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

PPL MONTANA, LLC

PPLM-Mystic-2635

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street
Washington, D.C. 20426

August 2, 2010

RE: Filing Mystic Lake Project Wildlife Plan per December 17, 2007 Commission Order

Dear Secretary Bose:

Herein attached, is the Mystic Lake Project Wildlife Plan per Appendix B USFS 4(E) Condition 12 of the December 17, 2007 Commission Order Issuing New License (effective January 1, 2010). PPL Montana has completed this Wildlife Plan in consultation with the USFS. USFS signature of approval is included on page 2.

Sincerely,

Jon Jourdonnais
Manager Hydro Licensing and Compliance

Cc: Doug Epperly, USFS
Terry Jones, USFS
Barb Pitman, USFS
Frank Pickett, PPLM
Gordon Criswell, PPLM
Dave Kinnard, PPLM
Ginger Gillin, GEI
Kristi Webb, M-M

By signature below, the USFS approves this Mystic Lake Project Wildlife Plan filing with the Commission.

Chris Worth

Name

Deputy Forest Supervisor, Custer NF

USFS Position

7/26/2010

Date

Wildlife Plan
Public
Mystic Lake Hydropower Project
FERC Project Number 2301

Submitted to:
Federal Energy Regulatory Commission
888 First Street NE
Washington DC 20426

Submitted by:
PPL Montana, LCC
45 Basin Creek Road
Butte, Montana 59701

With Assistance from:
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3011 Palmer Street
Missoula, Montana 59808

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1.0 Introduction

On December 17, 2007 the Federal Energy Regulatory Commission (Commission) issued an Order Issuing New License for the Mystic Hydropower Project (Project No. 2301), effective January 1, 2010. Included in this license is U.S. Forest Service (USFS) Appendix B Section 4(e) condition 12[1].

Condition No. 12 states:

> *Within one year of License issuance, the Licensee shall consult with the Forest Service (a member of the Mystic Lake Wildlife and Terrestrial Habitats Technical Advisory Committee) to begin implementation of wildlife species protection, mitigation, and enhancement measures. The committee will provide recommendations for appropriate improvements at the PPL Montana camp and other project facilities. At a minimum, the Licensee shall complete the following wildlife protection measures during the term of the new License.*
>
> *Bear-Human Interactions*
>
> *The Licensee shall undertake actions to minimize potential for human/bear conflicts. At a minimum, the following actions shall be taken beginning in calendar year 2007:*
>
> - *Install and maintain a bear-resistant refuse container at the PPL Montana camp.*
> - *Install and maintain bear-resistant refuse containers and solid waste collection in recreational areas surrounding West Rosebud Lake (Re-regulation Dam).*
> - *Throughout the term of the License, collaborate with the Forest Service for any future maintenance of bear-aware sign postings within the project area.*
>
> *Raptor Protection*
>
> *The Licensee shall undertake actions to reduce potential for mortality of bald eagles and other raptors. At a minimum, the following actions shall be taken:*
>
> - *Update the Project transmission lines (A and B lines between Line Creek Substation and Mystic Lake Powerhouse) per accepted raptor safety standards as lines are replaced or upgraded for maintenance purposes.*
> - *Update all Project distribution lines, including the lines located along the trail from the powerhouse to Mystic Lake, the lines adjacent to the flow line, and the lines around the housing compound per accepted raptor safety standards as lines are replaced or upgraded for maintenance purposes.*

[1] See Appendix B of License, Section 4(e) Terms and Conditions filed May 3, 2007 and modified by filing of November 30, 2007.

Bald Eagle Monitoring

The licensee shall establish a baseline of bald eagle use of West Rosebud Creek and associated water bodies from the Mystic Lake Trailhead to the outlet of Emerald Lake and determine disturbance effects of recreation on bald eagles. At a minimum, the Licensee shall:

- *Conduct bald eagle monitoring for each of the first three years after License* issuance*, then every five years for the term of the new project license.*
- *File a progress report of the monitoring and determination of effects with the Commission within one year of the completion of the first 3-year survey, followed by subsequent reports within one year of the completion of each additional survey conducted on a 5-year interval.*

Harlequin Duck Survey

The Licensee shall determine the presence or non-detection of Harlequin ducks along West Rosebud Creek from the Forest Service boundary upstream to the powerhouse and determine disturbance effects of recreation on Harlequin ducks. At a minimum, the Licensee shall:

- *Conduct surveys annually for the first five years after License issuance, then survey incrementally in future years if warranted.*
- *File a progress report of the monitoring and determination of effects with the Commission within one year of the completion of the 5-year survey.*

PPL Montana submitted a draft of the Mystic Lake Wildlife Plan for review and comment. This Wildlife Plan will be implemented for a period of 10 years (i.e. until January 1, 2020) and revised every 10 years thereafter for the duration of the 40 year Mystic Project License.

2.0 Wildlife Plan

The following sections outline the protection, mitigation, and enhancement (PM&E) measures that comprise the Mystic Lake Wildlife Plan (Wildlife Plan). The Wildlife Plan was developed in consultation with and approved by the USFS. The Wildlife Plan focuses on concerns regarding bear-human interactions, raptor protection, and the presence of and potential impacts from the project on bald eagles and harlequin ducks. A figure of the project area for reference of the FERC Project boundary and PPL Montana facilities is provided in Figure 1.

2.1 Bear-Human Interactions

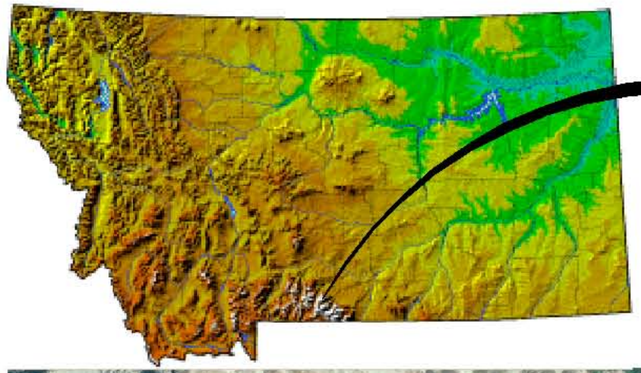
There is a concern for the safety of wildlife and recreationists regarding bear-human encounters. Recreational use in the Mystic Lake Project area coupled with improper food or trash storage practices can create an unsafe environment for the bears and public.

There is recreational use related to Project facilities (West Rosebud Lake, Mystic Lake, PPL Montana Camp) and non-Project facilities (Pine Grove and Emerald campgrounds, trails) where bear-human encounters have occurred and could occur. The presence of the Project may attract public use of the area thus increasing the potential for bear-human conflicts that could be detrimental to bears and public.

PPL Montana has developed mitigation measures to address the issue of proper food and trash storage around recreational facilities in the Project area. PPL Montana shall implement the following actions to minimize potential for human/bear conflicts.

- Install and maintain a bear-resistant refuse container at the PPL Montana camp.
- Install and maintain bear-resistant refuse containers and solid waste collection in recreational areas surrounding West Rosebud Lake (Re-regulation Dam).
- Throughout the term of the License, collaborate with the USFS for any future maintenance of bear-aware sign postings within the project area.

In 2007, PPL Montana installed several small bear-resistant refuse containers for the USFS campground areas and PPL Montana camp. PPL Montana also continues to contract with solid waste services during the summer months for solid waste collection for one large refuse container placed at one of the parking areas at West Rosebud Lake. PPL Montana will continue to collaborate with the USFS for any future maintenance of bear-aware sign postings within the project area through the term of the license.



PPL MONTANA MYSTIC LAKE HYDROELECTRIC PROJECT

ABSAROKA-BEARTOOTH WILDERNESS

TRANSMISSION LINE CORRIDOR

CUSTER NATIONAL FOREST

FLOWLINE

ABSAROKA-BEARTOOTH WILDERNESS

SURGE TANK

WEST ROSEBUD LAKE

PENSTOCK

PPL MONTANA'S CAMP

LAKE HOUSE

TRANSMISSION LINE CORRIDOR

MYSTIC LAKE

LEGEND

- FERC BOUNDARY
- WEST ROSEBUD CREEK
- ABSAROKA-BEARTOOTH WILDERNESS BOUNDARY
- CUSTER NATIONAL FOREST BOUNDARY
- CUSTER NATIONAL FOREST GRAZING ALLOTMENT

N

0 1000 (IN FEET)

Aerial Photo: Montana 2005 Color NAIP Orthophotos
Projection: Montana State Plane NAD 83

VERIFY SCALE!
THESE PRINTS MAY BE REDUCED. LINE BELOW MEASURES ONE INCH ON ORIGINAL DRAWING.
MODIFY SCALE ACCORDINGLY!

REVISIONS			
NO.	DESCRIPTION	DATE	BY

M:\4421\002\ACAD\ENVIRONMENTAL\RIPARIAN_FIG1.DWG PLOTTED BY:DAN CHILD ON Sep/30/2009

MORRISON MAIERLE, INC.
An Employee-Owned Company
Engineers
Surveyors
Scientists
Planners
3011 Palmer St.
Missoula, MT 59808
Phone: (406) 542-9880
Fax: (406) 542-4801

DRAWN BY: MDH/DRC
CHKD. BY: ESN
APPR. BY: ____
DATE: SEPT. 2009
Q.A. REVIEW
BY: ____
DATE: ____

PPL MONTANA
MYSTIC LAKE HYDROELECTRIC PROJECT
FERC NO. 2301
WEST ROSEBUD CREEK MONTANA

FERC PROJECT BOUNDARY

PROJECT NUMBER 4421.002
SHEET NUMBER V1
DRAWING NUMBER FIG 1

2.2 Raptor Protection

There is a concern that not all poles along transmission/distribution line corridor meet current raptor-safety standards creating a potential electrocution or collision hazard. To address this concern, PPL Montana and the USFS evaluated Project distribution lines in May 2004. The distribution line from the powerhouse upstream to Mystic Lake is mostly below treetop level, and thus is expected to have minimal collision or electrocution hazard potential to avian wildlife. The configuration of the power line from the powerhouse to the surge tank was considered to have the potential to electrocute raptors attempting to perch on the crossarms. Transmission lines (A-line and B-line) are in the process of being updated to meet raptor safety standards when poles are replaced. A total of 54 poles have been replaced on the A-line (20 in 2004, 34 in 2005). Raptor proof framing was used on all poles replaced. PPL Montana estimates that approximately 30 more poles will need to be replaced on the A-line and about 14 poles will need to be replaced on the B-line.

To address the concern of the potential raptor electrocution or collision hazard posed by the transmission/distribution lines, PPL Montana has developed the following measures to reduce potential for mortality of bald eagles and other raptors.

- Update the Project transmission lines (A and B lines between Line Creek Substation and Mystic Lake Powerhouse) per accepted raptor safety standards as lines are replaced or upgraded for maintenance purposes.
- Update all Project distribution lines, including the lines located along the trail from the powerhouse to Mystic Lake, the lines adjacent to the flow line, and the lines around the housing compound per accepted raptor safety standards as lines are replaced or upgraded for maintenance purposes.

2.3 Bald Eagle Monitoring

There is a concern that human disturbance associated with recreational use may potentially disturb or disrupt bald eagle roosting and foraging behavior during the fall and winter months. Recreational facilities and recreational use are associated with the Project. Eagles forage for fish in West Rosebud Lake (included in the Project boundary), Emerald Lake, and sections of West Rosebud Creek (outside of the Project boundary). Project related recreational use may disturb eagles present in the Project area.

PPL Montana shall establish a baseline of bald eagle use of West Rosebud Creek and associated water bodies from the Mystic Lake Trailhead to the outlet of Emerald Lake and determine disturbance effects of recreation on bald eagles. PPL Montana will implement the following measures.

- Conduct bald eagle monitoring for each of the first 3years after License issuance, then every 5 years for the term of the new project license or until bald eagles are removed from the Forest Service Region 1 Sensitive Species list.
- File a progress report of the monitoring and determination of effects with the Commission within 1 year of the completion of the first 3-year survey, followed by

subsequent reports within 1 year of the completion of each additional survey conducted on a 5-year interval.

The objective of the bald eagle monitoring is to establish baseline of bald eagle use of West Rosebud Creek and associated water bodies from the Mystic Lake Trailhead (powerhouse) to the outlet of Emerald Lake; and determine, if any, disturbance effects from recreation on bald eagles.

PPL Montana will conduct the first bald eagle survey in 2010, starting in October and continuing through February 2011. Similar bald eagle surveys will be conducted in 2011 and 2012. After completion of the 3-year baseline, PPL Montana will conduct a bald eagle survey every 5 years, starting in 2017.

The results of the surveys will determine whether bald eagles are present in the Project area during the fall and winter, the degree of their use of the resources and to identify any potential adverse impacts from human presence or recreational use. PPL Montana will consult with the USFS on any corrective actions, if required, within the conditions of the new license.

The Bald Eagle Monitoring Plan (Appendix A of this document) is taken from Appendix D of Volume IA – Public, Final License Application Exhibit E (December 15, 2006).

2.4 Harlequin Duck Survey

Anecdotal evidence indicates the Harlequin duck may be present in the Project area. If the species is present, there are two issues to be resolved: 1) potential for increased disturbance of Harlequin ducks, if the species is present in the Project area, as a result of recreational use along West Rosebud Creek, West Rosebud Lake, and Emerald Lake; and 2) potential future modifications to the hydrograph caused by Project operations to accommodate whitewater recreation that may affect nesting habitat, if the species is present.

Human presence is related to existing recreational opportunities in the Project area. Several recreational opportunities such as whitewater, fishing, flatwater boating, hiking, camping are related to non-Project facilities (West Rosebud Creek downstream of the powerhouse, Emerald Lake, Emerald campground, Pine Grove campground, Mystic Lake Trail) and Project facilities (West Rosebud Lake, Mystic Lake). Consequently, recreational use could potentially disrupt Harlequin duck nest success, if the species is found to be present.

As a result of the uncertainty regarding the presence of the Harlequin duck and potential impacts the Project and associated recreationists may have; PPL Montana has developed a protocol to survey for Harlequin ducks. The objective of the survey will be to determine presence of Harlequin ducks along West Rosebud Creek from the USFS boundary upstream to the powerhouse as well as determine disturbance effects related to recreationists, specifically whitewater boaters and fisherman, if the species is present. The Harlequin duck survey will be conducted as follows:

- Conduct surveys annually for the first 5 years after License issuance, then survey incrementally in future years if warranted.

- File a progress report of the monitoring and determination of effects with the Commission within 1 year of the completion of the 5-year survey.

PPL Montana will conduct the first Harlequin duck survey in May 2010 and continue annual Harlequin duck surveys through 2015. After completion of a 5-year baseline, PPL Montana will consult with the USFS to determine if additional surveys or conservation actions are warranted and file these results with the Commission.

The Harlequin Duck Survey (Appendix B of this plan) is taken from Appendix E of Volume IA – Public, Final License Application Exhibit E (December 15, 2006).

2.5 Schedule and Reporting

A summary of the wildlife resources identified in the previous sections, the PM&E measures, the schedule for implementation, and reporting requirements are provided in Table 2.5-1.

Table 2.5-1 Summary of wildlife resources, PM&E measures, schedule for implementation, and reporting requirements to FERC.

WILDLIFE RESOURCE	COMPONENTS OF PM&E MEASURE	SCHEDULE TO START IMPLEMENTATION	REPORTING REQUIREMENTS
Bear-Human Interactions & Grizzly Bears	Install and maintain bear proof refuse container at the PPL Montana Camp.	2007	None
	Collaborate with the USFS for any future maintenance or bear aware sign postings	Term of License.	None
Raptors Protection	Bring transmission lines (A-line, B-line) to current raptor safety standards as repairs are made.	As line repairs are made through the term of license.	None
Bald Eagles	Bald eagle monitoring annually for 3 years (2010-2012) then every 5 years (2017) after new license.	2010	Within 1 year after 3 year baseline study.
Harlequin Duck	Harlequin duck survey annually for 5 years after new license (2010-2015).	2010	Within 1 year after 5-year baseline study.

3.0 References

Greater Yellowstone Bald Eagle Working Group. 1996. *Greater Yellowstone bald eagle management plan:* 1995 Update. Greater Yellowstone Bald Eagle Working Group, Wyoming Game and Fish Dept. Lander, WY, 82520. 47 pp.

Harmata, Al and B. Oakleaf. 1992. Bald Eagles in the Greater Yellowstone Ecosystem: *An Ecological Study with Emphasis on the Snake River, Wyoming.* Published by Wyoming Game and Fish Department, Cheyenne, WY.

Hendricks, P. and J.D. Reichel. 1998. *Harlequin Duck Research and Monitoring in Montana*: 1997. Prepared for ASARCO, Inc., Troy, Montana.

Robertson, G. J., and R. I. Goudie. 1999. Harlequin Duck (*Histrionicus histrionicus*). *The Birds of North America*, No. 466 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Appendix A Bald Eagle Monitoring Plan

A.1 Introduction

Management of bald eagle wintering and migration habitat should focus on freedom from human harassment. Risks to eagles include loss of perching, foraging, and roosting opportunities due to human disturbance (Greater Yellowstone Bald Eagle Working Group 1995). Monitoring seasons in the Greater Yellowstone Ecosystem include fall – Oct. 1 to Nov. 15, and winter – Nov. 16 to Feb. 28 (Harmata and Oakleaf 1992).

A.2 Objectives

Establish baseline of bald eagle use of West Rosebud Creek and associated water bodies from the Mystic Lake Trailhead to the outlet of Emerald Lake; determine disturbance effects of recreation on bald eagles.

A.3 Method

Drive road, looking for eagles along creek, lakes, and lake shores. Stop periodically and search through binoculars.

A.3.1 Survey

- Route: Mystic Lake trailhead parking area to outlet of Emerald Lake.
- Monitor weekly, weather permitting, or at a minimum every other week from Oct. 1 to Feb. 28.
- Conduct monitoring for each of the first three years after license issuance, then once every five years for the term of the new Project license or until bald eagles are removed from the Forest Service Region 1 Sensitive Species list.
- Record data on Midwinter Bald Eagle Survey Standardized Form adapted for the Project. Include observed recreation activity, if any, along creek and at lakes during time of survey. This survey method is consistent with the Nationwide Midwinter Bald Eagle Survey. The USFS recognizes that some portions of West Rosebud Creek will not be visible from the road.
- If warranted, adapt future monitoring method and timing to better monitor disturbance effects of recreation on bald eagles.
- Report date and location of incidental sightings outside survey period to the Beartooth Ranger District wildlife biologist.

Progress of the measure will be filed with the Commission within 1 year of the completion of the first 3-year survey, followed by subsequent reports within 1 year of the completion of each additional survey conducted on 5-year interval for the term of the license. The Mystic Wildlife and Terrestrial TAC will meet annually to discuss progress of the PM&E measure.

****

MIDWINTER BALD EAGLE SURVEY
STANDARDIZED SURVEY FORM
ADAPTED FOR MYSTIC LAKE HYDROELECTRIC PROJECT FERC No. 2301

_____
YEAR

Note: Please complete ALL sections of this form.

Survey Site Location

1. State: Montana Survey Site Number:_____

2. Drainage or Body of Water: West Rosebud Creek

3. Site Name:

4. County or Counties: Stillwater/Carbon

5. Start Point:_____

6. End Point:_____

7. Did this year's survey cover the same area that has been surveyed on this route in past years? (Circle One) **Y N**

Survey Procedures

1. Survey Date:_____ 2. Time at Start:_____ 3. Total time of survey (minutes):_____

4. Roost or nonroost <circle one>

5. Continuous Route, Fixed Point, or Both

6.Total Miles Surveyed_____*

* The total miles surveyed should be the amount of shoreline or other habitat that is observed. For a route along a river, it is usually the one-way direction that the vehicle or aircraft travels along the river. On a lake or reservoir, it is the amount of shoreline habitat that is viewed (from one or many viewpoints).

7. Survey Method (*Circle All That Apply)*:

Road Vehicle Foot Travel Fixed Point Boat Vehicle/Fixed Point Other_____

Survey Results

1. Total Bald Eagles Counted:_____ No. of Adults:_____ No. of Immatures: _____

No. of Unknown Age: _____

Location of bald eagles (plot on map and/or record GPS coordinates if possible):

_____

2. Total Golden Eagles Counted:_____ No. of Adults:_____

No. of Immatures:_____ No. of Unknown Age: _____

3. Number of Unidentified Eagles Counted (*not identified to species):* _____

Recreation Use During Survey

Fisherman present during survey? Yes No

Locations and number at each location: _____

Estimated minimum distance to nearest bald eagle: _____

Other recreationists present during survey? Yes No

Locations and number at each location: _____

Estimated minimum distance to nearest bald eagle: _____

Observers

1. Name of Recorder: _____

2. No. of Observers:_____

3. Address:_____

City:_____ State:_____ Zip:_____ Email:_____

Phone:_____

4. Affiliation:

PPL Montana
USFS
Other_____

General Weather and Ice Conditions

*Temperature:*_____F. *Precipitation:* None Snowy Rainy

Was there fog at any time during the count? Yes No

Was there precipitation at any time during the count? Yes No

Wind: ___No wind (calm or <1 mi/hr)
___Light wind (breezy or 1-7 mi/hr)
___Moderate wind (windy or 8-18 mi/hr)
___Strong wind (gusty to >18 mi/hr)

Cloud Cover: Clear Foggy then Clear Foggy Partly Cloudy Cloudy then Clearing Cloudy

Some ice? Yes No *Percentage of ice cover over entire survey route*:_____%

How did this year's weather compare to past years?

Weather: Very Mild Mild Normal Harsh Very Harsh

Ice: Much Less Than Normal Less Than Normal More Than Normal Much More Than Normal

Comments:

****

Appendix B Harlequin Duck Survey

Although adult Harlequin ducks are relatively tolerant to low levels of disturbance, areas chronically disturbed are abandoned. People fishing may present a problem, since people remain on streams for extended periods of time (Robertson and Goudie 1999).

B.1 Objective

Determine presence/non-detection of Harlequin ducks along West Rosebud Creek from the USFS boundary upstream to the powerhouse; determine disturbance effects of recreation on Harlequin ducks.

B.2 Survey Methodology

- Conduct at least two HADU surveys from May 1-25, at least 1 week apart (Hendricks and Reichel 1998).
- Conduct survey annually for first 5 years, then survey incrementally in future years if warranted.
- If pairs detected in May, return for brood survey in late June – early August (as per Jim Sparks, Wildlife Biologist, 2/2/2006).
- Method: Slowly hike upstream, scanning the creek and creek banks for Harlequin ducks. Stop periodically and scan through binoculars.
- Record data on standard Harlequin duck survey form.
- If warranted, adapt future survey method and timing to better monitor Harlequin duck presence and use of West Rosebud Creek, and disturbance effects of recreation on Harlequin ducks.

Progress of the measure will be filed with the Commission within 1 year of the completion of the 5-year survey. The Mystic Wildlife and Terrestrial TAC will meet annually to discuss progress of the PM&E measure.

****

Harlequin Duck Survey Form Date_____

Start time:_____ End time:_____Surveyor(s):_____

Stream:___West Rosebud Creek_____

Begin point:_____ End point:_____

Weather:_____

(Temp., wind dir & speed, cloud cover, precip last 24hrs)

Survey type (circle one): FOOT BOAT AUTO Other:_____

Group #_____ # Individuals:_____

Location:_____

(Put on map and/or record GPS coordinates if possible)

Sexes and Ages:_____

Marked?:_____

Circle as appropriate:

Activity	Habitat	Location	Substrate	Channel Type
LO Loafing	BA Backwater	IS Island	CL clay	ST Straight
SW Swimming	PO Pool	LO Loaf	SA Sand	ME Meander
SF Swim/feed	RI Riffle	BA Bank	GR Gravel	CU Curved
FL Flying	GL Glide	ED Edge	CO Cobble	BR Braided
OT Other	RU Run	BT Bank 1/3	BO Boulder	AB Abandoned
	RA Rapid	CE Center		
	PW Pocketwater	EY Eddy		
	LK Lake			

Bank Composition:

TR Trees	SA Sand
SH Shrub	SI Silt
GF Grass/Forb	GR Gravel
MO Tree/shrub mosaic	DE Debris
BE Bedrock	