# Final
# Environmental Assessment

# Cottonwood Grove Proposed Fishing Access Site Acquisition and Development

**August 10, 2006**

Montana Fish, Wildlife & Parks

# Cottonwood Grove Proposed Fishing Access Site Acquisition and 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 | ___X___ |
| 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 (MFWP) to acquire, develop and operate a system of fishing accesses. The legislature established a funding account to ensure that this function would be accomplished. Sections 12-8-213, 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. See Appendix 1 for HB 495 qualification.

**3. Name of Project:**
Cottonwood Grove Proposed Fishing Access Site Acquisition and Development

**4. Name, Address, and Phone Number of Project Sponsor:**

| | | |
|---|---|---|
| Allan Kuser | Roger Semler | Jon Jourdonnais |
| Fishing Access Site Coordinator | Regional Parks Manager | PPL Montana |
| Montana FWP, HQ | Montana FWP, Region 4 | 45 Basin Creek Road |
| PO Box 200701 | 4600 Giant Springs Road | Butte, MT 59701 |
| Helena, MT 59620 | Great Falls, MT 59405 | 406-533-3443 |
| 406-444-7885 | 406-454-5859 | |

**5. If Applicable:**
Estimated Construction/Commencement Date: _____
Estimated Completion Date: 2007
Current Status of Project Design (% complete): 100%

**6. Location Affected by Proposed Action (county, range, and township)**
The proposed Cottonwood Grove FAS is located in TR1, COS#4222 in SE ¼ SW ¼ Sec 5 and in NE ¼ NW ¼ of Sec 8, Township 19 North, Range 3 East, Cascade County, Montana. The proposed acquisition is 4 acres.

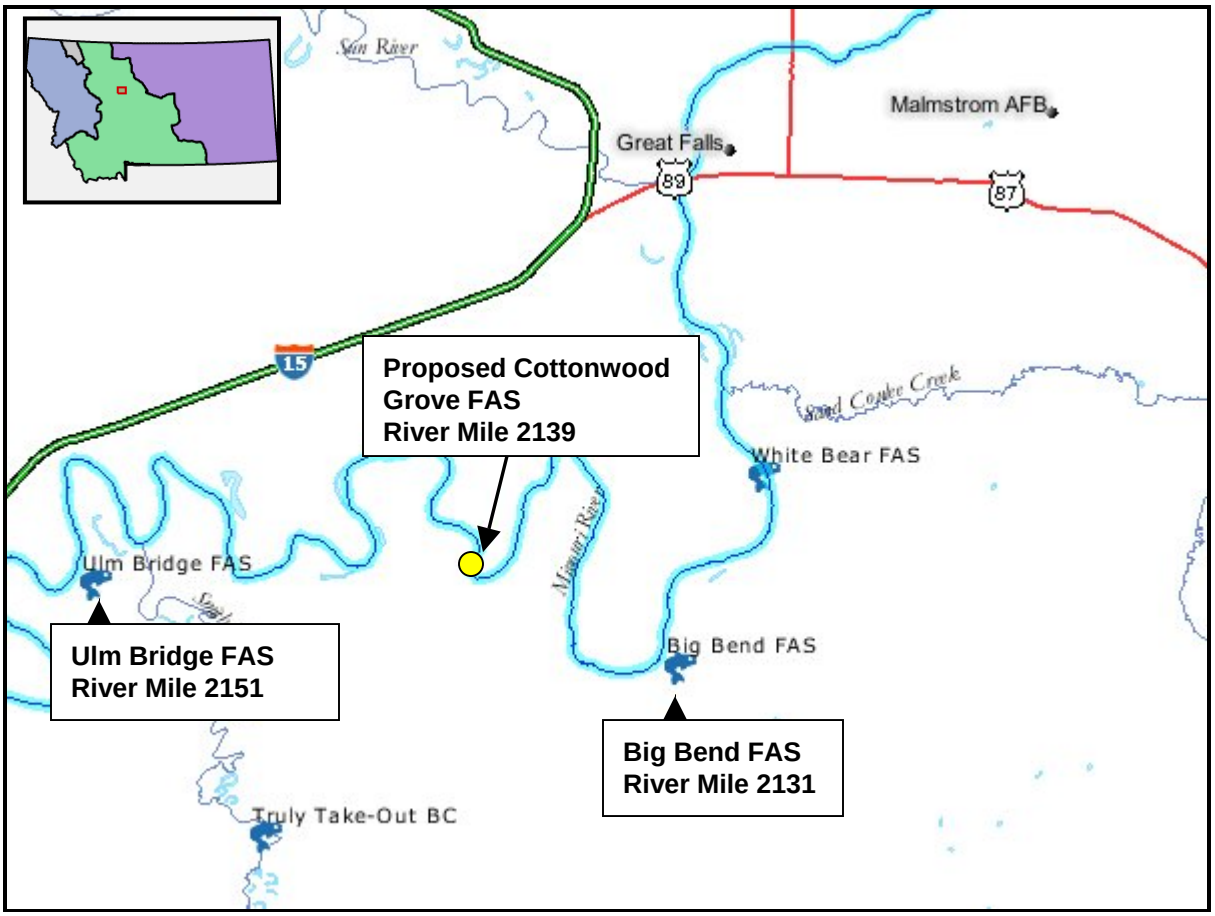



**Figure 1: Yellow circle delineates location of Proposed Cottonwood Grove FAS.**

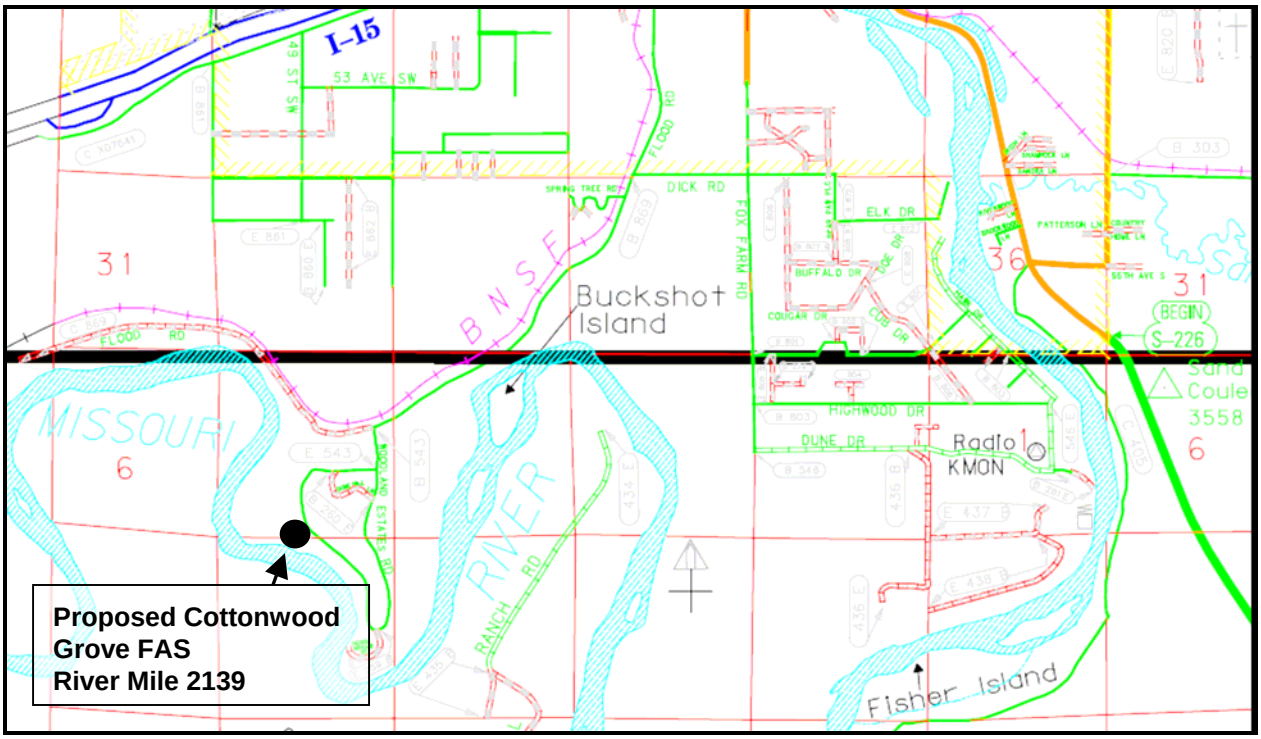



**Figure 2: Black circle delineates location of proposed Cottonwood Grove FAS.**

**7. Project Size: Estimate 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..... 4 acres

(c) Wetlands/Riparian
Areas..... 4 acres

(d) Floodplain..... 4 acres

(e) Productive:
irrigated cropland ..... 0 acres
dry cropland ..... 0 acres
forestry ..... 0 acres
rangeland ..... 0 acres
other ..... 0 acres

**8. Map/site plan: attach an original 8 1/2" x 11" or larger section of the most recent USGS 7.5' series topographic map showing the location and boundaries of the area that would be affected by the proposed action. A different map scale may be substituted if more appropriate or if required by agency rule. If available, a site plan should also be attached.**

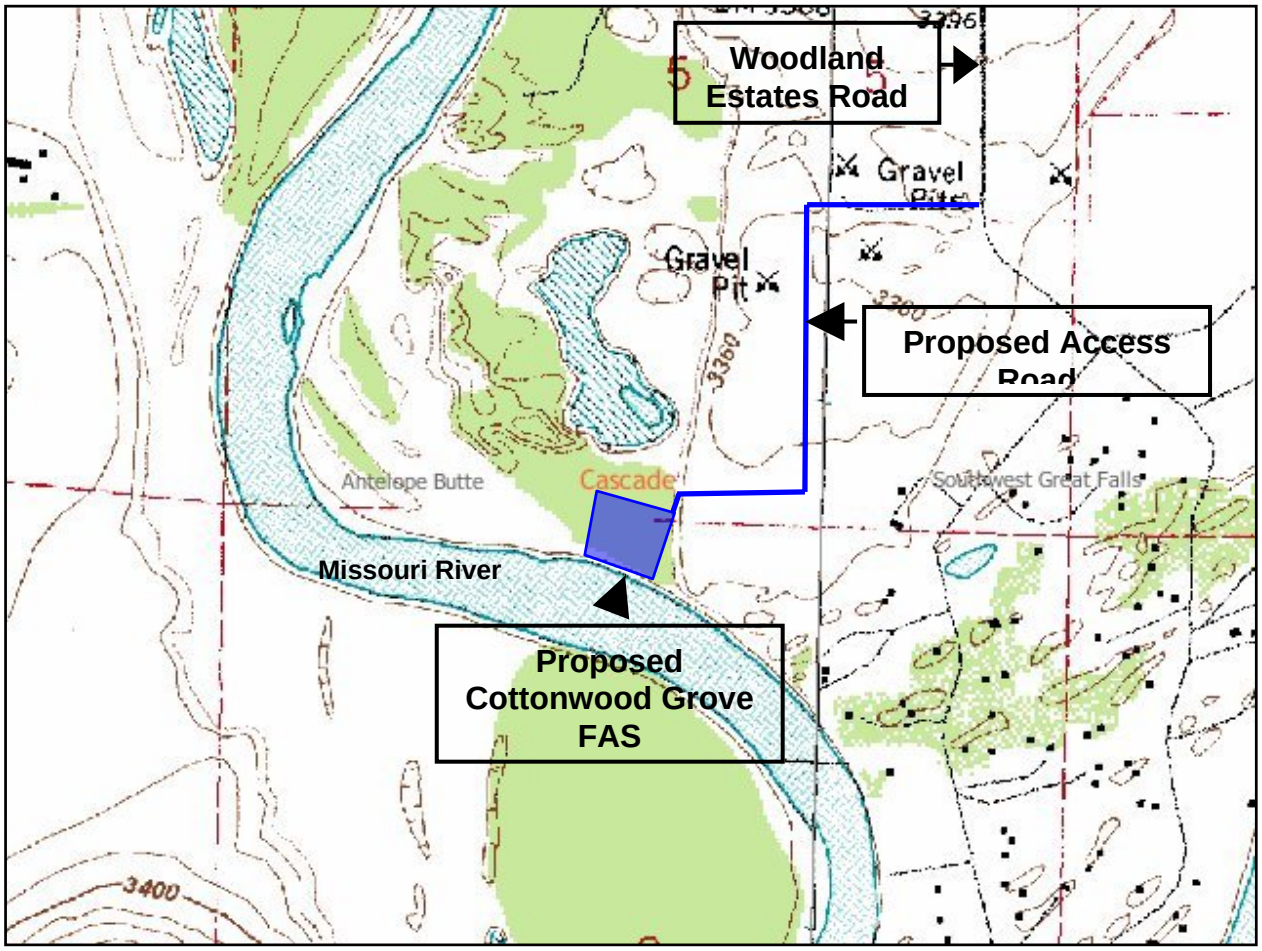



Figure 3: Topographic map depicting approximate boundaries (blue polygon; 4 acres) of MFWP proposed Cottonwood Grove FAS (Base photo source: Montana Natural Resources Information Service Topofinder II). Blue Line depicts location of proposed access road to proposed FAS.

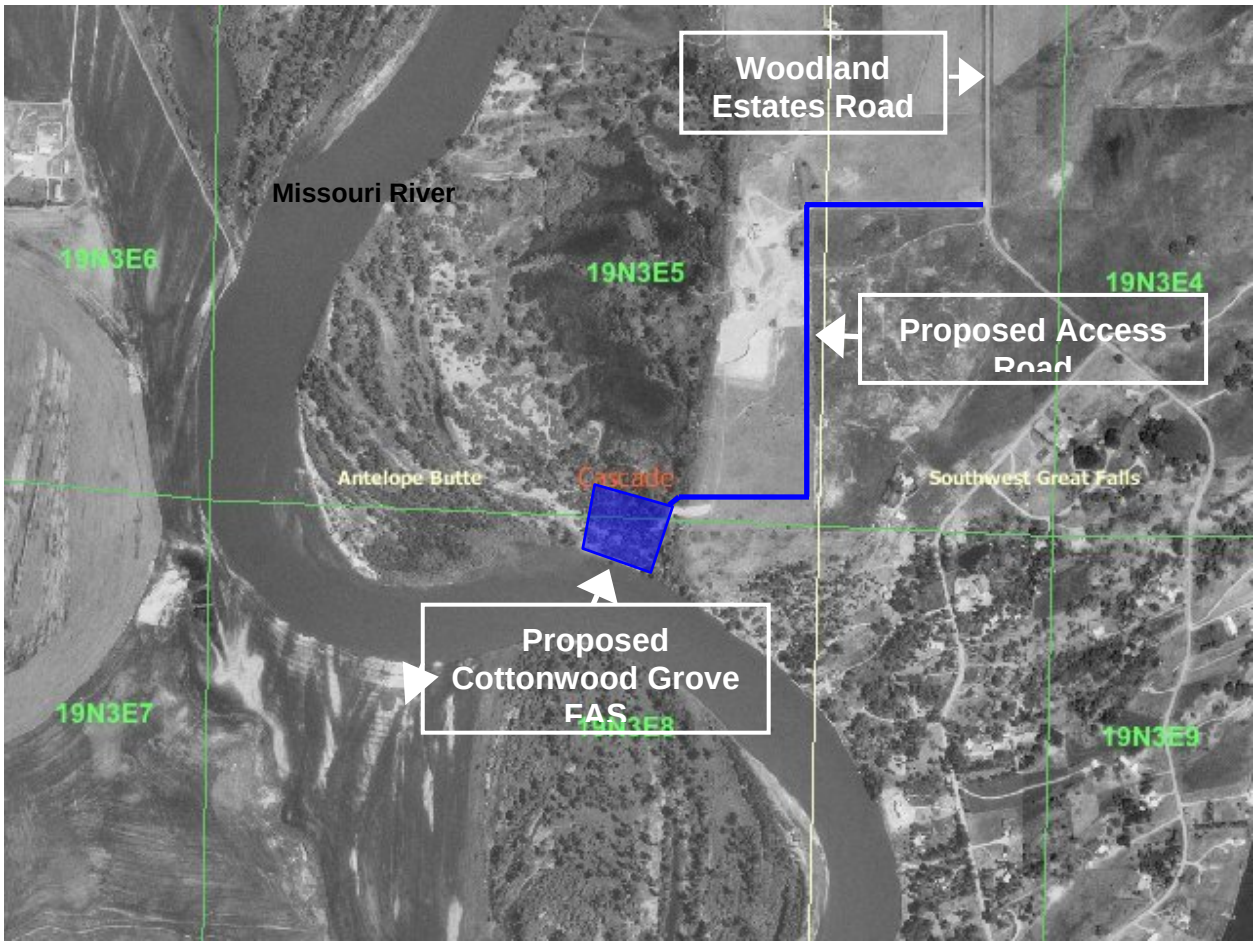



Figure 4: Aerial photograph depicting approximate boundaries (blue polygon; 4 acres) of MFWP proposed Cottonwood Grove FAS (Base photo source: Montana Natural Resources Information Service Topofinder II). Blue Line depicts location of proposed access road to proposed FAS.

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

(a) Permits:

| Agency Name | Permit | Date Filed/# |
|---|---|---|
| Cascade Conservation District | 310 | |
| Montana Department of Environmental Quality | 318 | |
| Montana Department of Environmental Quality | 401 | |
| Cascade County | Floodplain Permit | |

(b) Funding:

| Agency Name | Funding Amount |
|---|---|
| Montana Fish Wildlife & Parks Fishing Access Acquisition Fund | $30,000* |

* PPL Montana, LLC (PPLM) is selling the land to MFWP for $30,000. PPLM will deposit the $30,000 into PPLM's Missouri River Corridor Trust Fund.

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

| Agency Name | Type of Responsibility |
|---|---|
| PPL Montana, LLC | Cooperate with other governmental entities in the acquisition, development, and/or improvement of public access sites to the Missouri River. |

**10. Narrative summary of the proposed action or project including the benefits and purpose of the proposed action.**

## Proposed Cottonwood Grove Fishing Access Site Description and Background

Figure 5: Mature cottonwood forest at proposed FAS.

The proposed Fishing Access Site (FAS) is located approximately 6 miles southwest of Great Falls on the Missouri River. The closest FAS upstream is Ulm Bridge FAS (12 river miles upstream), and the closest downstream is Big Bend FAS (eight river miles downstream). The proposed FAS is 4 acres of mature cottonwood forest with access to the Missouri River. In 2003, an angler survey identified this section of the Missouri River (river mile 2,100-2,167) as the 31st most fished body of water in Montana. The regional rank was five and there were 20,368 days fished and 459 trips on this section. Fish species in this section of the Missouri River include brown trout, bullhead, burbot, carp, longnose suckers, mountain whitefish, pumpkin seeds, rainbow trout, stonecat, walleye, white suckers, and yellow perch.

PPLM purchased the proposed Cottonwood Grove FAS from Donald M. Lilienthal in the spring of 2005 as part of their Recreation Mitigation Plan for the middle Missouri River corridor. PPLM is anticipating selling this property to MFWP for management as a fishing access site. The details of the proposed action are discussed later in this document.

A mature cottonwood forest is located on the site (Figure 5). Along the shoreline, there are willows, cottonwood seedlings, and bulrush (Figure 6). Weeds are prevalent at the proposed FAS. There is a high infestation of leafy spurge throughout the proposed FAS (80% coverage), a large patch of spotted knapweed (5% coverage), and a few hound's tongue and mullen plants (Figure 7). MFWP will contract with the Cascade County Weed Department for noxious weed control services (Appendix 5 Weed Management Agreement). Herbicides, bio-control, and mowing will be used where appropriate.

Figure 6: Bank of the Missouri River at the proposed FAS.

The site is within a bald eagle nesting territory, and within one mile of a nest. According to Graham Taylor, MFWP Region 4 Wildlife Manager, the nest, which is an active nest, is at least one-quarter mile from the proposed FAS. The nest site is west of the property on the same side of the river. This site is located on private land. According to Mr. Taylor, it is unlikely that the bald eagles will be disturbed by development of the proposed FAS, as visitors to the proposed FAS will not have access to this land.

Figure 7: Weeds at proposed FAS.

## Proposed Action, Purpose and Benefits of the Action

Montana Fish Wildlife & Parks proposes to acquire the proposed Cottonwood Grove FAS property from PPLM. PPLM is required to develop four public access sites on the Missouri River to comply with the Federal Energy Regulatory Commission Project 2188 License (FERC License) and the corresponding Missouri-Madison Comprehensive Recreation Management Plan (Recreation Plan). PPLM has consulted with MFWP and other agencies on the location, acquisition, and development of these four sites. Through this consultation process, the proposed Cottonwood Grove FAS Property was selected as one of the sites because it is in a suitable geographical location, it is suitable from an engineering standpoint, and a willing seller existed. In December 2004, PPLM purchased the 4-acre Property with public access across and along the access road.

## The Land Acquisition Transaction

PPLM will sell the property to MFWP for $30,000. Montana Fish, Wildlife & Parks proposes to purchase the proposed Cottonwood Grove FAS property using funds from the Fishing Access Acquisition Account. In turn, PPLM will place the money received into PPLM's Missouri River Corridor Trust Fund. This Trust Fund was established by the Recreation Plan process, and income from that trust fund will be used for other recreation projects in the Missouri-Madison corridor.

## Development and Maintenance of the Site

PPLM will pay to develop the site as a FAS after purchase of the property by MFWP (Please see Appendix 2, Site Plan). Montana Fish, Wildlife & Parks will assume responsibility for routine maintenance of the site including restroom cleaning and stocking, vault toilet pumping, sign installation and maintenance, road maintenance, litter and refuse pick up, mowing and brushing, fence maintenance, and general site upkeep. PPLM will also contribute $10,000 annually to help cover operations and maintenance costs; this payment will be adjusted for inflation. An assessment of hazard trees and limbs will be conducted in the grove of cottonwoods by a certified arborist and appropriate hazard mitigation measures will be taken prior to opening of the site. The 0.8-mile gravel road accessing the site will be improved at a width of 24 feet. A portion of the road will be 16 feet through a subdivision area. This is due to engineering requirements for traversing a slope break down to the river and due to an agreement made with the previous landowner. On this short stretch of road, pullouts may be constructed if necessary to prevent safety hazards. Improvements will include the installation of speed control features intended to reduce dust and improve safety. MFWP will apply dust abatement materials on the 0.8-mile access road on an annual basis.

## Operation and Management of the Site

The proposed FAS will be open only during daylight hours. A new access road will be constructed. The access road will run along the edge of Mr. Lilienthal's retained property. It will be 16 to 24 feet wide gravel road, approximately 0.8 miles long. A fence located along the proposed access road will be removed and replaced and two gates will be installed within the site boundary to allow access for Mr. Lilienthal to his property. In addition, a gate will be installed across the entry road to prevent nighttime access to the site. Daily opening and closing of the access gate will be provided through a contractual or volunteer agreement. A gravel parking area will be constructed with six truck/trailer parking spaces (14 foot by 45 foot) and one ADA accessible parking pad (17 foot by 45 foot). A precast vault latrine will be installed with a five-foot walk. There will be a carry-in boat launch area at the site. Directional signs will be posted on the County Road approach to the site. Informational signs stating hours of operation and general regulations will be posted on site.

There are noxious weed present at the proposed FAS. MFWP will contract with the Cascade County Weed department for weed control (see Appendix 5 for Weed Management Agreement. Herbicides would be used as well as bio-control and mowing.

## PART II. ENVIRONMENTAL REVIEW

**1. Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a comparison of the alternatives with the proposed action/preferred alternative:**

**Alternative A: No Action**
Do not purchase the site from PPLM, nor develop the site as a FAS. PPLM would find an alternate partner to oversee and manage site. MFWP would save funds it would have contributed towards the acquisition and the public would still have access. However, funds would not be contributed to the PPLM Missouri River Corridor Trust Fund, and the site may not be managed as efficiently. Enhancing contributions to the recreation trust fund is a commitment that MFWP and other agencies made during the FERC License and Recreation Plan processes.

**Alternative B: MFWP Operates and Maintains Site**
PPLM retains ownership of the site and MFWP operates and maintains the site. MFWP would save funds it would have contributed towards the acquisition and taxes. The public has access and the site is maintained efficiently. However, funds would not be contributed to the Missouri River Corridor Trust Fund —which will be used for future acquisitions, and operations and maintenance of existing recreation sites.

**Alternative C: Purchase the Proposed Cottonwood Grove FAS Property from PPLM**
Purchase the property from PPLM, operate, and maintain it as a FAS. PPLM would contribute $10,000 annually for operation and maintenance of the site. This alternative would provide an additional FAS where one is needed. In addition, it gives PPLM the ability to contribute additional money to the Missouri River Corridor Trust Fund to help fund other recreation projects in the corridor; operation and maintenance costs are covered by PPLM contributions; it allows for the most efficient and consistent management of the site in line with other MFWP FAS's; and, the combination of these factors provides the best overall value to the public.

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

There is no mitigation, stipulations, or other controls associated with this action. Therefore, no evaluation is necessary. This analysis did not reveal any significant impacts to the human or physical environment. Therefore, an environmental Impact Statement is not required.

## PART III. NARRATIVE EVALUATION AND COMMENT

The proposed project will minimally impact the physical environment. Best Management Practices (see Appendix 6) will be utilized to minimize impacts to the land and water during design and construction of the proposed project. To help minimize changes in drainage pattern caused by construction, the parking area, and latrine will be located on an area with low slope (2%) and yetull loamy sand. The access road will be constructed in a section with 4% slope and a section with 7% slope, with a cross slope between 2 - 3%. The proposed plan may increase surface runoff, due to changes in vegetative cover from foot traffic and boat launching activities. This increase can be minimized by fencing off the boat launch area to confine boat-launching activity to a particular area. This mitigating activity will also help minimize disruption of bank and vegetation. Posted regulation signs and enforcement activities will help prevent activities that adversely impact wildlife and wildlife habitat.

The proposed project will minimally affect the human environment. The development of the proposed FAS has been kept to a minimum to prevent conflicts between visitors and homeowners. To minimize noise levels, only access for non-motorized boats will be available, limited parking spaces will be provided, and access will be limited to daytime use only. Best Management Practices (see Appendix 6) will be utilized in the planning and construction of the new access road to minimize traffic hazards. The proposed project will not alter public services, taxes, or utilities. The proposed project will provide the public – resident and non-resident – more opportunities for river recreation that has the potential to increase visitor use and spending in area communities. The proposed project will not affect cultural or historical resources (Please see SHPO consultation attached as Appendix 4).

## PART IV. PUBLIC PARTICIPATION

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

The public will be notified in the following ways to comment on the EA of for the Proposed Cottonwood Grove Fishing Access Site Acquisition and Development

- Two legal notices will be published in the *Great Falls Tribune* and the *Helena Independent Record.*
- Legal notice and the draft EA will be posted on the Montana Fish, Wildlife, & Parks web page: *http://fwp.mt.gov/publicnotices*
- Statewide press release to print and broadcast media
- Direct notice will be given to adjacent landowners.

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

**2. Duration of comment period, if any.**

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

Roger Semler
Regional Parks Manager
Montana FWP, Region 4
4600 Giant Springs Road
Great Falls, MT 59405
406-454-5859

## 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 for this proposed action.**

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

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

Roger Semler
MFWP Regional Parks Manager
4600 Giant Springs Road
Great Falls, MT 59405
(406) 751-4550

Sally Schrank
Independent Contractor
112 Riverview C
Great Falls, MT 59404
(406) 268-0527

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

Montana Fish, Wildlife & Parks Region 4
- Parks Division
- Wildlife Division
- Fisheries Division
- 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 Preservation Office
Montana Historical Society
1410 8th Avenue
Helena, MT 59620

# PART VI. MEPA 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<br>**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 | | 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 | | | | |
| e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard? | | X | | | | |
| f. Other | | | X | | Yes | 1f. |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

1a. The proposed project will not alter geologic substructure, and will minimally impact soil stability. The parking area, road, and latrine will be located in the 100-year flood plain area. Erosion is expected to be minor. Surface runoff should be minimal due to the low slope and the yetull loamy sand. The parking area and latrine will be located on an area with 2% slope. The access road will be constructed in a section with 4% slope and a section with 7% slope, with a cross slope between 2 - 3%. Best Management Practices (see Appendix 6) will be utilized to minimize these impacts during design and construction of the proposed project.

1b. The proposed project will cause minor erosion of the river bank due to the increased use by recreationists, and the establishment of a non-motorized, walk-in boat launch. This impact will be minimized, as vehicle traffic and boat-launching activities will be confined to a small area. The road, parking area, and latrine will cause over-covering of soil. To minimize disturbance, these areas will be fenced to confine vehicle traffic and prevent bank erosion.

1f. Establishing a public access site increases the potential for untended campfires. Not permitting fires on the site, and posting and enforcing these regulations will mitigate this potential.

**PHYSICAL ENVIRONMENT**

| 2. AIR<br>**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) | | NA | | | | |
| f. Other | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Air Resources (Attach additional pages of narrative if needed):

2a. Minor amounts of dust will be temporarily created during construction of road and parking area. Best Management Practices (see Appendix 6) will be utilized to minimize the dust during construction. Dust will also increase due to construction of new access road and vehicle traffic. PPLM will install speed bumps during construction of the new access road to help decrease vehicle speeds and dust from traffic. MFWP will apply dust abatement materials on the 0.8-mile access road on an annual basis.

2b. Vault latrines can create foul odors; but regular latrine maintenance will help to minimize offensive odors. 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.

**PHYSICAL ENVIRONMENT**

| 3. WATER<br><br>**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 flood water 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 | | | | |
| 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) | | NA | | | | |
| 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 | | | | |
| n. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Water Resources (Attach additional pages of narrative if needed):

3a. The proposed plan will cause a minor increase in the discharge of sediments into river due exposing soil for the parking area. This impact can be minimized by providing a vegetative buffer zone of at least five feet between the parking area and river.

3b. To help minimize changes in drainage pattern caused by construction, the parking area, road, and latrine will be located on an area with low slope and yetull loamy sand. The parking area and latrine will be located on an area with 2% slope. The access road will be constructed in a section with 4% slope and a section with 7% slope, with a cross slope between 2 - 3%. The proposed plan may increase surface runoff, due to changes in vegetative cover. A vegetative buffer will be left to trap sediments.

**PHYSICAL ENVIRONMENT**

| 4. VEGETATION<br><br>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 | | | | |
| 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 | | | | |
| g. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

4a. Approximately one acre of cottonwood forest understory will be removed to construct the road, parking lot, and latrine, and one acre of grassland will be removed to construct the access road. An assessment of hazard trees and limbs will be conducted in the grove of cottonwoods by a certified arborist. Appropriate hazard mitigation measures will be taken prior to opening of the site with sensitivity to wildlife habitat trees.

4c. The Montana Natural Heritage Program (MNHP) found no records of unique, rare, threatened, or endangered plant species within one mile of the site.

4e. Weeds are prevalent at the proposed FAS. There is a high infestation of leafy spurge throughout the proposed FAS (80% coverage), a large patch of spotted knapweed (5% coverage), and a few hound's tongue and mullen plants. Public usage of the proposed FAS will likely increase weeds at the proposed FAS. MFWP will contract with the Cascade County Weed Department to control this problem (see Appendix 5 for Weed Management Agreement). Herbicides would be used along the roads and parking area. Bio-control has been initiated in areas nearby this site with insects, and will be expanded to the proposed FAS.

**PHYSICAL ENVIRONMENT**

| 5. FISH/WILDLIFE<br><br>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 | | | 5b. |
| 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 | | | | |
| 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 | | | | |
| j. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

5b. The proposed FAS is an unaltered cottonwood riparian forest. The FAS is bordered by a subdivision. Confining vehicle access and boat launching activities and minimal development to a small portion of the site will mitigate the deterioration of the site. Posted regulation signs and enforcement activities will help prevent activities that displace and disturb wildlife and adversely impact wildlife habitat. Wildlife in the area should be impacted minimally by the proposed project.

5f. The MNHP located bald eagles within one mile of the proposed FAS. According to Graham Taylor, MFWP Region 4 Wildlife Manager, the proposed FAS is within the nesting territory of a bald eagle pair; however, the nest used in previous years is at least one-quarter mile from the proposed FAS. The nest site is west of the property on the same side of the river. This site is located on private land. Mr. Taylor stated that it is unlikely that the bald eagles will be disturbed by development of the proposed FAS, as visitors to the proposed FAS will not have access to this land.

**B. HUMAN ENVIRONMENT**

| 6. NOISE/ELECTRICAL EFFECTS<br>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 | | Yes | 6a. |
| b. Exposure of people to severe or nuisance noise levels? | | X | | | | |
| 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 | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

6a. An increase in existing noise levels will occur with public access to the proposed FAS, due to vehicle traffic and recreationists at the proposed FAS. The development of the proposed FAS has been kept to a minimum to prevent any major problems between visitors and homeowners. To minimize noise levels, only access for non-motorized boats will be available, limited parking spaces will be provided, and access will be limited to daytime use only. MFWP will 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<br><br>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 | | Yes | 7d. |
| e. Other: _____ | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

7d. Homeowners in the area expressed concern about increased noise due to public access to the site and increased dust from the construction of a new access road. The development of the FAS has been kept to a minimum to prevent conflicts between visitors and homeowners. To minimize conflicts the FAS will be limited to daytime use only. MFWP will follow the guidelines of the good neighbor policy for public recreation lands (MCA 23-1-126.). PPLM will install speed bumps during construction of the new access road to help decrease vehicle speeds and dust from traffic. MFWP will apply dust abatement materials on the 0.8-mile access road on an annual basis.

**HUMAN ENVIRONMENT**

| 8. RISK/HEALTH HAZARDS<br><br>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 | | | | |
| e. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

8a. The FWP Region 4 Weed Management Plan calls for an integrated method of managing weeds, including the use of herbicides. 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.

**HUMAN ENVIRONMENT**

| 9. COMMUNITY IMPACT<br><br>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 | | Yes | 9e. |
| f. Other: | | X | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

9e. The proposed plan will establish a new access road to the FAS. Traffic hazards are possible with the establishment of a new road. Best Management Practices (see Appendix 6) will be utilized in the planning and construction of the new access road to minimize traffic hazards. Initial development of the road will include speed control devices to improve road safety and reduce dust.

**HUMAN ENVIRONMENT**

| 10. PUBLIC SERVICES/TAXES/UTILITIES<br><br>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 | | Yes | 10a. |
| 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 used of any energy source? | | X | | | | |
| e. Define projected revenue sources | | | | | | 10e. |
| f. Define projected maintenance costs. | | | | | | 10f |
| g. Other:_____ | | | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

10a. MFWP will contract with a septic tank pumping service to remove sewage from the vault toilets on as needed basis. Garbage cans will not be provided and visitors will be encouraged to pack out their garbage and refuse. MFWP will police up litter and refuse during each maintenance visit. Law enforcement will be provided by MFWP and the Cascade County Sheriff Dept. on an as needed basis. Road grading and dust abatement will be provided by MFWP on an annual basis.

10b. Montana Fish, Wildlife & Parks pays taxes “in a sum equal to the amount of taxes which would be payable on county assessment were it taxable to a private citizen” (MCA 87-1-603). Therefore, there will be no impact on the local tax base caused by this action.

10e. The funding source for this acquisition shall be the Fishing Access Acquisition Fund. The site will be managed for day use only with no overnight camping, thus there will be no camping fee revenue collected.

10f. It will cost up to $10,000 per year for MFWP to operate the site and maintain roads, parking areas, fences, toilets, signs gates, weeds, and grounds. PPLM will contribute $10,000 annually towards the operation and maintenance of the site.

**HUMAN ENVIRONMENT**

| 11. AESTHETICS/RECREATION<br><br>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 | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

11c. This proposed FAS would increase the amount of public access to the Missouri River between the Big Bend and Ulm sites. This will provide the public – resident and non-resident – more opportunities for river recreation that has the potential to increase visitor use and spending in area communities. As proposed, the project appears to improve the quality and increase the quantity of recreation/tourism opportunities in this area. Please see Appendix 3, Tourism Report.

**HUMAN ENVIRONMENT**

| 12. CULTURAL/HISTORICAL RESOURCES<br><br>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) | | NA | | | | |
| e. Other: | | | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

12a. An inventory of cultural properties was performed at the site by PPLM. The State Historic and Preservation Office reviewed this inventory and found that no properties eligible for historic preservation appear likely to exist on the impact area (Please see Appendix 4, SHPO Consultation).

**HUMAN ENVIRONMENT**

| 13. SUMMARY EVALUATION OF SIGNIFICANCE<br><br>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) | | NA | | | | |
| g. For P-R/D-J, list any federal or state permits required. | | NA | | | | |

Narrative Description and Evaluation of the Cumulative and Secondary Effects on Land Resources (Attach additional pages of narrative if needed):

# APPENDIX 1

PROJECT QUALIFICATION CHECKLIST
23-1-110 MCA and ARM 12.8.602

**Date** August 29, 2004 **Person Reviewing** Sally Schrank

**Project Location:** The proposed Cottonwood Grove FAS property is located in Lot 9, Section 5 and NW ¼, Section 8, Township 19 North, Range 3 East, Cascade County, Montana. The proposed acquisition is 4 acres.

**Description of Proposed Work:** The site will be developed as a FAS. A new 16 to 24 feet wide gravel access road, approximately 0.8 miles long, will be constructed. A fence located along the proposed access road will be removed and replaced and two gates will be installed. In addition, a gate will be installed at the beginning of the road. A parking area will be constructed with six truck/trailer parking spaces (14 foot by 45 foot) and one ADA parking pad (17 foot by 45 foot). A precast vault latrine will be installed. There will be a non-motorized, carry-in boat launch area at the site. Signs will be posted stating hours of operation and general rules for the site.

[Y] A. New roadway or trail built over undisturbed land?
Comments: A 16 to 24-foot wide gravel road will be constructed, approximately 0.8 miles long.

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

[Y] C. Any excavation of 20 c.y. or greater?
Comments: A new road and parking lot will be constructed.

[Y] D. New parking lots built over undisturbed land or expansion of existing lot that increases parking capacity by 25% or more?
Comments: A new parking lot will be constructed with six truck/trailer parking spaces (14 foot by 45 foot) and one ADA parking pad (17 foot by 45 foot).

[ ] 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:

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

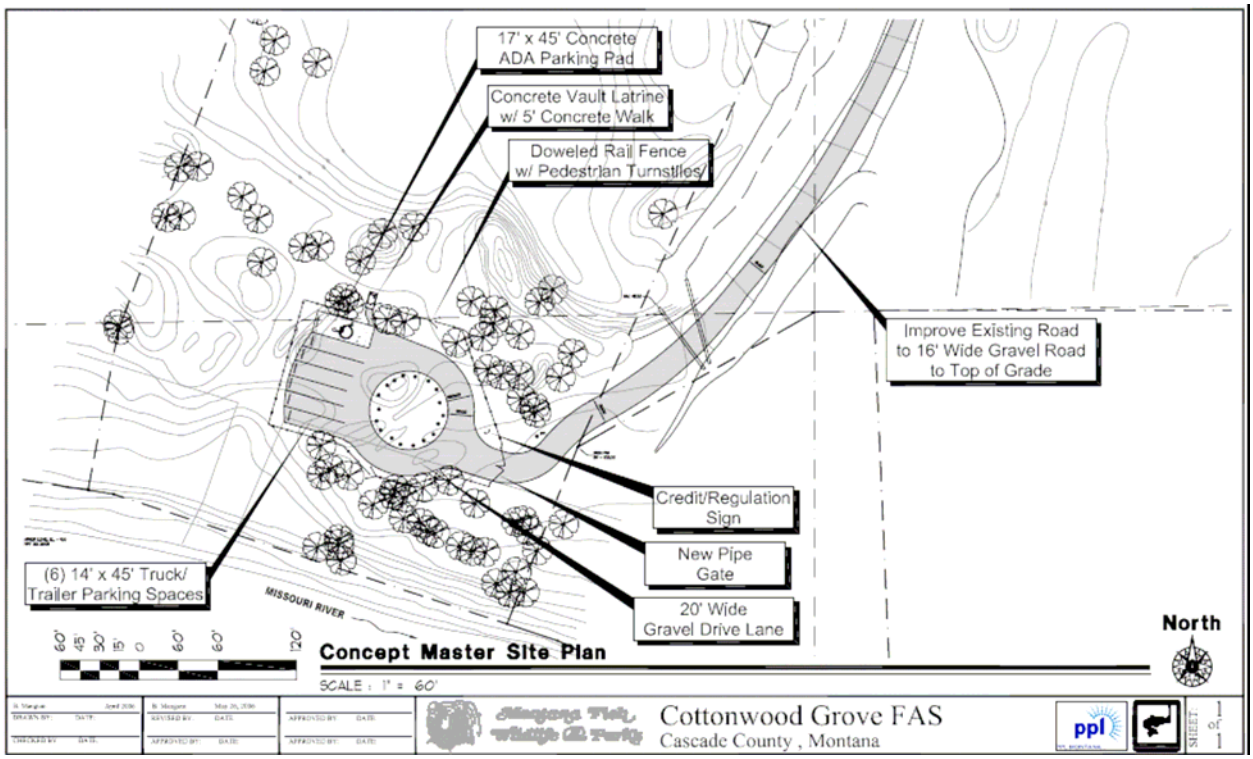
[ ] H. Any new above ground utility lines?
Comments:

[ ] 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
## Site Plan



# APPENDIX 3
## TOURISM REPORT
## MONTANA ENVIRONMENTAL POLICY ACT (MEPA)/HB495

The Montana Department of Fish, Wildlife and 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 and project description portions and submit this form to:

Victor Bjornberg, Tourism Development Coordinator
Travel Montana-Department of Commerce
PO Box 200533
1424 9th Ave.
Helena, MT 59620-0533

**Project Name:** Cottonwood Grove Proposed Fishing Access Site Acquisition and Development

**Project Description:** Purchase Cottonwood Grove FAS on the Missouri River. The site will be developed as a FAS. The site will be open only during daylight hours. A new access road will be installed. The access road will run along the edge of Mr. Lilienthal's retained property. It will be 16 to 24 feet wide gravel road, approximately 0.8 miles long. A fence located along the proposed access road will be removed and replaced and two gates will be installed to allow access for Mr. Lilienthal to his gravel mines. In addition, a gate will be installed at the beginning of the road to prevent nighttime access to the site if necessary and if volunteers are able to shut the gate. A parking area will be installed with six truck/trailer parking spaces (14 foot by 45 foot) and one ADA parking pad (17 foot by 45 foot). A precast vault latrine will be installed. There will be a non-motorized, carry-in boat launch area at the site. Signs will be posted stating hours of operation and general rules for the site.

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

As outlined in the EA, this proposed FAS will increase the amount of public access to the Missouri River between the Big Bend and Ulm. This will provide the public – resident and non-resident – more opportunities for river recreation which has the potential to increase visitor use and spending in area communities.

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

As proposed, the project appears to improve the quality and increase the quantity of recreation/tourism opportunities in this area.

Signature Victor A. Bjornberg, Travel Montana, Montana Dept of Commerce
_____ Date August 30, 2005

**Appendix 4**
**SHPO Consultation**

PPL Montana, 45 Basin Creek Road, Butte, Montana 59701

PPL MONTANA, LLC

Dr. Mark Baumler
State Historic Preservation Officer
State Historic Preservation Office
Post Office Box 201202
Helena, MT 59620-1202

, Stan
, Fesc
, PPL, Missouri Madison Fishing Access Sites

February 23, 2004

**RE:** Missouri-Madison Project 2188 - CRM: Proposed Fishing Access Sites

Dear Dr. Baumler:

PPL-Montana (PPLM) is proposing to fund development of two public fishing access sites on the Missouri River. In accordance with the provisions of the management plan for Cultural Resources on the Missouri- Madison Hydroelectric Project; PPLM sponsored an inventory for cultural properties at both of the proposed sites. A copy of the report on that inventory is enclosed for review and comment by your agency.

In order that we may proceed in a timely manner, we need your agency's comments on the inventory and it's findings on or before March 23, 2004. If you have any questions on the work or the enclosed report, please contact Mr. James J. Shive, Legacy Consulting Services, Butte, Montana (406-782-5663).

We appreciate the opportunity to work with your agency in this matter.

CONCUR
NO PROPERTIES ON OR ELIGIBLE
FOR NRHP APPEAR LIKELY TO
EXIST WITHIN PROJECT IMPACT AREA
MONTANA SHPO
2/26/04 SIGNED

Sincerely,

Jon H. Jourdonnais,
Director Hydro Licensing and Compliance

enclosures

cc: Mr. James J. Shive, LCS

**Appendix 5**
**Weed Management Agreement**

# MONTANA FISH, WILDLIFE AND PARKS CASCADE COUNTY WEED CONTROL DISTRICT

## COTTONWOOD GROVE FISHING ACCESS SITE
## Lilienthal Acquisition
## Noxious Weed Management Plan
## 07 April 2006

## Introduction

Senate Bill 259, enacted in the 2005 Montana Legislative Session, requires that property transferred to nonfederal public ownership be inspected for noxious weeds and that a weed management agreement or plan be developed which is to be part of the purchase agreement.

**Montana Code Annotated**

**7-22-2154. Public purchase or receipt of property -- weed management plan.** (1) Except as provided in subsection (4), prior to the purchase of real property with public funds or the receipt of real property by a nonfederal public entity, the purchaser or grantee shall have the property inspected by the county weed management district. The county weed management district's report regarding the property must be filed with the purchaser or grantee. The costs associated with the inspection must be borne by the seller or grantor.
(2) If the report indicates that there are noxious weeds present on the property, the purchaser, seller, grantee, or grantor shall develop a noxious weed management agreement to ensure compliance with the district noxious weed management program. However, unless the parties agree otherwise, a seller or grantor is obligated by a noxious weed agreement only until the property sale or transfer is completed. Except as provided in subsection (4), the weed management agreement must be incorporated into the purchase agreement.
(3) The provisions of this section do not apply to:
(a) the state acquisition or disposition of a public right-of-way pursuant to Title 60, chapter 4; or
(b) lands sold or purchased through land banking pursuant to 77-2-361 <../../77/2/77-2-361.htm> through 77-2-367 <../../77/2/77-2-367.htm>.
(4) If a transfer of property will occur during the winter months when the ability to identify noxious weeds is significantly reduced by snow cover, the purchaser, seller, grantee, or grantor may request a 6-month extension for completion of the inspection and any noxious weed management agreement that may be required. If, upon inspection, it is determined that a noxious weed management agreement is necessary, unless otherwise agreed by the parties, the purchaser or grantee is responsible for implementing the provisions of that agreement.

**History:** En. Sec. 1, Ch. 395, L. 2005.

Montana Fish, Wildlife & Parks is proposing to acquire a 4.0356-acre tract (known as the Lillienthal property) that lies along the Missouri River approximately 10 miles south of Great Falls.

## Goals

The goals of this weed management plan are to:

- Comply with SB259 and MCA 7-22-154 and all other noxious weed laws.
- Maintain healthy, weed resistant plant communities that meet objectives of the Fishing Access Program.
- Reduce the impact of noxious weeds on plant, animal, and human communities.
- Minimize potentially adverse environmental effects of weed management activities.

## Current Condition

Vegetation on the Lilienthal property consists primarily of mature cotton wood trees and native grasses however there is a severe infestation of leafy spurge on approximately 80% of the property and a large area covered with spotted knapweed, 5%, and there are some houndstongue and mullen plants. There is a diverse age group of cottonwood trees, willow, and bulrush. Weed management applications will need to take into account the riparian vegetation as well as the river corridor.

## Proposed Weed Management Practices

Montana Fish, Wildlife & Parks will assume responsibility for managing noxious weeds on the entirety of the property and along the access road once it holds.

An integrated approach will be applied that will take into consideration site-specific conditions and fishing access program objectives. All available tools of an integrated system will be considered and applied where appropriate to manage existing infestations including chemical, biological, mechanical, and cultural methods.

Applications of herbicide will be preformed by a commercial contractor, or county weed district. Mowing will be employed where possible and deemed effective. Digging or pulling weeds will be conducted on a limited basis.

Access by public vehicles will be prohibited, except for the designated routes and parking areas to minimize new weed introductions. Periodic inspections will be conducted to detect new invaders.

## Agreement

With this plan for noxious weed management on the Lilienthal property referred to as the Cottonwood Grove Fishing Access Site, both parties acknowledge that noxious weeds are

present on the property and the proposed action to manage them is reasonable and practical.

| | |
|---|---|
| Montana Fish, Wildlife & Parks | Cascade County Weed Control |
| _____ | _____ |
| Date: _____ | Date: _____ |

# Appendix 6

**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.

I:\Allan\BMP\Final FAS BMPs.doc