

Study No. 1 & 2

**Study 1: Archeological
Inventory on Potential Project
Effects: Mystic Lake, West
Rosebud Lake, and Plant
Operating Area**

**Study 2: Inventory and
Evaluation of Plant Operating
Facilities**

**Mystic Lake Hydroelectric
Project FERC No. 2301**

Mystic Lake, Montana

PPL Montana

45 Basin Creek Road
Butte, Montana 59701

October 3, 2005

**MYSTIC HYDROELECTRIC PROJECT
FERC PROJECT NO. 2301
RELICENSING-CULTURAL RESOURCE MANAGEMENT**

**INITIAL STUDY REPORT
2005 STUDY SEASON**

September 28, 2005

I. INTRODUCTION

Cultural Resource Management (CRM) studies needed for support of the relicensing of the Mystic Hydroelectric Project by the Federal Energy Regulatory Commission (FERC) for FERC Project No. 2301 (hereinafter as Project), during the Initial Study Season of 2005, were identified in the revised Study Plans submitted by PPL-Montana (PPLM) on March 1, 2005 and approved by the FERC by letter dated March 21, 2005.¹ These proposed studies were also addressed in more detail, in a general study plan for cultural resources on the Project.² The following document provides an initial report on the progress of these studies in the 2005 study season.

II. ARCHAEOLOGICAL STUDIES

A. Summary of Studies Conducted

The approved Study Plan included inventory for Prehistoric Archaeological Properties (PAP), on the Project. That inventory was conducted in the summer of 2005, in accordance with the methods set out in the approved Study Plans. The following is a summary of the PAP identified in inventory. The specific locations of these properties are not provided, for reasons of confidentiality under provisions of existing Federal law.

Inventory was undertaken for both Prehistoric Archaeological Properties (PAP) and Historic Archaeological Properties (HAP) on the following Project areas:

- **Mystic Lake:** archaeological inventory of the Fluctuation Zone³ (FZ) and in the Backshore Zone (BZ) from the maximum water elevation to 150 feet above that elevation, except in areas of the shoreline which were armored with rock or are rock cliffs.

¹ Robinson, J. Mark –FERC; Letter to Peter J. Simonich, PPLM, March 21, 2005.

² Legacy Consulting Services, 2004: *Mystic Hydroelectric Project Relicensing-Cultural Resource Study Plan* Legacy Consulting Services, for PPL-Montana.

³ Defined as the zone between the maximum high-water and maximum draw down elevations at both Mystic and West Rosebud lakes.

- **West Rosebud Lake:** archaeological inventory of the Fluctuation Zone (FZ) and in the Backshore Zone (BZ) from the maximum water elevation to 150 feet above that elevation, except in areas of the shoreline which are armored with rock or are rock cliffs.
- **Mystic Lake Plant Operating Area:** archaeological inventory of the operating facilities area, as defined by the project boundary.

Standard field methods for pedestrian inventory were used in all inventory areas. Surfaces were inspected for the occurrence of cultural materials and/or the occurrence of cultural features. Inventory was completed on all study areas, as specified in the approved Study Plans. The following summarizes the resources identified.

A. Prehistoric Archaeological Properties

Five open air Prehistoric Native American campsites were identified, with three of those having been previously identified and documented to a limited extent. One of the previously recorded properties had inadvertently been recorded twice by separate researchers with a different record number assigned each time.

All of the PAP are characterized by the occurrence of pieces of chipped stone debitage, occasional chipped stone tools, and stone features. The majority of these features appear to represent either fire hearths, or features reflecting food processing or food preparation activities. In addition, stone features which appear to be stone weirs were also identified at properties 24ST233 and 24ST653. These features suggest the possibility that the acquisition, cooking and processing of fish may have been undertaken by prehistoric peoples occupying at least two PAP at the Project. However, there is considerable question as to when certain fish would have been available as a food resource in some parts of the study area. For example, the stocking of fish in the West Rosebud drainage is reported to date to as early as 1909, when rainbow trout were reported to have been planted in area lakes. However, Marcuson and Poore (1991) only suggest the date could be earlier than 1909.⁴ Whether or not these features are, in fact, fish capture weirs of prehistoric origins, is undetermined at present, and other origins or functions are certainly possible. Also, it is undetermined if these were weirs to try and capture known fish populations or in hopes of capturing fish which the builders may have hoped were there.

⁴ Marcuson Patrick E and Michiel D. Poore 1991-*Fisheries Management Plan for Mountain Lakes in West Rosebud Creek Drainage Montana*. Montana Department of Fish, Wildlife and Parks.

Culturally and temporally diagnostic projectile point forms have been found at all PAP, both during 2005, and in the past by previous researchers. The occurrence of these temporally-diagnostic projectile points suggest occupation of these properties throughout the last 9-10,000 years. All of these PAP appear to contain sufficient information of importance to research in the archaeology of the Project area to be eligible for listing in the National Register of Historic Places (NRHP) under NRHP Criterion D.

One other locale consists of three cairn and hearth features. The character of these features as well as the total lack of any other associated cultural materials strongly suggest they reflect recent, non-historic recreational activities.

III. HISTORIC ARCHAEOLOGICAL STUDIES

The approved Study Plan included inventory for Historic Archaeological Properties (HAP) on the Project. That inventory was conducted in the summer of 2005, in accordance with the methods set out in the approved Study Plans. The following is a summary of the HAP identified in inventory. The specific locations of these properties are not provided, for reasons of confidentiality under provisions of existing Federal law.

Standard field methods for pedestrian inventory were used in all inventory areas. Surfaces were inspected for the occurrence of cultural materials and/or the occurrence of cultural features. Inventory was completed on all areas, as specified in the approved Study Plans. The following summarizes the HAP identified.

Inventory identified two HAP reflecting the historic construction and subsequent use of the Mystic Lake Hydroelectric facilities. One HAP is a locale containing primarily food containers. That HAP appears to reflect domestic activities by work crews who were constructing project facilities. The second HAP consists of an area used as a general dump during both historic and recent times. Several pit features representing other activities of an unknown nature are present. The pits could represent filled-in trash pits from historic occupation of the area since ca. 1926 to unknown dates.

TABLE 1: PAP AND HAP IDENTIFIED

State # (if assigned to- date)	Field #	Summary Description	Cultural Complexes Represented
-	Mystic-A	Prehistoric Native American campsite	Pelican Lake
-	Mystic-B	Prehistoric Native American campsite. Possible stone weir structure identified.	U/K
24ST233, 24ST652,	Mystic-C	Prehistoric Native American campsite. Possible stone weir structure identified.	Agate Basin, Alberta, Bitterroot, Hanna, and Pelican Lake
24ST232	Mystic-D	Prehistoric Native American campsite	Pelican Lake; Late Prehistoric
24ST653	Mystic D ¹	Prehistoric Native American campsite	Hell Gap, Mummy Cave, P. Lake, Late Prehistoric
-	Mystic-E	Trash features in the area of the powerhouse and operator camp.	
-	Mystic -G	Historic Dump	
	Mystic-H	Apparently recent, non-historic stone features	

IV. HISTORIC ARCHITECTURAL-ENGINEERING STUDIES (H-A&E)

A. Plant Facilities and Operator Camp

The approved Study Plan included inventory of Historic Architectural-Engineering Properties (H-A&E) on the Project. That inventory was conducted in the summer of 2005, in accordance with the methods set out in the approved Study Plans. The inventory included all Plant Operating Facilities, other than the associated electric transmission lines, which had been previously inventoried. The following is a summary of the H-A&E properties identified in inventory.

A total of thirty-two buildings and structures were recorded. Of those, twenty-four are components of the hydroelectric generating plant facilities and eight are in the operators' camp.

Preliminary assessment of the Mystic Project Operating Facilities (POF) is that the facility is eligible for listing in the National Register of Historic Places as a District. The District appears to be significant under Criteria A and B, and to retain integrity sufficient to represent its significance. Of the thirty-one resources buildings and structures historically associated with the Mystic Development POF, thirteen have integrity and would contribute to a district, two lack integrity and would not contribute, while the remaining nine consist of buildings and structures of insufficient in size, scale and significance to count as a district resource. The overall integrity of the hydroelectric plant facilities is exceptional. Neither the concrete arch dam nor the powerhouse have been altered in a significant manner since construction and, although the flowline was completely reconstructed in recent years, the other primary components of the water delivery system (intake structure, shaft and tunnel, surge chamber, valve house and penstocks) have seen little modification and retain integrity sufficient to demonstrate their historic, engineering significance.

The operators' camp has four potentially contributing buildings, two non-contributing buildings, and two buildings of insufficient size, scale and significance to count as a district resource. All four of the contributing buildings are primary resources dating from project construction. They are the community house, foreman's house, and two cottages.

B. Mystic Lake Trail

The Mystic Lake Trail was investigated with the goal of determining if it was representative of the work completed by the Civilian Conservation Corps (CCC) in Montana's National Forests during the 1930s depression, as had been suggested in consultations prior to inventory.

A recent and very thorough review of CCC projects in the Custer National Forest found no record or mention of the Mystic Lake Trail.⁵ Sections of the trail average 2 to 3 feet wide, has a dirt path, and is lined by dry-laid rock walls. Rocks in the walls were obviously procured from the adjacent talus slopes. Walls along the lower end of the trail near the powerhouse are only one to two courses high. Much steeper sections of trail further up the mountain slope, however, have very substantial rock walls, standing well over 10 feet tall in places. No physical evidence of CCC construction was identified in the 2005 inventory.

V. TRADITIONAL CULTURAL PROPERTIES

Custer National Forest recommended a review of an ethnographic overview developed by that agency for information on these properties.⁶ That overview has been reviewed. Conducted between 1992 and 1995, the extensive study involved both a review of ethnographic and archaeological data; as well as an extensive series of interviews and meetings with knowledgeable representatives of various tribes with potential interests throughout the Custer National Forest. The study is impressive in the lengths it went to in contacting and interviewing cultural representatives of contemporary tribal communities in order to identify information about areas they considered culturally sensitive within Custer National Forest. The study included consideration of potential TCP in the Beartooth Ranger District of CNF, which is the district within which the Project is located. No TCP were identified in that study within the Beartooth Mountain areas of Custer National Forest.

Consultations continued with the tribes expressing an interest in CRM issues for the relicensing, in the 2005 Study Season. PPLM invited both the Eastern Shoshone and the Crow tribes to participate in the inventory for PAP. The Eastern Shoshone declined to participate, by letter dated March 21, 2005.⁷ The Crow Tribe did not respond at all to the invitation to participate.

⁵ Brownell, Joan L. 2002 - "Civilian Conservation Corps-Bearthooth Ranger District-Custer National Forest" A survey of the records of the CCC on work done in the Custer National Forest. Billings, Montana.

⁶ LaPoint, Halcyon 2003

⁷ Meeks, Edward (Eastern Shoshone Tribe): Letter to John Brumley, Ethos Consultants, March 21, 2005.

**TABLE 2: List of Historic Engineering and Architectural Resources
Recorded
at the Mystic Lake Development and
their Potential Status within a National Register of Historic Places
District**

Field No.	MPC Record No.	Name/Function	Construction Date	Potential District Status
Hydroelectric Generating Plant				
1		concrete arch gravity dam	1926	contributing
2		earth filled embankment	1926	contributing
3		lake house at dam	2003?	non contributing
4		outhouse at dam	1924-25?	not of size/scale
5		helipad at dam	modern	not of size/scale
6		intake structure	1924-25	contributing
7		shaft and tunnel	1924-25	contributing
8		flowline	rebuilt 1950s-90s	non contributing
9		snow shed along flowline	between 1925 and 1939	not of size/scale
10		surge chamber	1924-25	contributing
11		valve house	1924-25	contributing
12		penstocks	1924-25	contributing
13		inclined railroad line	1923-24	contributing
14		tram hoist house	1924-25	contributing
15		engine shed	modern	not of size/scale
16		heliport at surge chamber	modern	not of size/scale
17		outhouse at tram hoist house	1924-1925?	not of size/scale
18		railroad signal shack	1923-24?	not of size/scale
19	9	powerhouse	1924-25	contributing
20		tailrace flumes	1924-25	contributing
21		weirs	1924-25	contributing
22	24-25	domestic water supply system	1924-25?	contributing
23		fountain in powerhouse yard	1935	not of size/scale
24		USGS gauging station	1930s?	non contributing
Operators' Camp				
25	8	community house	1925	contributing
26	7	foreman's house	1925	contributing
27	2	four-room cottage	1925	contributing
28	27	hydrant house	1937	not of size/scale
29	4	four-room cottage	1925	contributing
30		log cabin	ca. 1948	non contributing
31		six-stall garage	ca. 2003	non contributing
/32	13	outhouse	1937	not of size/scale

VI. FUTURE WORK

A detailed report on the archaeological inventory studies conducted in 2005 is in preparation. The report will detail the inventory work undertaken, methods, results and evaluations of the eligibility of identified PAP and HAP for listing in the National Register of Historic Places (NRHP). When completed, that report will be submitted to the FERC, CNF and the Montana State Historic Preservation Officer (SHPO), in order to seek consensus determinations of eligibility for NRHP listing of PAP and HAP identified in the 2005 Study Season. No additional technical study season is anticipated at this time.

Detailed documentation on the inventory of Plant Operating Facilities (POF) and evaluations of NRHP eligibility of those facilities is under preparation. When completed, that documentation would be submitted to the FERC, CNF and the SHPO, in order to seek consensus determinations of eligibility for NRHP listing of POF at the Project. No additional technical study season is anticipated at this time.

It is also anticipated that an assessment of the effects of Project 2301 operation on properties found NRHP eligible, will be undertaken in 2005-2006. That assessment will consider effects to PAP and HAP, arising from Project operation, such as the erosion of these types of properties from the normal operational cycles of Project reservoirs, an/or from other, Project-Associated Actions which could be proposed in the future operation of the Project. The assessment will also consider potential effects to H-A&E properties, which could arise in the future operation of the Project.

Finally, it is anticipated that the inventory data, effects assessments, and a proposed plan for the management of all NRHP-eligible properties on the Project will be drafted as part of the Historic Properties Management Plan (HPMP) in 2006.