NorthWestern Energy
Thompson Falls Upstream Fish Passage Project
Technical Advisory Committee Meeting

Montana Fish Wildlife and Parks
3201 Spurgin Road, Missoula, Montana 59804
December 17, 2015

NorthWestern Energy held the Thompson Falls Technical Advisory Committee (TAC) meeting on December 17, 2015 at Montana Fish, Wildlife and Parks' Missoula office. The meeting started at 9:30am and was adjourned at 2:30pm. A list of attendees, including contact information, is provided at the end of the meeting summary.

Introductions

2015 Activities

- Fisheries Baseline Studies (Brent) – Refer to Power Point
  - Spring Electrofishing – Thompson Falls Reservoir
  - Fall Electrofishing – Above the Islands
  - Fall Gillnetting – Thompson Falls Reservoir
- Ladder Operations and Upstream Fish Passage Summary (Brent) – Refer to PowerPoint
  - 2015 Season – Opened on March 16 and closed on November 9
  - 11,647 fish recorded at the ladder in 2015
- Avista's Bull Trout Transport Program 2015 (≥350 mm adult bull trout)
  - Total of 56 fish captured by Avista below Cabinet Gorge Dam
  - 1 mortality, 15 released downstream of Cabinet Gorge Dam and 40 genetically assigned upstream of Cabinet Gorge Dam
    - 18 to Region 2; 13 to Region 3 and 9 to Region 4
    - 7 bull trout to Thompson River and 2 to St. Regis
      - Of the 7 Thompson River: 2 released about 1 mile downstream of confluence (North Shore Boat Ramp) and 5 released in Thompson River near bridge
  - Slightly above average year for bull trout transports
- Water Quality – No TDG or GBT Monitoring in 2015
- 2015 TAC Funded Activities
  - MSU Graduate Study – Thompson River (Jeff Glaid)
    - Summer 2015 – electrofishing sampling over 575 juvenile bull trout in Fishtrap Creek and WF Thompson River
      - 26 sampling sites in Fishtrap & 10 sampling sites in WFTR
      - Bull trout sizes (100mm to 294 mm)
      - Pit tagged 575 juveniles electrofishing
      - 145 tagged at weirs in tributaries (WFTR & Fishtrap)
      - 22 bull trout out-migrated out of mainstem Thompson River as of December 1, 2015
      - Scanned over 14 km in streams and tributaries using the PIT wand and only found 137 bull trout
        - Discovered that several fish exit tributaries in Fishtrap and move upstream in the mainstem of Fishtrap
        - Radio telemetry data show fish outmigrate 800 m to 2km and then remain stationary
        - Found bull trout mortalities from mink (3 mink dens)
          - 4 tagged bull trout, 14 not tagged bull trout, 3 RBxWCT, 3LL, 1 EB

- Fish Creek Acquisition (Ladd Knotek)
- Bull trout genetics (Little Joe sent to Abernathy)

12:00 PM Lunch Break (*lunch provided*)

2016 Proposals for TAC Funding

Proposals submitted for review during the meeting are attached to the end of the meeting summary.

1) **Beartrap Fork Culvert Removal Project**

Proposal Submitted by: Lolo National Forest- Jon Hanson
Location: Project located on Beartrap Fork Creek a tributary to Fishtrap Creek in the Thompson River drainage. Partial barrier within ½ mile of confluence with Fishtrap Creek.
Total Project Cost: $ 25,400
TAC Funds Requested: $ 11,000

TAC Vote: Unanimous Yes (FWS, MFWP, NorthWestern, CSKT) – TAC would like to receive follow up on progress. Funds are committed to USFS for this work, but the work will likely not be implemented until 2017 and funds will not be transferred until the work is completed.

2) **Cedar Creek Phase 2 Road Relocation and LWD Enhancement Project**

Project Title: Cedar Creek Phase 2 Road Relocation and LWD Enhancement
Proposal Submitted by: Trout Unlimited and Lolo National Forest- Paul Parson, Jon Hanson
Location: Project located on Cedar Creek, just upstream of confluence of Cedar Creek and Oregon Gulch. Forest Road 320
Total Project Cost: $ 74,500
TAC Funds Requested: $ 30,000

TAC Vote: Unanimous Yes (FWS, MFWP, NorthWestern, CSKT) – TAC would like to receive follow up on progress

3) **Genetics Analysis of Bull Trout Samples**

Thompson Falls TAC unanimously agreed to designate $10,000 in support of genetic analysis of bull trout samples upstream of Thompson Falls Dam.

TAC Vote: Unanimous Yes (FWS, MFWP, NorthWestern, CSKT)

MFWP Updates

- Jay Stuckey Retired in Spring
- Harvey Carlsmith is full time
- Mark Deleray and Ryan Kreiner are working filling Jay's position in early 2016

FWP – 2016 Thompson River Studies/Activities

Watershed Coordinator – Thompson River

There is a Lower Clark Fork Watershed Coordinator, Britta Olson that is funded through Avista. FWP has discussed with NorthWestern Energy the potential to expand position into Thompson River area.

Thompson River drainage has three primary land owners (Plum Creek, USFS, and State). FWP will be preparing a proposal to submit to NorthWestern Energy and TAC for review and comment.

Fish Surveys/Sampling in Upper Fishtrap Creek in 2016

Temperatures get warmer upstream, mostly just WCT with occasional BULL, no nonnative species document. Last genetics of WCT in 1990s, proposing to complete genetics WCT in 2016. FWP will fund genetics analysis

Temperature Monitoring in Little Thompson River and Upper Fishtrap Creek in 2016

FWP is proposing additional temperature monitoring in upper Fishtrap Creek and Little Thompson River.

Data from as recent as 2012 is available in the Thompson River Bull Trout Enhancement and Recovery Plan (2013). GEI will provide FWP maps of where recent information was collected. FWP will coordinate with Andy Welch, NorthWestern to review existing data. FWP will identify if additional monitoring is needed and prepare a proposal if TAC funding is to be requested.

Permanent Source of Electricity to the Thompson River PIT tag array

Proposal will be prepared by Brent with costs and sent to TAC for review and vote.

PIT tagging WCT in Fishtrap Creek

Not a proposal for TAC Funding. Other NorthWestern funding resources will be allocated to purchase of PIT tags for WCT.

US Bank (used to be Fidelity) Account Update

December 17, 2015 Account Balance was approximately $138,000
January 1, 2016 – NorthWestern will contribute an additional $100,000
Total 2016 Funds Available: $238,151

Allocated Funds in 2016

- $24,669 MSU 2016 (voted on in 2014)
- $30,000 Cedar Creek Phase 2 Road Relocation & LWD Enhancement Project
- $11,000 Beartrap Culvert Removal (funding to be transferred in 2017)
- $10,000 Genetics (Approximately $3,000 used for Albert Creek samples)

Total Funds Allocated Through TAC for 2016: $75,669

Balance: $162.482

Proposals submitted for review during the meeting are attached to the end of the meeting summary.

Avista Fish Ladder(s)

- 2016 – Avista will implant bull trout captured below Cabinet Gorge Dam(CGD) and assigned to Region 4 with FDX PIT tags
- 2015 – Avista completed construction of the fish handling and holding facility located about 1 mile downstream of CGD. Avista is working with FWP, FWS and IDFG finalize an agreement regarding fish passage upstream of CGD.
- 2016 /17 – Avista anticipates construction of the fish passage to start in 2016/2017 depending on permitting cycle.
- Construction will likely last 18-24 months
- Goal is to have the fish passage facility at CGD operational in 2019

Updates/News

U.S. Fish and Wildlife Service **Columbia Headwaters Recovery Unit Implementation Plan for Bull Trout (*Salvelinus confluentus*)** is available at http://www.fws.gov/pacific/bulltrout/pdf/Final_Columbia_Headwaters_RUIP_092915.pdf

http://www.fws.gov/pacific/bulltrout/

2015 Annual Report Schedule

- Draft Report to TAC for Review – Friday, February 12, 2016
- Comments from TAC Due – March 14, 2016
- Finalize Report, Submit to FWS for Signature Approval – March 23-29, 2016
- E-File with FERC – March 30-31, 2016

Scheduled/Proposed Activities for 2016

- Fisheries Baseline Studies
  - Spring Electrofishing
    - Upper and Lower Reservoir
  - Fall Electrofishing
    - Above Islands
    - Paradise to Plains
  - Fall Gillnetting – Reservoir
- Water Quality total dissolved gas (TDG) and gas bubble trauma (GBT) monitoring
  - TBD based on the April 1 runoff forecast for the USGS Clark Fork near Plains. If the most probable (50%) April 1 runoff forecast is at or above 125%, NorthWestern will monitor for TDG. Below the 125% NorthWestern will not monitor.
  - GBT only monitored if stanchions are tripped on dam.
- Ladder Operations and Upstream Fish Passage 2016
  - Proposing to check ladder daily in 2016 once temperatures reach 23 ºC (same temperature that triggers hoot owl regulations from FWP)
  - Proposing to alternate weir mode (v-notch and orifice) in 2016 when temperatures reach 19 ºC for approximately 4 weeks to see if there is any influence on SMB entering ladder.
    - 98.5 % of SMB were recorded at the ladder in orifice mode in 2011. However, the majority of non-salmonids (including SMB) entered the ladder in August when the ladder was re-opened in orifice mode after been shut down for an extended period of time.
  - Continue to PIT tag mountain whitefish at the ladder in 2016
  - No Floy tagging scheduled for SMB in 2016
- Propose to maintain PIT tag array in the Thompson River in 2016
  - FWP will try and keep the PIT tag array running in the mainstem Thompson River all year (2016)
  - Running the two tributary readers all year will depend on access (portions of winter and high water may affect access)
  - Proposal for permanent source of electricity will be prepared and submitted by Brent to TAC to review and vote
- MSU Graduate Study – Thompson River (Report due December 31, 2016)
- FWP will prepare and submit a proposal for TAC review and voting regarding partial funding for a Thompson River watershed coordinator

- FWP in coordination with NorthWestern will review temperature monitoring data in the Thompson River drainage and identify whether a need for additional monitoring is needed. If additional monitoring needs are identified, FWP will prepare and submit a proposal to TAC for review and a vote.

Scheduling 2016 TAC Meeting(s) TBD

Attendees to the December 17, 2015 Annual Thompson Falls TAC Meeting

Name	Affiliation	Email	Phone
Andy Welch	Northwestern Energy	andrew.welch@northwestern.com	406-444-8115
Brent Mabbott	Northwestern Energy	brent.mabbott@northwestern.com	406-490-1801
Brian Sugden	Plum Creek Timber Company	brian.sugden@plumcreek.com	406-892-6368
Craig Barfoot	CSKT	craigb@cskt.org	406-675-2700 ext 7295
Don Skaar	MFWP	dskaar@mt.gov	406-444-7409
Ginger Gillin	GEI Consultants	ggillin@geiconsultants.com	503-342-3777
Harvey Carlsmith	MFWP	hcarlsmith@gmail.com	406-529-0348
Jeff Glaid	MSU - student	jeffrey.glaid@msu.montana.edu	412-720-7813
Jon Hanson	USFS - Lolo	jrhanson@fs.fed.us	406-822-3919
Jon Jourdonnais	Northwestern Energy	jon.jourdonnais@northwestern.com	406-490-1802
Kristi Webb	New Wave Environmental Consulting, LLC	kwebb@nw-enviro.com	406-239-4884
Ladd Knotek	MFWP	lknotek@mt.gov	406-542-5506
Mark Deleray	MFWP	mdeleray@mt.gov	406-751-4550
Mary Gail Sullivan	Northwestern Energy	marygail.sullivan@northwestern.com	406-497-3382
Paul Parson	Trout Unlimited	pparson@tu.org	406-543-1192
Ryan Kreiner	MFWP	rkreiner@mt.gov	406-827-9282
Shana Bernall	Avista	shana.bernall@avistacorp.com	406-847-1293
Eric Oldenburg	Avista	Eric.oldenburg@avistacorp.com	406-847-1290
Steve Leathe	Northwestern Energy	steve.leathe@northwestern.com	406-268-2347
Wade Fredenberg	USFWS	wade_fredenberg@fws.gov	406-758-6872

Proposals Submitted for TAC Funding 2016

Project Title: Beartrap Fork culvert removal
Proposal Submitted by: Lolo National Forest- Jon Hanson
Location: Project located on Beartrap Fork Creek a tributary to Fishtrap Creek in the Thompson River drainage. Partial barrier within ½ mile of confluence with Fishtrap Creek.

Total Project Cost: $ 25,400

TAC Funds Requested: $ 11,000

Introduction

Beartrap Fork is a large tributary to Radio Creek which flows into Fishtrap Creek in the Thompson River drainage. It is located approximately 2.5 miles upstream of the confluence of WF Fishtrap and Fishtrap Creek. WF Fishtrap is an important spawning tributary and accounts for a substantial amount of reproduction within the drainage. Electrofishing surveys in Fishtrap Creek in 2011 estimated bull trout abundance between 4.7 and 11.7 per 100m in three sites in the upper Fishtrap mainstem. A reach in lower Beartrap Creek was also sampled where 44 bull trout were captured (46.4/100m), and a reach one mile above site 1 observed no bull trout. Bull trout observed in lower Beartrap Creek appeared to be from the same cohort as they all ranged between 97 and 135mm. Repeat sampling in 2014 did not find bull trout in Beartrap Creek. The importance of the drainage in terms of bull trout is not entirely clear, but some occasional use clearly occurs in the lower sections below the culvert barrier. Westslope cutthroat are abundant throughout Beartrap.

Summer temperatures are <15˚C (GEI and Steigers 2013) in Radio Creek/Beartrap Fork. In 2012 at the confluence of Beartrap and Fishtrap the maximum weekly maximum temperature (MWMT) was 12.5˚C whereas the headwaters of Fishtrap Creek exceeded 17˚C. The coolwater inputs from Beartrap illustrate the importance to Fishtrap mainstem and the potential for Beartrap to at least provide thermal refuge to bull trout.

Objectives and Methods

The Forest Service signed a NEPA decision in 2005 in the Fishtrap area that included a variety of forest management activities and watershed restoration work. Since that time the majority of both the forest (harvest, weed spraying, planting) and watershed (LWD additions, BMP work, CMP replacements) work has been completed. The culvert on Beartrap Fork was identified as a partial fish barrier at higher flows, and possibly at low summer/fall flows. Harvest beyond this culvert was identified as a combination of helicopter units and skyline logging. Skyline logging has been completed and reforestation and burning is planned in the future, given the cost of helicopter logging it is unlikely to occur. The road system above this culvert is also slated for decommissioning.

The Forest Service is proposing to remove the culvert and place a temporary bridge at the crossing until reforestation is completed. This would allow immediate fish passage without having to wait ~5 years for the burning and reforestation to occur. Culvert and all fill would be removed and the stream channel reconstructed with natural channel simulation techniques, revegetation would also occur at the

site. Approximately 5 miles of stream would be opened to fish passage. The alternative would be to wait till all forest activities are completed in the drainage and pull the culvert at this time.

Schedule

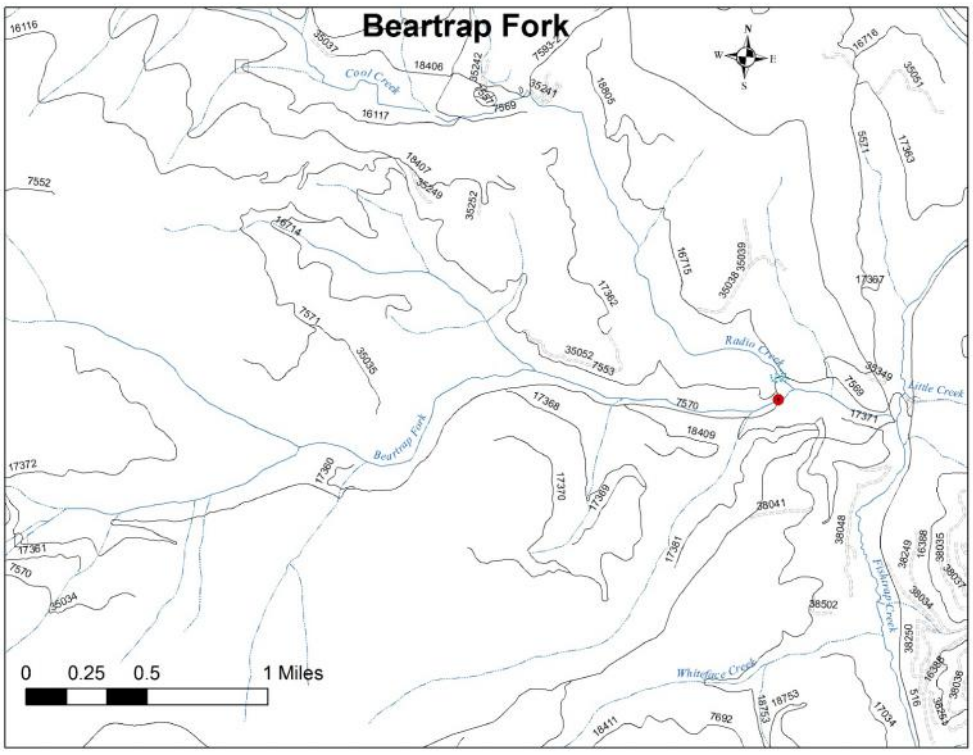
Project implementation is planned for summer of 2016.

Personnel

Jon Hanson from Lolo NF (Fisheries biologist), and Nate Kegel (USFS engineer).

Budget

Culvert and fill removal	$11,000
Temporary bridge installation	$14,500
Total Costs	$25,500
Thompson Falls TAC Request	$11,000
USFS ($7,500 secured)	$14,500



References

GEI Consultants, Inc, and Steigers Corporation. 2013. Thompson River Bull Trout Enhancement and Recovery Plan. Thompson Falls Project No. 1869. Submitted to PPL Montana, LLC. Butte, Montana 59701

Project Title: Cedar Creek Phase 2 Road Relocation and LWD Enhancement
Proposal Submitted by: Trout Unlimited and Lolo National Forest- Paul Parson, Jon Hanson
Location: Project located on Cedar Creek, just upstream of confluence of Cedar Creek and Oregon Gulch. Forest Road 320

Total Project Cost: $74,500

TAC Funds Requested: $30,000

Introduction

Cedar Creek flows northeast from the Idaho/Montana state line for approximately 20 miles before flowing into the middle Clark Fork River. The high elevation and abundant precipitation in the headwaters maintain cold stream temperatures throughout the summer and fall, a key component for resident and fluvial bull trout. The stream has a long history of placer mining, and as a result, much of the riparian corridor is in a disturbed state. In conjunction with placer mining a stream adjacent railroad was constructed to facilitate transport of goods, and then riparian bottom roads were constructed and remain actively used. Habitat within this drainage has been heavily impacted by these activities causing confinement of the stream channel, limiting its natural ability to meander, as well as increased sedimentation, lack of large woody debris that creates fish habitat, and loss of riparian vegetation that stabilizes streambanks and provides shade to cool water temperatures.

Cedar Creek is listed as a Priority Bull Trout Watershed by the Forest Service and was designated as core bull trout habitat by the Montana Bull Trout Scientific Group. The Conservation Strategy for Bull Trout on USFS lands in Western Montana (2013) and the USFWS Bull Trout Recovery Plan (2015) points out that removing riparian roads, improving pool conditions, and restoring mining claims are important activities to improve populations.

Fish Population

Fish populations within Cedar Creek include primarily native westslope cutthroat trout and bull trout. Mountain whitefish (Prosopium williamsoni) have also been documented along with a handful of brown trout (Salmo trutta) in lower Cedar Creek, and eastern brook trout (Salvelinus fontinalis) found in upper Oregon Gulch. Within the Middle Clark Fork, Cedar Creek is unusual in that native bull trout and westslope cutthroat dominate the population and nonnative species are rare in abundance and distribution throughout the watershed. The lack of nonnative competition and overlap with brook trout and brown trout is a noteworthy advantage for bull trout long-term viability.

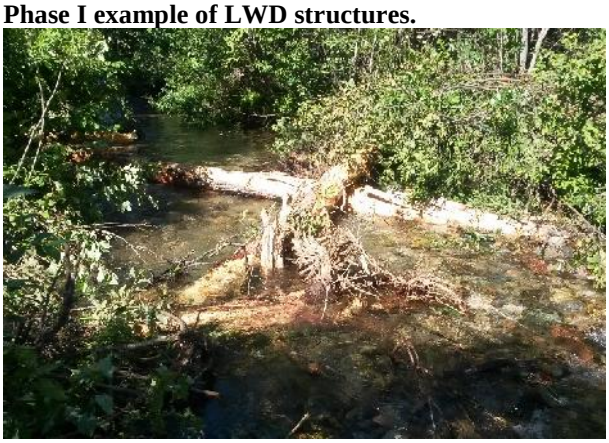
In addition to electrofishing samples bull trout redd counts have been completed in Cedar Creek from 2002 to 2007, and then again in 2014. Redds are difficult to located due to lack of substrate sorting and a primarily resident life form. Counts are annually low and vary from 1-4 observed in reference sections. Redd and electrofishing surveys indicate primarily a resident population of bull trout, although there is evidence of a limited fluvial bull trout component.

In the summer of 2015 phase 1 of the project accomplished realigning 1 mile of stream adjacent road and placing 111 large wood structures in a two mile reach of Cedar Creek. Work was completed between the

mouth of Cayuse Creek and Oregon Gulch where over 10,000 c.y. of material was moved off the floodplain and 312 trees were utilized in LWD jams. Realigning the road reactivated large portions of the floodplain and created buffer strips between the road and stream. Anchored large wood structures will create pools, substrate sorting, complexity, and add meander to the straightened channel over time. Primary benefits in the form of overwintering, spawning, and rearing habitat along with a connected floodplain are expected. Phase 1 project costs were provided by USFS in the amounts of $365,000 and Trout Unlimited for $90,600. The entirety of this funding was provided by USFS and Trout Unlimited.

Phase I example. Pre-implementation photo on the left; post implementation photo on the right.

Phase I example of LWD structures.



Objectives and Methods

This proposal for phase II includes rerouting a 0.18 section of road away from Cedar Creek and installing LWD in that section of stream to connect with work completed in 2015. The existing road alignment would be moved up against the hillside and the entire existing road prism and associated rip-rap would be removed down to floodplain and terrace elevations. This section was identified in the original assessment as an opportunity but sufficient funds were not secured for 2015 work. This reroute section would be one of the largest within the project area and further reduce sediment and provide for properly functioning channel and floodplain processes. Approximately 5-10 LWD structures would be augmented within this area to provide habitat, promote stream meandering and substrate sorting.

Schedule

Securing funding for the project has begun as well as preliminary design. NEPA is expected to occur in 2016 through use of a Categorical Exclusion. Project implementation is planned for summer of 2017 jointly with Trout Unlimited and Lolo National Forest.

Personnel

Paul Parson from Trout Unlimited (Middle Clark Fork Restoration Coordinator), Jon Hanson from Lolo NF (Fisheries biologist), and Nate Kegel (USFS engineer).

Budget

Cedar Creek Road Relocation Phase II		
Road relocation contract and LWD	$65,000	
Survey/design	$7,000	TU & USFS secured
NEPA/permitting	$2,500	USFS secured
Total Costs	$74,500	
Thompson Falls TAC Request	$30,000	
Future Fisheries (to be requested)	$20,000	
USFS (to be requested)	$15,000	

Project overview of existing Forest Road, Cedar Creek and proposed reroute as yellow path.

Project Title: Genetics sampling of Bull Trout
Proposal Submitted by: T Falls TAC
Location of Proposed Project: tributaries above Thompson Falls Dam
Total Project Cost: $10,000
TAC Funds (Cost-Share) Requested: $10,000

I. Introduction. Genetics are used for the mapping of unique Bull Trout populations in tributaries above Thompson Falls Dam. These unique populations must be genetically re-evaluated on a 5 to 10 year basis. This funding will be used for this re-evaluation.

II. Objectives. To keep a current data bank on genetics of Bull

Trout populations above Thompson Falls Dam.

III. Methods. Biologists, with the approval of the TAC, will determine locations and timing of sampling of Bull Trout populations. They will also be required to collect and submit samples of targeted populations.

IV. Schedule. Scheduling will be determined by regional biologists and approved by the TAC.

V. Personnel. Local biologists

VI. Budget must include amounts for the following items:

Expenses $10,000 cost of working samples

VII. Deliverables. All funded projects are required to submit an annual report by January 15 of the year following the project start.

Reports of locations of samples will be submitted and included in annual report.

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this proposal must be completed and documented to PPL Montana as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the PPL Montana representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted. Summarize below how you will complete requirements for Cultural Resource Management:

No disturbance will occur with the work.