Draft
Environmental Assessment

BAILEY RESERVOIR FISHING ACCESS SITE
PROPOSED ACQUISITION AND SITE IMPROVEMENTS

April 2012

Montana Fish, Wildlife & Parks

Bailey Reservoir FAS Proposed Acquisition and Site Improvements
Draft Environmental Assessment
MEPA, NEPA, MCA 23-1-110 CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. **Proposed State action:** Montana Fish, Wildlife & Parks (FWP) proposes to purchase a 102-acre property for use as a public fishing access site at Bailey Reservoir, an outstanding warm-water fishery in north-central Montana. The property consists of approximately 55 acres of range land, plus 47 surface acres of reservoir. In addition, FWP is seeking approval to accept ownership of an adjoining 5-acre parcel, which the Great Falls Chapter of Walleyes Unlimited of Montana is proposing to purchase, with the option to donate the parcel to FWP for the Bailey Reservoir Fishing Access Site (FAS). The Bailey Reservoir FAS total acreage if approved would be 102- acres. Bailey Reservoir is located in Hill County about 25 miles southwest of Havre.

   In 1967-68, landowner Howard Bailey in conjunction with the Natural Resource Conservation Service (NRCS) built the reservoir to create fisheries and waterfowl habitat and to provide public recreational opportunities. Since the reservoir filled in 1974, the family has allowed the public to fish. The reservoir encompasses approximately 70 surface acres of water. FWP acquisition of the property would ensure Bailey Reservoir remains open and accessible for the public in perpetuity.

   The acquisition would also include the earthen dam, an easement on approximately ½-mile of existing roadway from the county road to access the reservoir, and a maintenance easement to allow FWP to maintain the dam and the spillway. In addition to the acquisition, FWP would improve the access road and parking area, repair the boat ramp and replace the existing boat dock, replace at least one of the two latrines with a pre-cast concrete vault latrine and provide picnic tables and informational signs. Routine site maintenance would also be provided, including annual dam inspections, removal of woody vegetation from the dam, and weed control.

   FWP would also become a holder of the recreational water right that applies to the water impounded by the dam.

   2. **Agency authority for the proposed action:** The 1977 Montana Legislature enacted statute 87-1-605, Montana Code Annotated (MCA) which directs FWP to acquire, develop and operate a system of fishing accesses. Furthermore, Section 23-1-110 MCA and Administrative Rules of Montana (ARM) 12.2.433 guides public involvement and comment for the improvements at state parks and fishing access sites, which this document provides. ARM 21.8.602 requires FWP to consider the wishes of users and the public, the capacity of the site for development, environmental impacts, long-range maintenance, protection of natural features and impacts on tourism as these elements relate to development or improvement to fishing access sites or state parks. This document will illuminate the facets of the proposed project in relation to this rule. See Appendix 1 for HB 495 qualification.

Funding for this acquisition will come from the 2009 legislative session earmarked FAS Acquisition Account. Funding for the proposed site improvements will come from the 2011 FWP FAS Capital budget.

3. **Project sponsor:**
Montana Fish, Wildlife & Parks
54078 US Hwy 2 W
Glasgow MT 59230
(406) 237-3700

4. **Anticipated Timeline**:
Public Comment Period: April 2012
Decision Notice Published: May 2012
Commission Approval Requested to Proceed: June 2012
Land Board Approval Requested: June 2012
Land Acquisition (subject to granting of above approvals): July 2012
Estimated Construction/Commencement Date: Spring 2013
Estimated Completion Date: Fall 2013
Current Status of Project Design (% complete): 5%

5. **Location:** The parcel is about 25 miles southwest of Havre, and can be reached from Highway 2 by turning south at the town of Kremlin, and traveling about 8 miles on a gravel county road. The parcel is in Hill County in the north half of Section 1, Township 31 North, Range 12 East. See Figures 1-4 for various maps.

Figure 1: Location of Proposed Acquisition of Bailey Reservoir

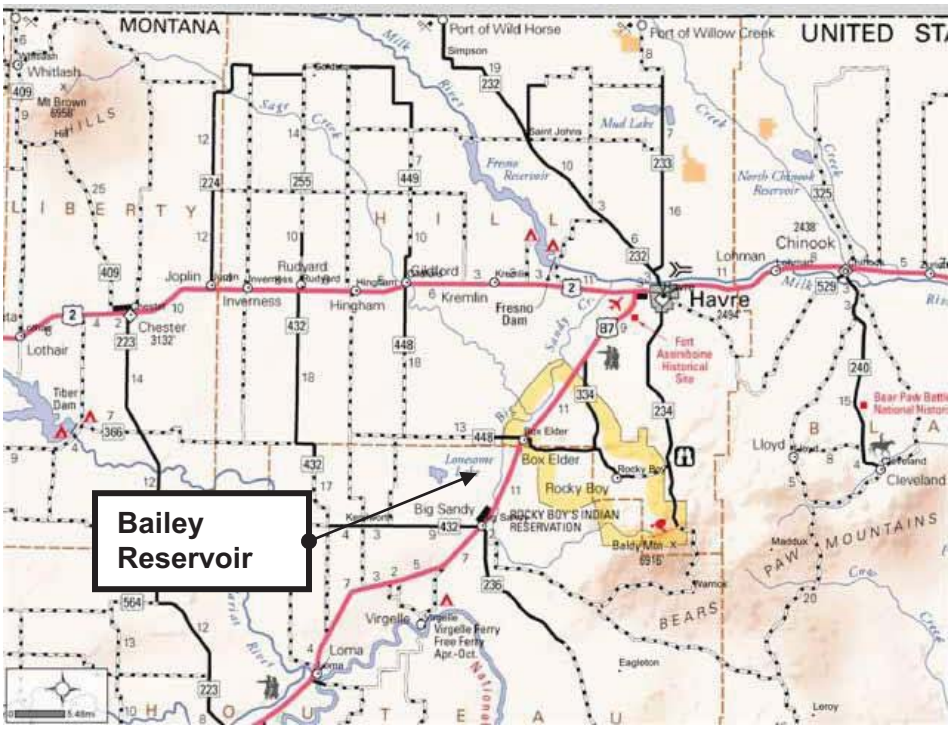

Figure 2: Proposed Acquisition Topographic Map

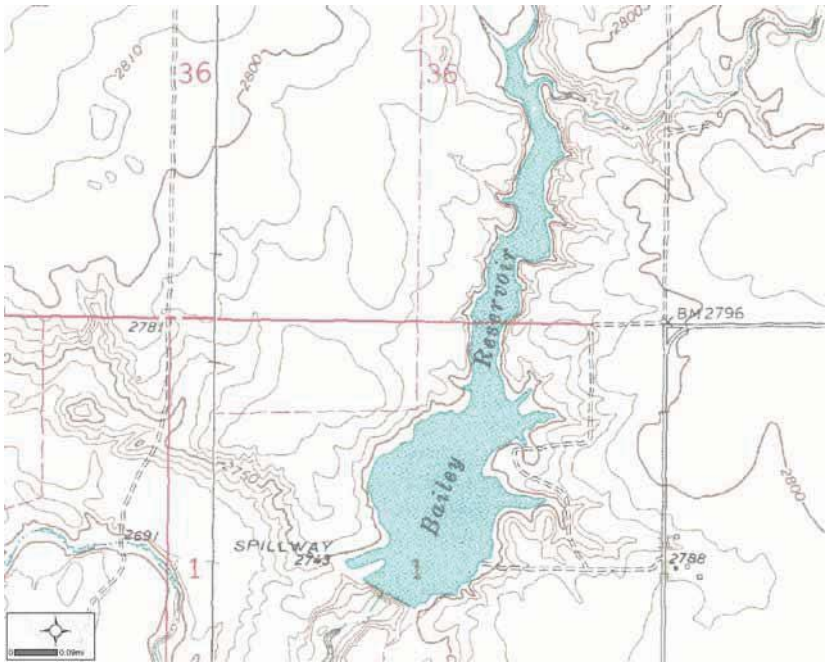

Figure 3: Proposed Acquisition Boundary Map

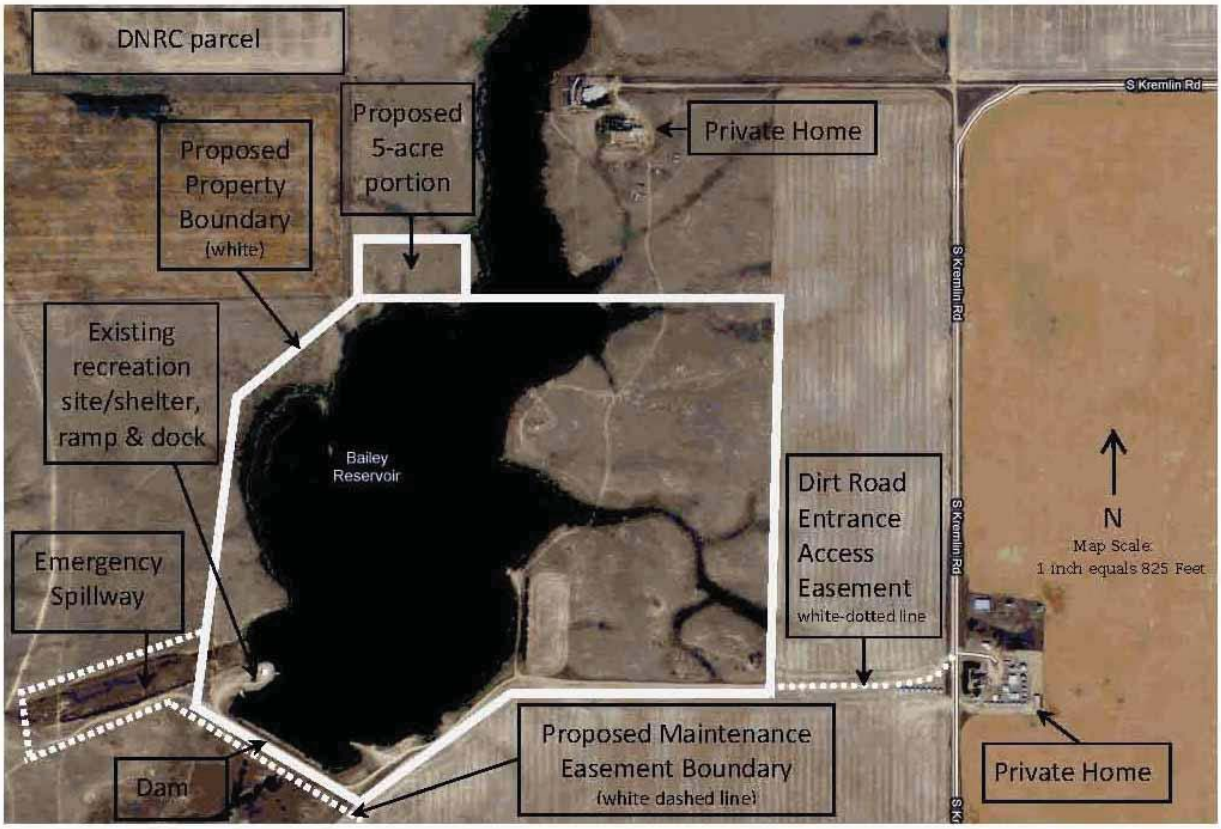

Figure 4: Draft Preliminary Concept Plan

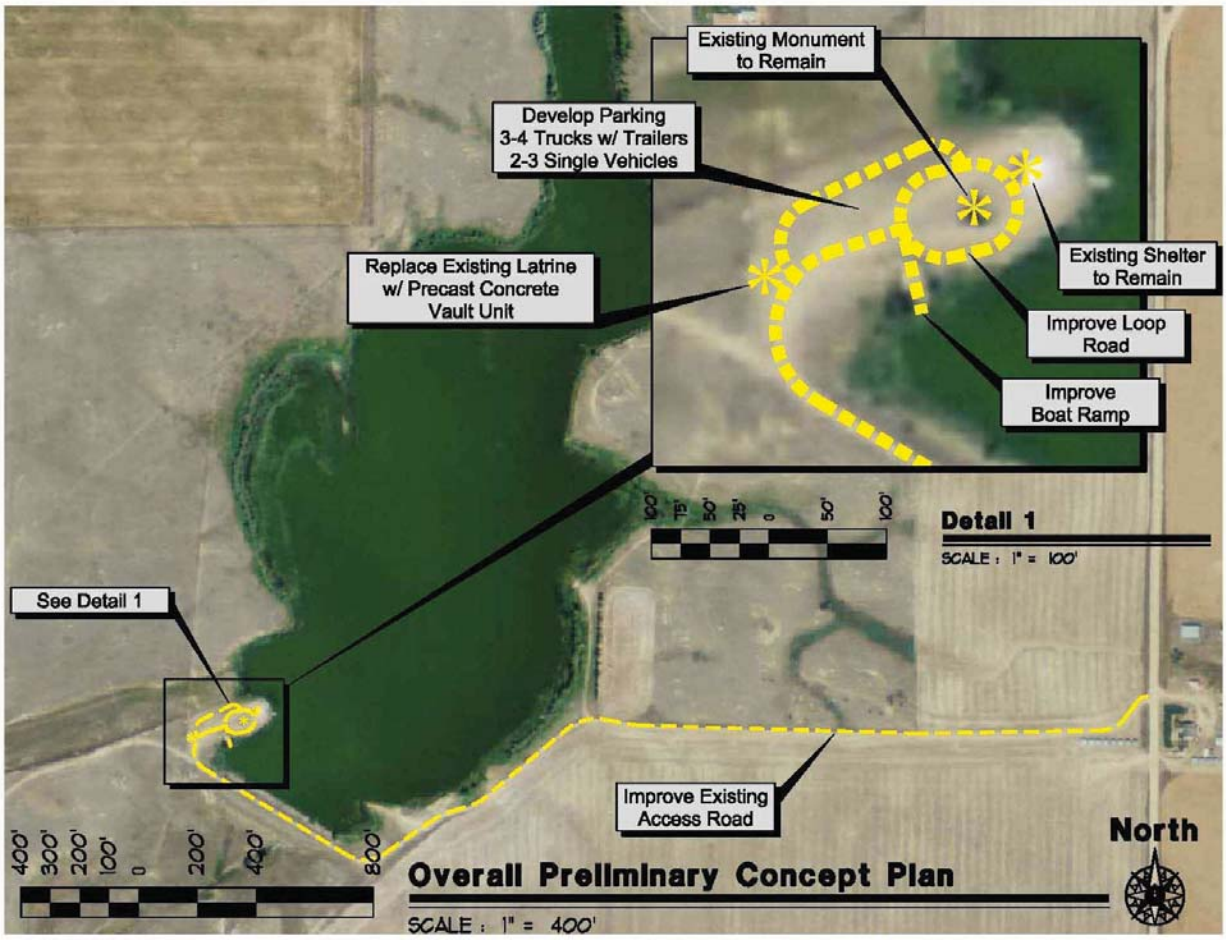

Photo 1. View from NW corner of dam looking north

Photo 2. View of covered picnic area at Bailey Reservoir

6. Project size:

	Acres		Acres
(a) Developed:		(d) Floodplain/Riparian	0
Residential	0		
Industrial	0	(e) Productive:	
		Irrigated cropland	0
(b) Open Space/Woodlands/Recreation	1	Dry cropland	0
		Forestry	0
(c) Riparian Wetlands Areas	2	Rangeland	52
		Surface Acres	47

A total of 55 land acres and 47 water surface acres comprise the proposed acquisition of the 102-acre Bailey Reservoir parcel. The entire Bailey Reservoir parcel is in the FEMA Floodplain Map database under Map Number 30041C0575B effective June 3, 1988. The immediate area around the reservoir is in Zone A with no base flood elevations determined for a 100 year flood, and the surrounding area in Zone X as areas determined to be outside the 500 year flood plain. Proposed site improvements would occur on approximately one acre of the entire 107-acre parcel.

7. Local, State or Federal agencies with overlapping or additional jurisdiction:

(a) **Permits:** None required for proposed acquisition. If acquired, all appropriate permits would be acquired prior to proposed development/ improvements including but not limited to MT Dept. of Environmental Quality Water Quality 318 Permit and Hill County Sanitation Permit.

(b) **Acquisition Funding:** 2009 Legislative FAS Acquisition Account: $208,000
Site Improvement Funding: 2011 FWP FAS Capital Budget: $ 91,000
Total Funding: $299,000

(c) Other Overlapping or Additional Jurisdictional Responsibilities:
See Appendix 2 for Department of Commerce Tourism Report.
See Appendix 3 for weed inventory completed by Hill County Weed District.
See Appendix 4 for the Dam Inspection conducted by DNRC Dam Engineer.
See Appendix 5 for FWP Best Management Practices.

8. Narrative summary of the proposed action:

Existing Environment: Bailey Reservoir is an approximately 70-acre body of water that was created in 1967-68. The reservoir sits in a rangeland basin in an area characterized by large farms and grain fields. The reservoir is unique for agricultural areas in Montana because it was built for purposes of fisheries and recreation, rather than for irrigation or stock water. See Figure 3 for aerial view.

Game fish opportunities in Bailey Reservoir include walleye, northern pike, yellow perch, and black crappie. Fathead minnows are also found in the reservoir. The reservoir has also had rainbow trout and largemouth bass stocked into it, but those species are no longer found in the reservoir. Since 1969, over 500,000 fish have been stocked into Bailey Reservoir. Over 12,000 yellow perch were planted between 2005 and 2009. Nearly 80,000 walleye were planted between 1999 and 2005. Over 500 black crappie were planted in 1987. Based on FWP survey data, for the small reservoirs and ponds in Region 6, Bailey Reservoir had 365 angler days in 2009 and is ranked 13th in the Region.

Many species of ducks/waterfowl use the reservoir during the breeding season and as a stopover during the spring and fall migrations. Numerous species of songbirds can be found on the prairie and in the vegetation along the reservoir shoreline. Upland game birds in the area include Hungarian partridge, pheasants, and occasional sharp-tailed grouse. Several species of reptiles and amphibians use the reservoir, including painted turtles, leopard frogs, tiger salamanders, garter snakes, and gopher snakes. Primary game species in the area includes white-tailed and mule deer as well as antelope. The immediate area around the reservoir is plains grassland with some wetlands along the eastern bank of the reservoir and is dominated by riparian shrubs on the western edge with some sage, willow, and Russian olive in addition to grass. There is not much habitat for bats or raptors, although several species of raptors frequent the area.

Bailey Reservoir is located on Sage Creek which is a tributary to Big Sandy Creek, which is a tributary to the Milk River. The Milk River is one of the Missouri River's longest tributaries; nearly 700 miles long from its source to the mouth below Fort Peck Dam. The earthen dam was constructed by original landowner Howard Bailey in conjunction with the Natural Resource Conservation Service (NRCS) for the purpose of providing fisheries and waterfowl habitat and to provide public recreational opportunities. Historically, Bailey Reservoir has been open to the public through the generosity of the Bailey family.

Need and Benefits: Acquisition of Bailey Reservoir by FWP would provide access in perpetuity for the public to this important recreational site preventing the possibility

of this reservoir becoming closed to public access because of future changes in property ownership or management. Bailey Reservoir is currently open to the public and is actively used by fishing clubs and school groups in the area. In recent years, even without a formal acquisition proposal, FWP has received 41 letters of support from various groups and citizens for the proposed acquisition and proposed improvements. To support the acquisition, the Great Falls Chapter of Walleyes Unlimited of Montana has proposed purchasing an adjoining additional 5-acres and donating to FWP as part of the proposed Bailey Reservoir FAS. If acquired, local community groups and fishing clubs have shown interest in contributing money and labor with future improvements to this site.

Bailey Reservoir is located about 25 miles south west of Havre. The nearest FWP Fishing Access Sites in the area include Fresno Tailwater FAS about 11 miles east of Havre and Bear Paw Lake FAS about 18 miles south east of Havre.

Proposed Improvements and Management: FWP plans to manage the area as a Fishing Access Site and associated natural habitat. To better accommodate recreational use, FWP would repair the existing boat ramp, replace the boat dock, improve the access road and parking area and would replace at least one of the two latrines with a pre-cast concrete vault latrine. FWP would install directional, informational, and regulatory signs. See Figure 4 for draft preliminary concept site plan. FWP regional staff would provide routine maintenance in addition to their maintenance responsibilities already at the other FAS's in the area.

FWP would implement FWP's Statewide Integrated Noxious Weed Management Plan to control the existing weeds on the parcel and improve the site's overall condition. Hill County has conducted a weed inventory as required by Section 7-22-2154 MCA for any proposed acquisition. The county inspectors identified Canada thistle and concurred with the FWP weed management plan to contract with the Hill County Weed District for weed control for the property once under FWP ownership. See Appendix 3 for the weed inventory form.

Future Development of the Site: There are no immediate plans to develop the site further, other than the improvements described previously. Undesignated, primitive camping is currently occurring on this private property. Future opportunities for developed camping would be assessed following the acquisition. If a campground is proposed to be developed, another environmental assessment would be prepared at that time. The public would be given an opportunity to provide comments to any proposed plans for additional development.

9. Alternatives:

Alternative A: No Action

If no action were taken, FWP would not purchase the property. Public recreational access would be at the landowner's discretion, and the land would have the potential to be developed for land uses other than public recreation.

Preferred Alternative B: Proposed Action

In the preferred alternative, FWP would purchase the 102-acre Bailey Reservoir property in fee title for approximately $208,000. In addition, FWP would be authorized to accept a donation of an adjoining 5-acre parcel on the northwest boundary of the property, if this land is offered to FWP. The purpose of the proposed acquisition is to ensure continued public access to this important recreational fishery. This alternative includes FWP accepting a permanent public road easement for legal access to the parcel and a permanent maintenance easement to maintain the dam and spillway.

In this preferred alternative, FWP would improve the existing boat ramp and replace the boat dock, improve the access road and parking area, replace at least one of the two latrines with a pre-cast concrete vault latrine, add some picnic tables and provide directional, informational and regulation signs. Routine site maintenance would also be provided, including annual dam inspections, removal of vegetation from the dam and weed control. See Figure 4 for draft preliminary concept site plan.

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

See Appendix 3 for the weed inventory conducted by Hill County. Adherence to the FWP Statewide Integrated Noxious Weed Management Plan and required application records would be submitted to the Montana Department of Agriculture if acquired.

A search of the Montana Heritage Program database found no species of concern within the boundaries of the parcel or near the general vicinity. USFWS Threatened and endangered species in Hill County as of February 2012 include Black-footed Ferret listed endangered; Greater Sage-Grouse and Sprague's Pipit are candidate species under consideration, but none of these species would likely be found on the Bailey Reservoir parcel.

The northern end of the reservoir extends into a Department of Natural Resources and Conservation (DNRC) State Trust Land parcel. FWP contacted DNRC staff regarding the proposed action and DNRC had no concerns with the proposed acquisition and site improvements.

DNRC staff and FWP staff were present at the dam inspection conducted October 20, 2010. No immediate concerns were identified at that time. See Appendix 4 for the dam inspection report. The earthen dam was not classified as High Hazard and does not run risk of changing the designation with annual inspections and routine maintenance. The inspection made several recommendations which FWP has addressed. In February 2011, a cursory analysis of the adequacy of the spillway analysis and the ultrasonic testing showed no significant concerns. FWP would have annual inspections to determine the future need for a slip lining of the conduit and verification of gate operation. The gate will not be tested prior to acquisition due to the possibility that it couldn't be reclosed, potentially draining the reservoir.

The State Historical Preservation Office would be contacted prior to proceeding with any of the proposed site improvements of the Bailey Reservoir proposed acquisition.

PART II. ENVIRONMENTAL REVIEW CHECKLIST

Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on 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		YES	1a.
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X		YES	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		YES	1d.
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

The proposed acquisition would not impact the land. If acquired, the proposed improvements may temporarily impact the land resources, but would be temporary and minor and would not have a long term impact on the land resources.

1a. Soil and geologic substructure would remain stable during and after the proposed work through revegetation and mitigation measures. Improvements to the boat ramp will disturb a small portion of the bank, but impacts should be localized and short-term. Increased use at the site may potentially lead to soil instability along the waterfront from foot traffic and use by recreationists based on experience at neighboring sites, but the site is already used by the public so should be minor.

1b. The proposed improvements to the boat ramp at this location is intended to prevent the bank from eroding. Increased use at the site may potentially lead to soil instability along the waterfront from foot traffic and use by recreationists based on experience at neighboring sites, but the site is already used by the public, so should be minor.

1d. Improvements to the concrete boat ramp should reduce erosion and would have no long term effects on the reservoir shoreline.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

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		YES	2a.
b. Creation of objectionable odors?			X		YES	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.)		NA				

The proposed acquisition would have no effect on ambient air quality.

2a. During the construction work, temporary amounts of dust may be generated during the soil excavation. If additional materials are needed off-site, loading at the source site will generate minor amounts of dust. There would be a temporary increase of diesel exhaust from the construction equipment during the road improvements but this would be short-term and minor. FWP follows the Best Management Practices (BMP's) during all phases of construction to minimize risks and reduce dust. See Appendix 5 for the BMP's.

2b. At least one of the two latrines would be replaced with a concrete vault latrine. The latrine would be installed and maintained regularly to avoid offensive odors. A Hill County Sanitation Permit would be obtained prior to installation. Properly maintained latrines are essential to providing a clean and sanitary environment.

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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		YES	3a.
b. Changes in drainage patterns or the rate and amount of surface runoff?			X		YES	3b.
c. Alteration of the course or magnitude of floodwater or other flows?		X				
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		YES	3h.
i. Effects on any existing water right or reservation?		X	X			3i.
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.)		NA				3l.
m. ***For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a.)		NA				

The proposed acquisition would not impact the water quality.

3a. The boat ramp and boat dock work would cause temporary and minor amounts of turbidity during construction. Construction is planned during low flow to ensure minimal impact. FWP would follow the permit requirements for the Montana Department of Environmental Quality (DEQ) for Permit 318 Short Term Water Quality Standard for Turbidity. Parking lot and road approaches would be sloped appropriately.

3b. There would be minor increases in the amount and rate of runoff from the site due to the proposed improvements. The historic drainage pattern would be preserved as much as possible and no nearby facilities would be negatively impacted. Parking lot and road approaches will be sloped appropriately. FWP would follow any permitting requirements resulting from the construction improvements implemented. Riparian buffers will be

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protected and enhanced to reduce impacts to water quality from improvements at the site.

3h. FWP follows the Best Management Practices during all phases of construction to minimize sediment delivery to the reservoir. See Appendix 5 for the BMP's. Development of the site would encourage increased use by the public and potential dumping and spillage of contaminants in the parking lot, roads and area adjacent to Bailey Reservoir. These potential impacts would be mitigated through proper sloping of roads on the site, riparian buffers and appropriate signage. The noxious weeds are managed within the guidelines of the FWP Statewide Integrated Noxious Weed Management Plan. The use of herbicides would be in compliance with application guidelines and applied by people trained in safe handling techniques in accordance with product labels and as provided for under state law. Weeds may also be controlled using mechanical or biological means in certain areas to reduce the risk of chemical spills or water contamination.

3i. FWP would become a holder of the recreational water right that applies to the water impounded by the dam upon transfer of ownership of the parcel. There would be no change in the existing stock water rights as that would be retained by existing property owners around the reservoir.

3l. The site will be protected by statewide floodplain regulations under state ownership/easement holdings. The Bailey Reservoir parcel is in the FEMA Floodplain Map database under Map Number 30041C0575B effective June 3, 1988. The immediate area around the reservoir is in Zone A with no base flood elevations determined for a 100 year flood, and the surrounding area in Zone X as areas determined to be outside the 500 year flood plain.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

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4. VEGETATION Will the proposed action result in?	IMPACT Unknown *	None	Minor *	Potentially Significant	Can Impact Be Mitigated*	Comment Index
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			4b.
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		YES	4e.
f. ****For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		NA				4f.

This property consists of plains grassland interspersed with riparian trees and shrubs primarily willows, Russian olive and sage. The proposed acquisition would not impact the vegetation.

4a. The proposed improvements to the parking area, boat ramp, boat dock, road work, and latrine replacement would have a minor impact on the vegetation, removing existing vegetation in the area of construction and altering the diversity of the plant community on the site. The parking area would be expanded to accommodate a few more vehicle spaces to prevent overflow parking in the vegetation. Species known to exist on site primarily include willows and grasses. Protecting riparian vegetation from potential increased use at the site may require signage and fencing to discourage degradation.

As part of routine maintenance, woody vegetation (mostly Russian olive and willows) would be removed from the dam to aid in the annual dam inspections.

4b. This area is characterized by open stands of willows and mixed grasses, and some Russian olive and sage.

4c. A search of the Montana Natural Heritage Program's (MNHP) species of concern database found no vascular or non-vascular plants of significance within the boundaries of the project area.

4e. There are established areas of Canada thistle on the parcel. Increased use at the site may lead to increased weed infestation; however, FWP would continue weed management in adherence with the Statewide Integrated Noxious Weed Management Plan, using an integrated approach including chemical, biological, and mechanical methods. Weed management would facilitate the restoration of desirable vegetation and should prevent the spread of weeds. Hill County Weed District conducted a weed inspection. See Appendix 2 for Weed Inventory.

4f. This area is not considered prime or unique farmlands. Some of the property has been used as private pasture land. Wetlands occur along the reservoir and will be afforded wetland protection under state ownership and federal laws. No construction is planned in wetlands.

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** 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				
b. Changes in the diversity or abundance of game animals or bird species?		X				
c. Changes in the diversity or abundance of nongame species?		X				
d. Introduction of new species into an area?		X				
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			5g.
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.)		NA				
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.)		NA				

The proposed acquisition and site improvements would have no bearing on the game and non-game species that frequent the property and is not considered critical habitat for any species, according to FWP Region 6 wildlife biologist Scott Hemmer and fisheries biologist Cody Nagel.

5f. A search of the Natural Resources Information System provided by the Montana Natural Heritage Program (MNHP) showed that no threatened or endangered species are in the vicinity of the property. USFWS threatened and endangered species in Hill County as of February 2012 include Black-footed Ferret listed endangered; Greater Sage-Grouse and Sprague's Pipit are candidate species under consideration, but none of these species would likely be found in the habitat around the Bailey reservoir parcel. Neither the FWP wildlife biologist nor the fisheries biologist for the area has any concerns with the proposed acquisition impacting fish and wildlife in the area. Upland game birds (Hungarian partridge and some pheasant), various waterfowl and numerous song birds may use the property seasonally. Primary wildlife species that occur in the immediate vicinity of the proposed acquisition include mule and white-tailed deer and waterfowl.

5g. If acquired, angling pressure could increase at the site, however, the public already uses the site, and has had unlimited access, so the proposed acquisition is not expected to negatively impact or stress fish or wildlife populations. Proposed site improvements may have a temporary and minor effect on the game and non-game species in the area during the construction, but would be short-term and minor to have no bearing on species in the area.

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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			6b.
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				

The proposed acquisition will have no change in noise level or electrical levels.

6a. Construction equipment would cause a temporary increase in noise levels at this site during the proposed improvements.

6b. If construction noise levels exceed a level deemed unsafe over a workday time frame, all workers will be required to wear proper ear protection and adjacent landowners notified. FWP will follow the Best Management Practices during all phases of construction to minimize risks. See Appendix 5 for BMP's.

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				
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				

The proposed action would not alter or interfere with the productivity or profitability of the existing land use. Currently, the property is open to the public. The land is plains grassland with some riparian trees and shrubs that serves as important habitat for a variety of mammals, bird species and fish.

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** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

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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)		NA				

8a. If acquired, FWP would manage weeds in adherence with the Statewide Integrated Noxious Weed Management Plan, using an integrated approach including chemical, biological, and mechanical methods. The use of herbicides would be in compliance 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. Increased use at the site may lead to increased weed infestations; however, the implementation of the weed management plan should mitigate this risk. See Appendix 3 for the Hill County Weed Inventory.

The dam was inspected October 20, 2010 with no immediate concerns identified. If acquired by FWP, a dam inspection would be conducted annually. See Appendix 4 for the inspection report.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

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				

The proposed acquisition of the Bailey Reservoir parcel would provide continued fishing and recreation access for the public and would prevent the possibility of this reservoir becoming closed to public access.

Bailey Reservoir is currently open to the public and is actively used by fishing clubs and school groups in the area. FWP has received 41 letters in support of the proposed acquisition of Bailey Reservoir. The Great Falls Chapter of Walleye Unlimited has proposed donation of an adjoining additional 5-acres to FWP to support the acquisition and increase the area of access at Bailey Reservoir.

If acquired, FWP proposes some development to the parcel to improve the existing access road and parking area, improvements to the boat ramp, replacement of the existing boat dock, replacement of at least one of the two latrines with a pre-cast concrete vault latrine, as well as information, directional and regulation signs. If acquired, local community groups and fishing clubs have indicated interest in contributing money and labor for future improvements to this site over and above the improvements proposed by FWP.

The parking area at the picnic shelter would be enlarged to accommodate approximately three to four truck/trailer vehicles and two to three passenger cars.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

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				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				10b.
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 use of any energy source?		X				
e. **Define projected revenue sources		X				10e.
f. **Define projected maintenance costs.						10f.

10b. No tax implications since FWP pays property taxes at the same rate as a private individual.

10e. The funding source for this acquisition is the 2009 legislative session earmarked FAS Acquisition Account ($208,000). There would be no fees or revenue associated with the use of this site if acquired by FWP. If FWP decides to consider adding designated camping in the future, a separate environmental assessment would be conducted at that time and fees and revenues would be estimated then.

The funding source for the proposed site improvements is the 2011 FWP FAS Capital budget. If acquired, local community groups and fishing clubs have shown interest in contributing money and labor with future improvements to this site.

10f. Annual maintenance costs are expected to average $3,500 for general operations and maintenance, with $2,800 in personal services costs and $1,200 per year for weed control. FWP contracts with the Hill County Weed District for weed control. Maintenance costs would be included in the Region 6 Fishing Access Operations and Maintenance budget.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

** 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		Positive	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				

11c. If acquired, the site would remain open to the public and may see increased use. The Department of Commerce Tourism Report has been received and is attached as Appendix 2.

The proposed FAS acquisition would increase the quality and quantity of recreation on Bailey Reservoir. FWP would enhance the site by providing routine maintenance and improved facilities including a new pre-cast concrete vault latrine, improved boat ramp, and new boat dock, improved access road and parking area, controlling weed infestations, and preventing degradation of the site.

The area would be posted with directional, informational and regulatory signs such as "pack it in, pack it out" and FAS regulations, as well as signs signifying respect the reservoir and adjacent private property. Signs of recognition would also be installed to convey credit to the Bailey family and contributors that help make this acquisition possible.

Following acquisition, current boat motor restrictions (electronic trolling motors only) would remain in place.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

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				
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.)		NA				

The proposed acquisition would not impact any cultural or historical resources. Prior to of the proposed improvements, the State Historical Preservation Office (SHPO) would be contacted to evaluate impacts and to obtain clearance to proceed.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

SIGNIFICANCE CRITERIA

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 that 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.)		NA				
g. ****For P-R/D-J, list any federal or state permits required.		NA				

The proposed acquisition would have no negative cumulative effects on the physical and human environments. When considered over the long-term, the proposed acquisition and proposed improvements pose significant positive effects towards public access to this popular recreational resource and enhancing the fishery in Bailey Reservoir.

The minor impacts that were identified are highly localized, small in scale and would not influence the overall environment of the immediate area. The natural environment would continue to provide habitat to migratory and permanent wildlife species and would be open to the public for access for fishing and recreating. The proposed acquisition and proposed site improvements would have minimal impact on the local game and non-game species that frequent the property.

* Include a narrative explanation under Part III describing the scope and level of impact. If the impact is unknown, explain why the unknown impact has not or cannot be evaluated.

** Include a narrative description addressing the items identified in 12.8.604-1a (ARM).

*** Determine whether the described impact may result and respond on the checklist. Describe any minor or potentially significant impacts.

**** Include a discussion about the issue in the EA narrative and include documentation if it will be useful.

PART III. NARRATIVE EVALUATION AND COMMENT

The proposed action is to purchase the Bailey Reservoir parcel, accept an additional small parcel by donation, and construct improvements to the site. Improvements would include: upgrade of the existing approximate ½ mile of access road, improvements to the parking area; replacement of a primitive latrine with a pre-cast concrete vault toilet, removal of woody vegetation from the dam, replacement of the existing boat dock, minor repairs on existing boat ramp, picnic tables, and directional, informational and regulatory signing. The proposed Bailey Reservoir FAS would be a 102-acre parcel; approximately 47 of those are surface acres of reservoir.

The proposed acquisition would have no negative cumulative effects on the physical and human environments. When considered over the long-term, the proposed action poses significant positive effects towards continuing the public access to this popular recreational resource and enhancing the fishery in Bailey Reservoir.

The need for continued access to Bailey Reservoir for public recreation is significant. Bailey Reservoir is of a size where families can have success fishing from the bank or with small watercraft, and FWP biologists point out that there are few similar hiqh-quality lake/reservoir fisheries of this size in north-central Montana. Thanks to the landowners, Bailey Reservoir has a 40-year history of public use. It has served to provide great fishing opportunities to residents, fishing clubs and school groups from throughout north-central Montana. Without public acquisition, Bailey Reservoir could someday be purchased and closed to public use.

The minor impacts that were identified in the previous section are highly localized, small in scale and would not influence the overall environment of the immediate area. FWP would implement the Statewide Integrated Noxious Weed Management Plan to mitigate the spread of weed often associated with increased use. The natural environment would continue to provide habitat to migratory and permanent wildlife species and would be open to the public for access for fishing and recreating. The proposed acquisition would have minimal impact on the local wildlife species that frequent the property and would have a positive impact on the fishery in the long-term.

PART IV. PUBLIC PARTICIPATION

1. Public Involvement:

The public will be notified by way of legal notices in the Havre *Daily News* and the Helena *Independent Record* in addition to a statewide press release. A public notice will also be posted on the Fish, Wildlife & Parks web page: http://fwp.mt.gov/publicnotices. A direct mailing will be sent to adjacent landowners and interested parties. Additionally, copies will be available for public review at FWP Region 6 Headquarters in Glasgow and the FWP Havre Area Resource Office. This level of public notice and participation is appropriate for a project of this scope having few minor impacts.

A public meeting will be held on April 17, 2012, at 6:30 pm, at the Duck Inn in Havre, MT. The purpose of this meeting will be to record comments on the proposal documented in this EA.

2. Duration of comment period:

A 30-day comment period is proposed as appropriate for the scale of this project. The comment period will extend for 30 days following publication in area newspapers. Comments will be accepted until 5pm May 4, 2012. Comments should be sent to Region 6 Fishing Access Site Coordinator Woody Baxter at gwbaxter@mt.gov or mailed to: Montana Fish, Wildlife & Parks, 54078 US Hwy 2 W, Glasgow MT 59230.

PART V. EA PREPARATION

1. Based on the significance criteria evaluated in this EA, is an EIS required? NO If an EIS is not required, explain why the EA is the appropriate level of analysis.

Based upon the evaluation of impacts to the physical and human environment under MEPA, this environmental assessment revealed no significant negative impacts from the proposed action and identified a very limited number of minor impacts from the proposed action. Therefore an Environmental Impact Statement (EIS) is not required and this environmental assessment is the appropriate level of review.

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

Pam Boggs
EA Coordinator
PO Box 200701
Helena, MT 59620-0701
pboggs@mt.gov

Woody Baxter
Parks Manager
54078 US Hwy 2 W
Glasgow, MT 59230
(406) 228-3707
gwbaxter@mt.gov

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

Hill County Weed District
Montana Department of Commerce – Tourism
Montana Department of Natural Resources – State Trust Lands Management
Montana Department of Natural Resources – Water Resources
Montana Fish, Wildlife & Parks
- Director's Office – Lands Unit
- Director's Office – Legal Unit
- Fish and Wildlife Division
  - Fisheries Bureau
  - Wildlife Bureau
- Parks Division

Montana Natural Heritage Program – Natural Resources Information System (NRIS)
US Fish & Wildlife Service Threatened and Endangered Species County Listing

Figures and Photographs:

Figure 1: Location of Proposed Acquisition of Bailey Reservoir

Figure 2: Proposed Acquisition Topographic Map

Figure 3: Proposed Acquisition Boundary Map

Figure 4: Draft Preliminary Concept Plan

Photo 1: View from NW corner of dam looking north

Photo 2: View of covered picnic area at Bailey Reservoir

Appendices

1 HB 495 Project Qualification Checklist
2 Department of Commerce Tourism Report
3 Weed Inventory
4 Dam Inspection
5 Best Management Practices Final FAS BMP's – Department of Fish, Wildlife & Parks

APPENDIX 1

HB495 PROJECT QUALIFICATION CHECKLIST

Date: March 2012 **Person Reviewing** Pam Boggs

Project Location: Bailey Reservoir parcel T31N, R12E, Sec. 1, N ½ in Hill County

Description of Proposed Work: FWP proposes to acquire a 107-acre parcel which includes 47 surface acres of reservoir. Improvements proposed include: upgrade of the existing ½ mile of access road and enhance parking area, placement of a pre-cast concrete vault toilet, replacing a boat dock, minor repairs on existing concrete boat ramp, provide picnic tables, and directional, informational and regulatory signing.

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. (Check all that apply and comment as necessary.)

[ ]A. **New roadway or trail built over undisturbed land?**
Comments: No new roadways or trails, improving existing ½-mile access road.

[ ] B. **New building construction (buildings <100 sf and vault latrines exempt)?**
Comments: No new construction. At least one of the two existing latrines would be replaced.

[X] C. **Any excavation of 20 c.y. or greater?**
Comments: Possibly for boat ramp repairs and replacement of the boat dock.

[X] D. **New parking lots built over undisturbed land or expansion of existing lot that increases parking capacity by 25% or more?**
Comments: Improving existing parking area to accommodate a few more vehicles.

[ ] E. **Any new shoreline alteration that exceeds a doublewide boat ramp or handicapped fishing station?**
Comments: No shoreline alteration other than to repair existing concrete ramp and replace existing boat dock.

[X] F. **Any new construction into lakes, reservoirs, or streams?**
Comments: Possibly for the boat ramp repairs and replacement of the boat dock.

[X] G. **Any new construction in an area with National Registry quality cultural artifacts (as determined by State Historical Preservation Office)?**
Comments: SHPO would be contacted if acquired and prior to development. Work would not proceed until clearance has been received.

[ ] H. **Any new above ground utility lines?**
Comments: No new utility lines.

[ ] I. **Any increase or decrease in campsites of 25% or more of an existing number of campsites?**
Comments: No change.

[ ] J. **Proposed project significantly changes the existing features or use pattern; including effects of a series of individual projects?**
Comments: No.

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) & MCA 23-1-110

The Montana Department of Fish, Wildlife and Parks has initiated the review process as mandated by MCA 23-1-110 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 and project description portions and submit this form to:

Carol Crockett, Tourism Development Specialist
Travel Montana-Department of Commerce
301 S. Park Ave.
Helena, MT 59601

Project Name: Bailey Reservoir Fishing Access Site Proposed Acquisition and Improvements

Project Description: Montana Fish, Wildlife & Parks proposes to acquire approximately 55 acres of land plus 47 surface acres of reservoir. Bailey Reservoir is located in Hill County about 25 miles west of Havre. Original landowner Howard Bailey built the reservoir in 1974 for the purpose of providing fisheries and waterfowl habitat and to provide public recreational opportunities. Historically, Bailey Reservoir has been open to the public. If acquired, Bailey Reservoir would provide a safe and legal access for the public and would prevent the possibility of this reservoir becoming closed to public access if sold or subdivided. The current landowners, Jeanne Bailey-Martin and her husband Rick Martin presented an initial offer to FWP to acquire the reservoir and 55 acres of land around the perimeter of the south half of the reservoir. If acquired, FWP would improve the existing boat ramp, improve the access road and would replace at least one of the two latrines with a concrete vault latrine. Routine maintenance would be provided including weed management. FWP has received 41 letters of support from various groups and citizens.

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

Yes, as described, the project has the potential to positively impact the tourism and recreation industry economy. We are assuming that the agency has determined it has the necessary funding for the on-going operations and maintenance once this project is complete.

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

Yes, as described, the project has the potential to improve the quality and quantity of tourism and recreational opportunities. We are assuming that the agency has determined it has the necessary funding for the on-going operations and maintenance once this project is complete.

Signature Carol Crockett, Visitor Services Manager Date: September 9, 2010

2/93
7/98sed

Appendix 3

FWP Land Acquisition – Weed Inspection and Report

COMPLIANCE CHECKLIST FOR SECTION 7-22-2154, MCA

FWP Regional Staff: Please return this form to
FWP Lands Bureau, P.O. Box 200701, Helena, MT 59620

Property Name: Bailey Reservoir (West of Havre) FWP Region: 6

County: Hill

Date of Property Inspection with County Weed Management District: 10/07/2010

County Representative(s): Terry Turner

FWP Staff: Woody Baxter – R-6/Parks – Glasgow

County Weed Management District - Inspection Report (Please attach weed inspection report or use the space below to describe noxious weeds present on the property, including observations of weed distribution and abundance):

A ring of canada thistle above the water mark around the complete reservoir. Coulee to the east has canada thistle also.

Noxious Weed Management Agreement (Please attach applicable weed management agreement or use the space below to indicate how noxious weeds on the property will be managed when the property is under FWP ownership. Indicate if property will be included in an FWP county or regional weed management plan):

(See attached Hill County Weed Agreement.)

County Weed Management District Representative: I have inspected the property, and reviewed the weed situation with a representative of Montana Fish, Wildlife & Parks. I concur with FWP's weed management plan for the property, as presented above and/or described in the attached information.

Signed: Terry Turner Date: 10/07/2010

Appendix 4
Dam Inspection

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION

BRIAN SCHWEITZER
GOVERNOR

DIRECTOR'S OFFICE (406) 444-2074
TELEFAX NUMBER (406) 444-2684

STATE OF MONTANA

WATER RESOURCES DIVISION (406) 444-6601
TELEFAX NUMBERS (406) 444-0533 / (406) 444-5918
http://www.darc.mt.gov

1424 9TH AVENUE
PO BOX 201601
HELENA, MONTANA 59620-1601

November 16, 2010

Woody Baxter
DFWP – Glasgow

RE: Bailey Reservoir
MT01565

This report is being furnished as a follow-up to a request for a site visit and assessment for potential DFWP acquisition of an existing facility that is currently privately owned. Summary data is attached.

The site was visited on October 20th, 2010 and again on November 3, 2010.

Literature search reveals that construction of this facility was begun in 1967 and completed in 1968. The Soil Conservation Service (aka SCS, since renamed Natural Resources Conservation Service (NRCS)) prepared a 'Construction Completion Report' for this project, so it is presumed they performed the engineering design and construction inspection.

A hazard classification was performed on this facility in February of 1991, and it was determined at that time that it does not constitute a high hazard dam. In 2010 the DNRC Dam Safety Section performed a cursory review and determined that downstream land usage had not changed significantly since the initial classification had been performed. A high hazard dam is defined by Section 36.14.206 of the Administrative Rules of Montana (ARM) as:

'A dam must be classified high-hazard if the impoundment capacity is 50 acre-feet or larger and it is determined that a loss of human life is likely to occur within the breach flooded area as a result of failure of the dam.....Loss of life is assumed to occur if the following structures are present or planned for as a matter of public record or notice in the breach flooded area: occupied houses and farm buildings, stores, gas stations, parks, golf courses, stadiums, ball parks, interstate, principal, and other paved highways, and including railroads, highway rest areas, RV areas, developed campgrounds; and excluding unpaved county roads and all private roads.'

The term high hazard has nothing to do with the dam's condition.

STATE WATER PROJECTS BUREAU (406) 444-6646 | WATER MANAGEMENT BUREAU (406) 444-6637 | WATER OPERATIONS BUREAU (406) 444-0860 | WATER RIGHTS BUREAU (406) 444-6610

Appendix 4
Dam Inspection
(continued)

The October 20, 2010 site visit was concerned primarily with assessing the condition of the facility and determining overall geometrics of the dam with survey work performed to determine the elevation relationships between the crest of the dam, the crest of the riser, and the crest of the emergency spillway.

On November 3rd, 2010 the riser and the conduit were entered and inspected (perhaps for the first time since construction). The riser and conduit appear to be in reasonable condition for their age, although there is some seepage present assumed to be through joints or seams in the CMP.

Because failure (i.e. perforation of the CMP walls by rusting) does not appear to have occurred yet, slip lining of the conduit may be a viable option for rehabilitation and extending the service life of the facility. This could be done at a fraction of the cost of a replacement riser/conduit and should be investigated more fully for a near-term project. Once failure has occurred slip lining is no longer an option.

Although no seepage zones indicative of foundation issues were observed, the water surface elevation was approximately 4 feet below the full pool elevation. When the reservoir is full foundation problems may become apparent.

It is recommended that the FWP take the following actions prior to further consideration for acquisition:

- Adequacy of spillway analysis to determine if the spillway has adequate capacity for anticipated flood flows.
- Ultrasonic testing of riser and conduit walls to determine extent of corrosion on CMP and urgency of a rehabilitation project,
- Verify operation of gate to determine if low-level-outlet is functional. However, during this investigation it is possible upon that opening the slide gate it will not be possible to close it and reservoir contents could be lost

If you have any questions about the recommendations contained herein please contact Scott Blossom at (406) 841-4007 as I will be terminating with the DNRC at the end of the month.

William S. Fullerton, P.E
DFWP/DNRC Dam Liaison
DNRC Rehabilitation Section

attachments

Cc: Rob Kingery
Michele Lemieux
Marvin Cross
✓Scott Blossom
file

Appendix 4
Dam Inspection
(continued)

Initial Assessment

Name: Bailey Reservoir
MT01565

Date of field inspection: October 20, 2010
November 2, 2010

Location: Hill County, South of Kremlin

Legal Description of Location: Section 1 T31N R12E

Drainage: Unnamed ephemeral tributary of Sage Creek

Drainage Area: 20 Square Miles

Reservoir Area: 70 Acres (Source: SCS Construction Report)
Water Surface Elevation at time of survey: 87.95 (locally assumed datum using ledge on SW corner of epitaph pedestal near picnic shelter as 100.00)

Embankment:

- Length; 600 feet
- Crest elevation: 99.06
- Width at Crest: 16 feet
- Height: 44 feet (Source SCS Construction Report)
- Upstream Slope: 3:1
- Downstream Slope: 2:1

Appendix 4
Dam Inspection
(continued)

Outlet Works:

- Spillway
  - Material: Corrugated Metal Pipe (CMP)
  - Relevant Measurements: 44 inch diameter x 17' high riser
    36 inch diameter x 175' conduit
  - Top of riser elevation: 91.80
  - Base of riser elevation: 75.30
  - End of conduit elevation (Downstream end): 62.47
  - Low-level outlet 12 inch diameter CMP with inclined slide gate (gate type assumed). The threads on the gate stem nut were rusted tight and it was not possible to further investigate the gate function with the tools on hand. Consequently, the gate was not operated during this inspection and may not be functional.

- Emergency Spillway
  - Length: 1000 + feet the downstream end dissipates into grazing land
  - Width: 95 feet
  - Slope: variable from 0+00 to 5+00, approx 1% grade from 5+00 to 9+00, where survey was discontinued)
  - Crest Elevation: 95.31

General Observations:

- Nature and type of vegetation on embankment slopes: The downstream face of the dam supports good grass cover. The crest is a well-maintained road with little rutting or potholing. The upstream face of the embankment has some sage, willow, and Russian olive in addition to grass. There is also some thistle present.

- Any erosion in groins or on faces of dam: No

- Any observed seepage zones downstream from embankment: No

Appendix 4
Dam Inspection
(continued)

- Any observed slides or sloughs into the reservoir: A pedestrian survey of the reservoir periphery was not done. Review of Google imagery for landforms associated with slides was inconclusive.

- Historically, the 'weak link' in this type of design is corrosion failure of the riser and/or conduit, and it commonly occurs at the juncture between the riser and the conduit. When the riser or conduit walls become perforated, ever-increasing water flow through the embankment erodes the fill material and creates ever-enlarging voids culminating in loss of reservoir contents. This is 'failure' of the dam. Nothing in this inspection indicates that such a failure is imminent; however assuming ownership of this facility will also assume responsibility for such a potential failure.

    - The riser and the conduit appeared to be competent when sounded from the inside with a hammer. Much of the original bitumen coating was still present on the interior of the conduit, although exhibiting cracking and checking. There was some seepage water in the invert, presumably leakage through joints or seams in the conduit.

    - At intermittent intervals sections of the bitumen were missing from the invert, revealing the structural component consisting of corrugated metal pipe (CMP). At those locations the CMP exhibited rusting but the substrate seemed competent. No attempts to perforate the CMP walls with the pick end of a rock hammer were made. Acoustic emissions from hammer taps sounded like competent metal would sound.

    - Because it was not possible to determine the nature and extent of corrosion on the exterior of the conduit making estimation about the remaining service life of the riser/conduit impossible. However the interior of the conduit looked satisfactory.

Appendix 5

MONTANA FISH, WILDLIFE AND PARKS
BEST MANAGEMENT PRACTICES FOR FISHING ACCESS SITES

Updated May 1, 2008

I. ROADS

A. Road Planning and location

1. Minimize the number of roads constructed at the FAS through comprehensive road planning, recognizing foreseeable future uses.
   a. Use existing roads, unless use of such roads would cause or aggravate an erosion problem.
2. Fit the road to the topography by locating roads on natural benches and following natural contours. Avoid long, steep road grades and narrow canyons.
3. 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.
4. Minimize the number of stream crossings.
   a. 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 insloped 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 sub-grade so that traffic will not obliterate them.

2. For ditch relief/culverts, construct stable catch basins at stable angles. Protect the inflow end of cross-drain 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. Cross-drains, 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 also provides an economical way of disposing of roadway slash. Limit the height, width and length of these "slash filter windrows" 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 cross-drains, 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 the 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 (riprap 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.