of disposing of roadway slash. Limit the height, width, and length of these "slash filter windows" so not to impede wildlife movement. Sediment fabric fences or other methods may be used if effective.

3. Construct cut and fill slopes at stable angles to prevent sloughing and subsequent erosion.

4. Avoid incorporating potentially unstable woody debris in the fill portion of the road prism. Where possible, leave existing rooted trees or shrubs at the toe of the fill slope to stabilize the fill.

5. Place debris, overburden, and other waste materials associated with construction and maintenance activities in a location to avoid entry into streams. Include these waste areas in soil stabilization planning for the road.

6. When using existing roads, reconstruct only to the extent necessary to provide adequate drainage and safety; avoid disturbing stable road surfaces. Consider abandoning existing roads when their use would aggravate erosion.

E. Road Maintenance

1. Grade road surfaces only as often as necessary to maintain a stable running surface and to retain the original surface drainage.

2. Maintain erosion control features through periodic inspection and maintenance, including cleaning dips and crossdrains, repairing ditches, marking culvert inlets to aid in location, and clearing debris from culverts.

3. Avoid cutting the toe of cut slopes when grading roads, pulling ditches, or plowing snow.

4. Avoid using roads during wet periods if such use would likely damage the road drainage features. Consider gates, barricades, or signs to limit use of roads during wet periods.

II. RECREATIONAL FACILITIES (parking areas, campsites, trails, ramps, restrooms)

A. Site Design

1. Design a site that best fits the topography, soil type, and stream character, while minimizing soil disturbance and economically accomplishing recreational objectives. Keep roads and parking lots at least 50 feet from water; if closer, mitigate with vegetative buffers as necessary.

2. Locate foot trails to avoid concentrating runoff and provide breaks in grade as needed. Locate trails and

parking areas away from natural drainage systems and divert runoff to stable areas. Limit the grade of trails on unstable, saturated, highly erosive, or easily compacted soils

3. Scale the number of boat ramps, campsites, parking areas, bathroom facilities, etc. to be commensurate with existing and anticipated needs. Facilities should not invite such use that natural features will be degraded.

4. Provide adequate barriers to minimize off-road vehicle use

B. Maintenance: Soil Disturbance and Drainage

1. Maintenance operations minimize soil disturbance around parking lots, swimming areas and campsites, through proper placement and dispersal of such facilities or by reseeding disturbed ground. Drainage from such facilities should be promoted through proper grading.

2. Maintain adequate drainage for ramps by keeping side drains functional or by maintaining drainage of road surface above ramps or by crowning (on natural surfaces).

3. Maintain adequate drainage for trails. Use mitigating measures, such as water bars, wood chips, and grass seeding, to reduce erosion on trails.

4. When roads are abandoned during reconstruction or to implement site-control, they must be reseeded and provided with adequate drainage so that periodic maintenance is not required.

III. RAMPS AND STREAM CROSSINGS

A. Legal Requirements

1. Relevant permits must be obtained prior to building bridges across streams or boat ramps. Such permits include the SPA 124 permit, the COE 404 permit, and the DNRC Floodplain Development Permit.

B. Design Considerations

1. Placement of boat ramp should be such that boats can load and unload with out difficulty and the notch in the bank where the ramp was placed does not encourage bank erosion. Extensions of boat ramps beyond the natural bank can also encourage erosion.

2. Adjust the road grade or provide drainage features (e.g. rubber flaps) to reduce the concentration of road drainage to stream crossings and boat ramps. Direct drainage flow through an adequate filtration zone and away from the ramp or crossing through the use of gravel side-drains, crowning (on natural surfaces) or 30-degree angled grooves on concrete ramps.

3. Avoid unimproved stream crossings on permanent streams. On ephemeral streams, when a culvert or bridge is not feasible, locate drive-throughs on a stable, rocky portion of the stream channel.

4. Unimproved (non-concrete) ramps should only be used when the native soils are sufficiently gravelly or rocky to withstand the use at the site and to resist erosion.

C. Installation of Stream Crossings and Ramps

1. Minimize stream channel disturbances and related sediment problems during construction of road and installation of stream crossing structures. Do not place erodible material into stream channels. Remove stockpiled material from high water zones. Locate temporary construction bypass roads in locations where the stream course will have a minimal disturbance. Time construction activities to protect fisheries and water quality.

2. Where ramps enter the stream channel, they should follow the natural streambed in order to avoid changing

stream hydraulics and to optimize use of boat trailers.

3. Use culverts with a minimum diameter of 15 inches for permanent stream crossings and cross drains. Proper sizing of culverts may dictate a larger pipe and should be based on a 50-year flow recurrence interval. Install culverts to conform to the natural streambed and slope on all perennial streams and on intermittent streams that support fish or that provide seasonal fish passage. Place culverts slightly below normal stream grade to avoid culvert outfall barriers. Do not alter stream channels upstream from culverts, unless necessary to protect fill or to prevent culvert blockage. Armor the inlet and/or outlet with rock or other suitable material where needed.

4. Prevent erosion of boat ramps and the affected streambank through proper placement (so as to not catch the stream current) and hardening (rip-rap or erosion resistant woody vegetation).

5. Maintain a 1-foot minimum cover for culverts 18-36 inches in diameter, and a cover of one-third diameter for larger culverts to prevent crushing by traffic.