

**FUTURE FISHERIES IMPROVEMENT PROGRAM  
GRANT APPLICATION**

*(please fill in the highlighted areas)*

**I. APPLICANT INFORMATION**

A. Applicant Name: Carol Endicott

B. Mailing Address: 1354 Highway 10 West

C. City: Livingston State: MT Zip: 59047

Telephone: 406 222-3710

D. Contact Person: Carol Endicott

Address if different from Applicant:

City:  State:  Zip:

Telephone:

E. Landowner and/or Lessee Name  
(if other than Applicant): Paul and Jean Loyning

Mailing Address: 271 Quarry Road

City: Frannie State: Wyoming Zip: 82423

Telephone: (406) 764-2297

**II. PROJECT INFORMATION\***

A. Project Name: Piney Creek Fish Screen Leak Prevention

River, stream, or lake: Piney Creek

Location: Township 9s Range 25E Section 2

County: Carbon

B. Purpose of Project:

The purpose of this project is seal a leak along the embankment of a pond that supplies water to downstream water users and prevents entrainment of nonhybridized YCT.

C. Brief Project Description:

Piney Creek is a small, spring fed stream that emerges along the west flank of the Pryor Mountains. Pure YCT occupy the available habitat, from where the spring emerges, to where Piney Creek becomes diverted into an irrigation system, which totals about ¾-miles of stream. The Piney Creek YCT population has high conservation value as it is the only potentially aboriginal population left in the Shoshone hydrologic unit. The landowners, Montana Fish, Wildlife & Parks (FWP) and the Bureau of Land Management (BLM) have collaborated to improve habitat and prevent entrainment of YCT in Piney Creek. The fish screens installed in 2009 have greatly decreased the risks of entrainment; however, water is leaking the head gates. Fixing the leak will maintain water levels in the pond and will stop a waste of water, which is scarce in the arid environment.

D. Length of stream or size of lake that will be treated: 140 feet of embankment and pipe

E. Project Budget:

**Grant Request (Dollars):** \$ 25,000

Contribution by Applicant (Dollars): \$ In-kind \$  
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 5,000 In-kind \$  
(attach verification - See page 2 budget template)

**Total Project Cost:** \$ 30,000

F. Attach itemized (line item) budget – see template **SEE Attachment A**

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire ([fwp.mt.gov/habitat/futurefisheries/supplement2.doc](http://fwp.mt.gov/habitat/futurefisheries/supplement2.doc)).

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

### III. PROJECT BENEFITS\*

A. What species of fish will benefit from this project?:

This project will benefit the sole, potentially aboriginal population of Yellowstone cutthroat trout in the Shoshone River hydrologic unit.

B. How will the project protect or enhance wild fish habitat?:

This project will maintain water levels in a reservoir that provides habitat for YCT and prevents loss of fish to the irrigation system.

C. Will the project improve fish populations and/or fishing? To what extent?:

The project will have a beneficial effect on the fish population by decreasing water loss.

Fishing pressure on Piney Creek is negligible. FWP has no data on angling pressure, suggesting only incidental use. The value of this project is best measured in its benefit to native species conservation. This nonhybridized, isolated population is at considerable risk of extirpation and securing nonhybridized populations is the highest conservation priorities.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Piney Creek currently presents one of two opportunities to fish for native YCT in the Shoshone hydrologic unit. (YCT were reintroduced to Sage Creek in 2010). Given the remoteness of Piney Creek, and its small size, angling in Piney Creek is likely an uncommon event. Still, locals, including mine employees, may take advantage of the rare opportunity to catch pure YCT in a unique setting.

E. If the project requires maintenance, what is your time commitment to this project?:

The landowners will maintain the structure.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

Previous projects have improved habitat, resulting in an observable increase in the YCT population. This project will save water by preventing leaking of water around a head gate with a fish screen. This is the second attempt as a less intensive effort reduced leakage by 50%

G. What public benefits will be realized from this project?:

Securing this isolated population of YCT has public benefit as it decreases the justification of including YCT for protection under the Endangered Species Act.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No

J. Is this project associated with the reclamation of past mining activity?:

No

**Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.**

#### IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Sponsor (if applicable):

A large yellow rectangular box with a thin black border, positioned to the right of the 'Sponsor (if applicable):' label.

**\*Highlighted boxes will automatically expand.**

**Mail To: Montana Fish, Wildlife & Parks  
Habitat Protection Bureau  
PO Box 200701  
Helena, MT 59620-0701**

**Incomplete or late applications will be returned to applicant.  
Applications may be rejected if this form is modified.**

## Attachment A: Budget

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES	IN-KIND CASH	TOTAL
<b>Construction Materials</b>								
bentonite and concrete	800	cubic yard	\$11.88	\$ 9,500.00	9,500.00			\$ 9,500.00
<b>Equipment</b>								
Excavation of trench	800	cubic yard	\$20.00	\$ 16,000.00	16,000.00			\$ 16,000.00
<b>Mobilization</b>								
Mobilization	1		\$4,500.00	\$ 4,500.00	4,500.00			\$ 4,500.00
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
				\$ -				\$ -
			<b>TOTALS</b>	<b>\$ 30,000.00</b>	<b>\$ 30,000.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 30,000.00</b>

\*Units = feet, hours, inches, lump sum, etc.

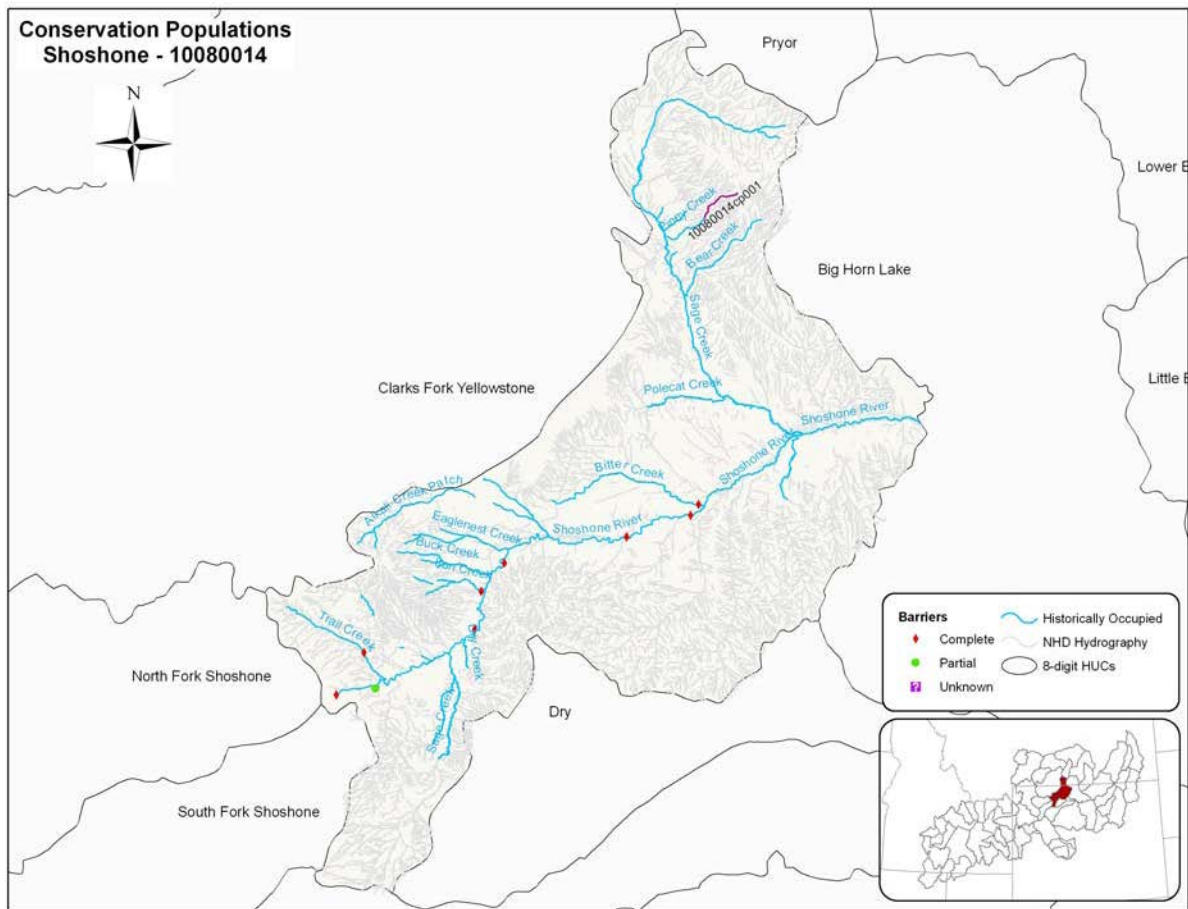
### MATCHING CONTRIBUTIONS

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL
FFIP		\$ 30,000.00	\$ 25,000.00
Magic City Fly Fishers		\$ 3,000.00	\$ 3,000.00
Montana Chapter of the American Fisheries Society		\$ 2,000.00	\$ 2,000.00
<b>Total</b>			<b>\$ 30,000.00</b>

## Attachment B

Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire ([fwp.mt.gov/habitat/futurefisheries/supplement2.doc](http://fwp.mt.gov/habitat/futurefisheries/supplement2.doc)).

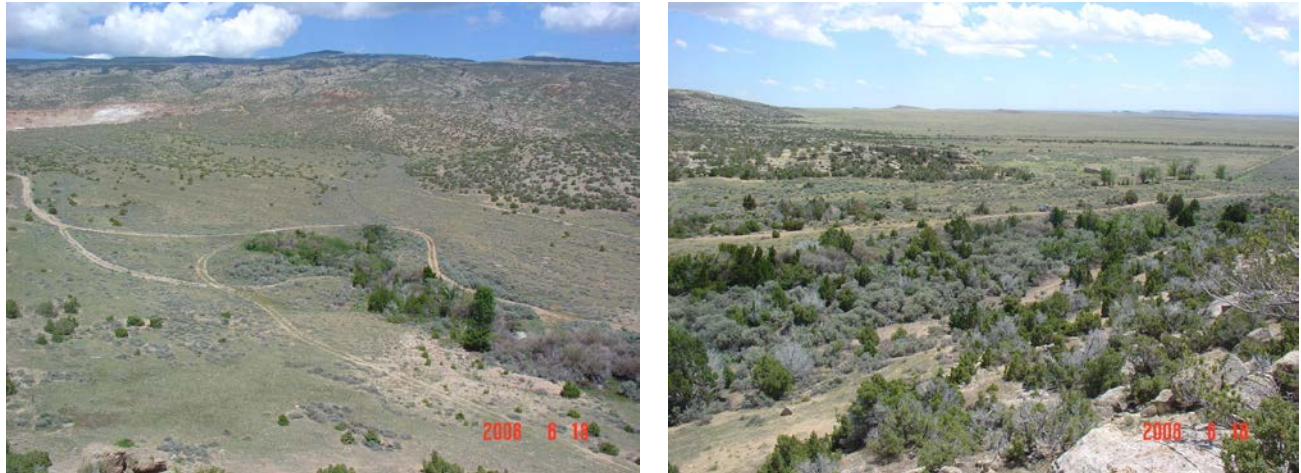
Piney Creek supports the only remaining aboriginal population of Yellowstone cutthroat trout in the Shoshone hydrologic unit (hydrologic unit code [HUC] 10080014), a subbasin encompassing portions of Wyoming and Montana (Figure 1). Historically, YCT occupied an estimated 172 miles of stream habitat in the Shoshone HUC (May et al. 2007). Currently, only  $\frac{3}{4}$  of a mile of Piney Creek is capable of supporting Yellowstone cutthroat trout, as an irrigation system captures all of Piney Creek's flow for most of the year. This means that less than 1% of the Shoshone HUC's historically occupied habitat still support aboriginal YCT. Securing the Piney Creek population and reintroducing YCT into other streams in the HUC are conservation priorities for the Montana portions of the Shoshone River watershed (FWP 2007; Endicott et al. 2012).



**Figure 1: Map of the Shoshone River hydrologic unit showing historic and current distribution of YCT (from May et al. 2007).**

Piney Creek emerges as a spring creek in the foothills of the Pryor Mountains, and flows through semi-arid shrub land (Figure 2) until its confluence with Sage Creek. About 0.75 miles downstream of its origin, Piney Creek is diverted into two irrigation canals. The primary canal receives all available flow during most of the year season,

water flows in Piney Creek downstream of these diversions only during spring runoff or rainstorms.



**Figure 2: Cutthroat trout bearing portion of Piney Creek, showing the springhead and valley.**

In 2009, the Future Fisheries Improvement Program provided funds to install new head gates and reactive an old impoundment. These head gates have screens that greatly reduced risks of entrainment of YCT and have contributed to an observable increase in the number of YCT in Piney Creek. In addition, the BLM and the landowner have improved habitat quality by installing woody debris and riparian fencing. Changes in livestock grazing practices have also contributed to improvement in habitat.

Sampling fish in Piney Creek is difficult as a thick stand of willows occupy much of the riparian area and its closed canopy is impenetrable. Nonetheless, the lack of fish encountered in 8 accessible pools in 2008 suggested a decline in YCT numbers (E. McKenzie, BLM, personal communication). This spring, YCT were abundant in the 375 feet of channel sampled (M. Ruggles, personal communication, FWP). A range of age classes were present, including age-1 fish and adults exceeding 10 inches in length (Figure 3). In addition, several adult fish were seen in the pond.



**Figure 3: Example of adult YCT captured in Piney Creek.**

Although the fish screen and pond construction project is successful from a fisheries perspective, several problems emerged following project completion. The head gates were difficult to operate, making the potential for a swim highly probable for the water user. Ice build-up on the head gates resulted in overflow and flooding in the adjacent area. In addition, the head gates leak, resulting in wasted water (Figure 4).



**Figure 4: Water downstream of leaking embankment.**

FWP has addressed the head gate hazards and ice buildup; however, attempts to fix the leaks have been only partially successful. In 2012, FWP installed 3 bentonite plugs (Figure 5) around the head gates. Two were successful, but the middle gate remained leaky.





**Figure 5: Bentonite plug installed to prevent leaking around the head gates.**

The proposed action to address the leaking embankment and piping is to excavate a 3-ft wide x 6-ft deep x 140-ft long trench across the span of the embankment (Figure 6). The backfill will consist of a slurry mixture of bentonite, cement, and water. Costs associated with this project include mobilization and demobilization, concrete, and bentonite. See Figure 6 for a plan view of the existing embankment and pond.

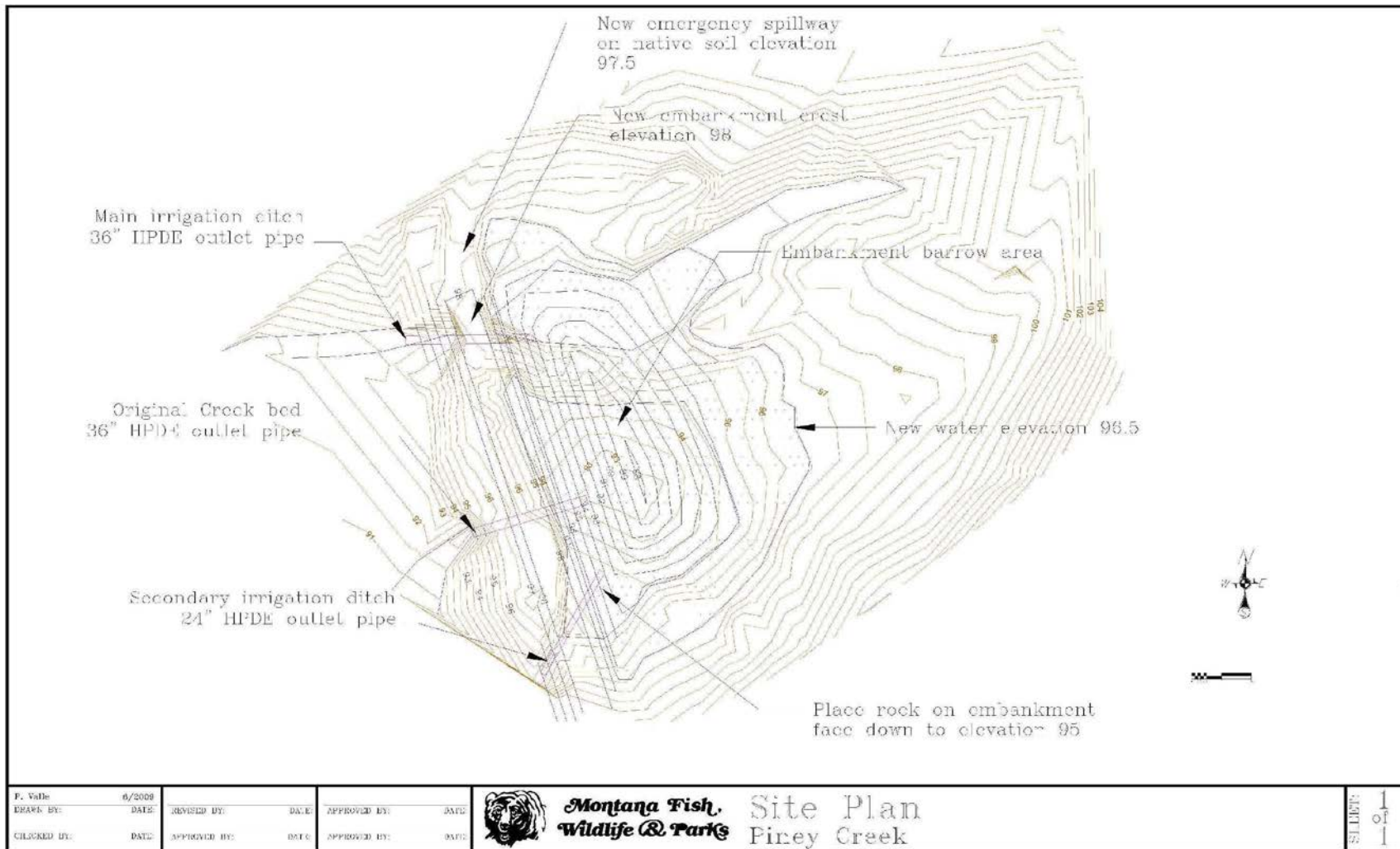


Figure 6: Plan view of the pond, embankment, and head gates.

### ***Literature Cited***

Endicott, C.E. and 12 other authors. 2013. Yellowstone cutthroat trout conservation strategy for Montana. Montana Fish, Wildlife & Parks. Livingston, Montana.

May, B.E., S.E. Albeke, and T. Horton. 2007. Range-wide status assessment for Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*): 2006. Report prepared for the Yellowstone Cutthroat Trout Interagency Coordination Group. Wild Trout Enterprises, LLC. Bozeman, Montana.

Montana Fish, Wildlife & Parks. 2007. Memorandum of understanding and conservation agreement for westslope cutthroat trout and Yellowstone cutthroat trout in Montana. Helena, Montana.

## Evidence of Landowner Consent

June 25, 2009

To Whom It May Concern;

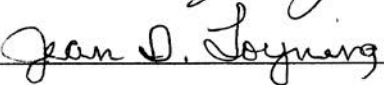
This letter is to acknowledge that Loyning Ranch (Paul and Jean Loyning) do intend to work with FWP of Montana and BLM of Montana to improve the fish habitat on Piney Creek at Warren, Montana. We are willing to pipe water, build fence, not graze specifically listed deeded ground in order to help the habitat thrive. It is understood all material costs will be covered by BLM and FWP with Loyning Ranch furnishing labor towards the project.

Paul W. Loyning



Date: 6-25-09

Jean I. Loyning



Date: 6-25-09