WATERSHED INTEGRITY REVIEW & EVALUATION (WIRE)
PROJECT COVER SHEET

Submission Date: October 13, 2015

Project Title: Restoration of Harriman Canal

Sponsoring Agency/Entity: Henrys' Fork Foundation

Responsible Individual: Brandon Hoffner

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Subwatershed: Upper Henrys Fork hydrologic unit

Project Location: Harriman Canal where it meets then parallels the Henry's Fork of the Snake River to its second return flow point.

Other Agencies & Individuals Involved:

Current partners include Harriman State Park. Input and cooperation from interested agencies, non-governmental organizations, and private entities will be welcome.

Estimate of Project Duration: Two years for planning, contracting with an engineering firm, and construction. October 2015 – October 2017.

Requested Assistance from the Council: (Check All That Apply)

We are requesting WIRE endorsement for this project to: 1) share our plans and project goals with stakeholders and agencies before we implement the project, and 2) provide Council participants with an opportunity to provide technical input.

__X__WIRE Endorsement/Letter of Support
_____ Financial Assistance (budget attached)
_____ Legislative/Political Assistance (specify)
_____ Basic Project Design (in response to a new problem)
_____ Technical Review Only (for ongoing projects)
__X__ Other: We welcome any assistance with logistics that parties are willing and able to provide.

Brief Project Summary (Cover the following: Goals or objectives, benefits, urgency, potential impacts, post-project monitoring and implications if no action taken. Use up to 2 additional sheets if necessary. Use the watershed integrity criteria for guidance in preparing the background discussion).

Background and Need

Numerous anglers and HFF members have called attention to the condition of the trails below the fishermen's access at the north end of Harriman State Park (HSP). An initial review of the problem led to a comprehensive look at the irrigation infrastructure and management of the resources in the immediate area. The major issues include management of the Harriman Canal (or lack thereof) for winter fish use, fish mortality in the canal, decay of infrastructure, sediment deposition in the river, safety and erosion issues along the angler trail that parallels the upper portion of the canal, and general operation and management of the canal.

In 1998, improvements were made to the canal with the idea that the canal could be managed to provide winter habitat for juvenile rainbow trout. Monitoring of juvenile trout use of the canal during the winters of 1998-1999 and 1999-2000 showed that it is possible to provide habitat for juvenile trout in the canal, but the number of fish that can survive the winter in the canal is small, fewer than 100. The benefit-to-cost ratio of managing the canal for winter trout survival is very small, especially considering that we now know that the Buffalo River is producing tens of thousands of juvenile trout each year. Based on those findings, the relevant management agencies and stakeholders should consider formally abandoning management of the canal to provide winter habitat for juvenile trout. Without the need to manage the canal to provide winter habitat, a fish screen could be installed on the canal to prevent fish from entering the canal, thereby eliminating the possibility of fish mortality in the canal. Resources could also be better spent on continued operation of fish passage at the Buffalo River and on habitat enhancement in the Buffalo and its tributaries.

The issues with infrastructure, erosion, and seepage lead to the need to repair the canal and headgates to: 1) allow precise measurement and control over the amount of water being diverted, 2) eliminate seepage at the top end of the canal that is contributing to the erosion and safety issues along the angler trail, and 3) eliminate erosion and bank failure along the canal itself. After we develop plans for improvement/installation/elimination of canal infrastructure, we need to develop and implement a plan to address safety and erosion issues on the angler trail that are associated with the canal and its infrastructure.

Goals

Given that the canal is in visible disrepair, Harriman State Park and the Henry's Fork Foundation envision a project that repairs Harriman Canal, installs a fish screen at the point of diversion, updates irrigation infrastructure, and minimizes damage to the riverbank trail and the river itself.

1. Reduce fish mortality
2. Decrease sediment deposition in the river
3. Mitigate safety and erosion issues along the angler trail that parallels the upper portion of the canal
4. Improve the plan for the general operation and management of the canal

Restoration Plan

The exact methods best suited to reach the goals of the project are not fully vetted at this time and will require the assistance of resource professionals, along with discussions among multiple agencies and stakeholders through the Henry's Fork Watershed Council. Project outcomes along the way could also direct the remaining scope of work.

- Contract with an engineering firm to establish a full scope of work for the project
- Construction to repair Harriman Canal
- Install a fish screen at the point of diversion
- Update irrigation infrastructure
- Minimize damage to the riverbank trail and the river itself

<u>Tentative timeline (pending project funding):</u>

October 2015: Present the project to the Henry's Fork Watershed Council for a Watershed Integrity and Review Endorsement (W.I.R.E.).

October – November 2015: Contract with an engineering firm to establish a full scope of work for the project.

2016 and 2017: Complete necessary construction projects.

Cost

The total project cost is estimated at roughly $143,000, with approximately $50,000 of that total going towards acquiring and installing a fish screen. Several grants have been submitted by the Henry's Fork Foundation to various funding entities, both public and private, to supplement funds acquired through the Foundation's Campaign for Wild Trout. Harriman State Park has placed the project on the CIN (Capital Improvement Needs) list, and subsequently the project has made the Idaho Department of Parks and Recreation (IDPR) Statewide Priority List, Maintenance Needs, for FY 2017. Placement on the Priority List does not guarantee funding.

Reference Images and Maps

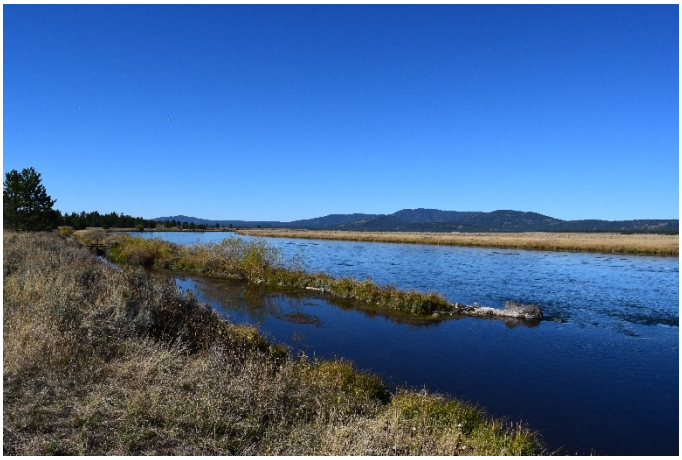

Figure 1. Point of diversion where Harriman Canal meets the Henry's Fork.

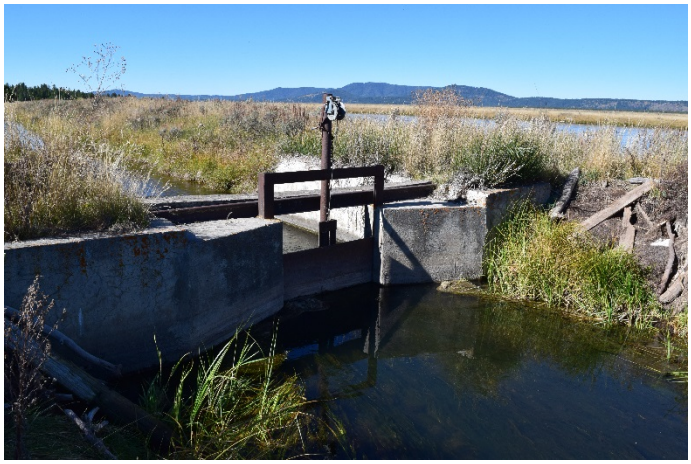

Figure 2. Headgate on Harriman Canal.

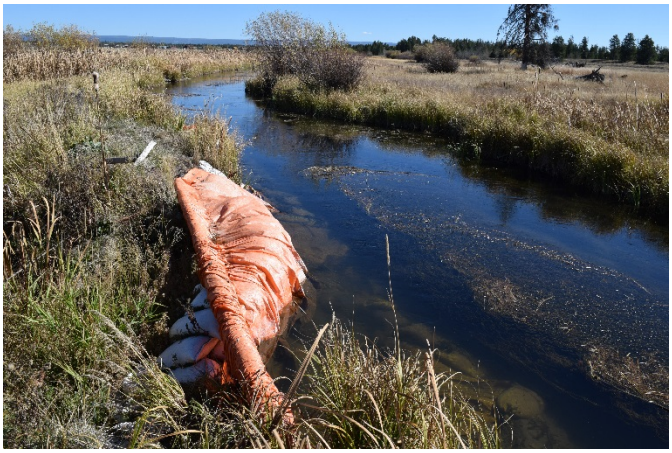

Figure 3. First return flow point. Tarp dam.

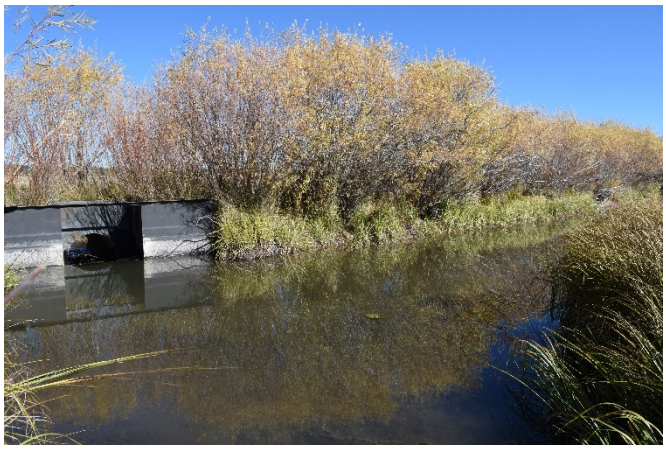

Figure 4. Second return flow point.

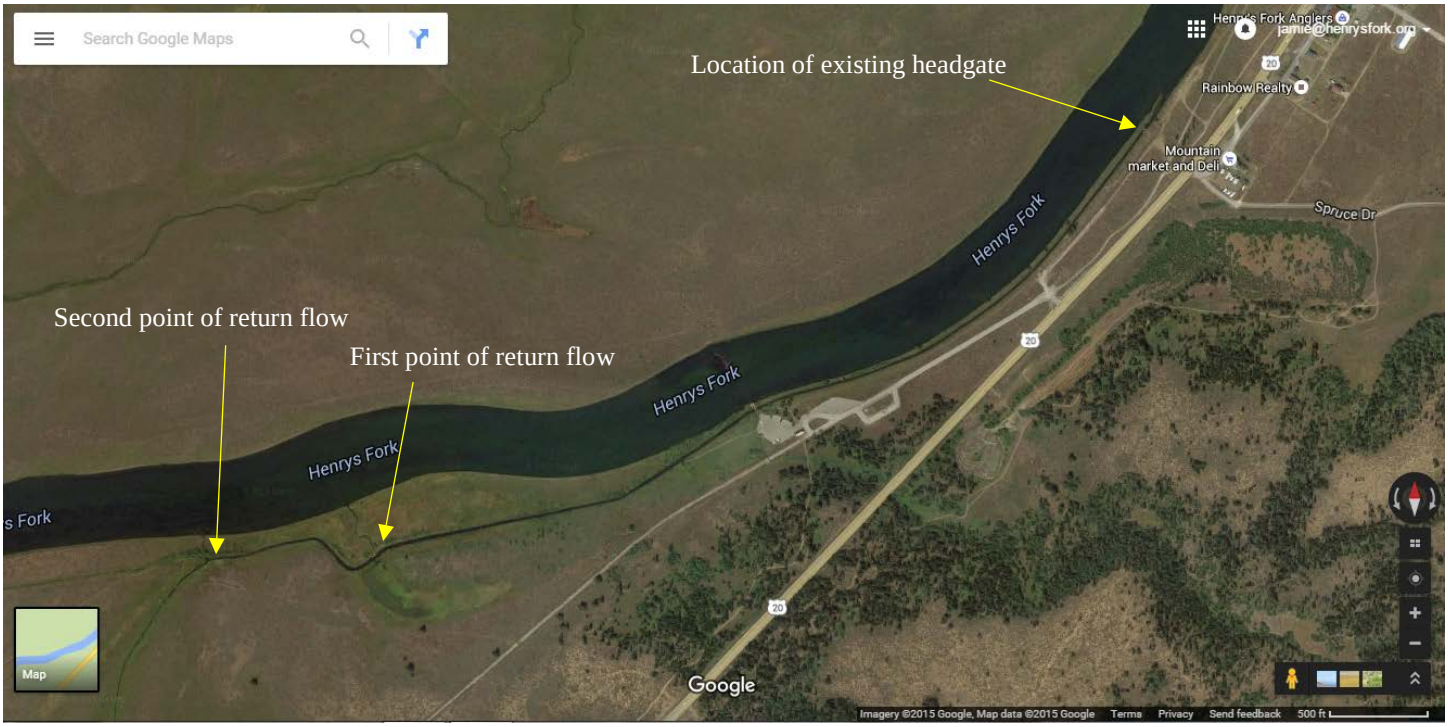

Figure 5. Map of Harriman Canal from point of diversion to second return flow point with points of interest labeled.

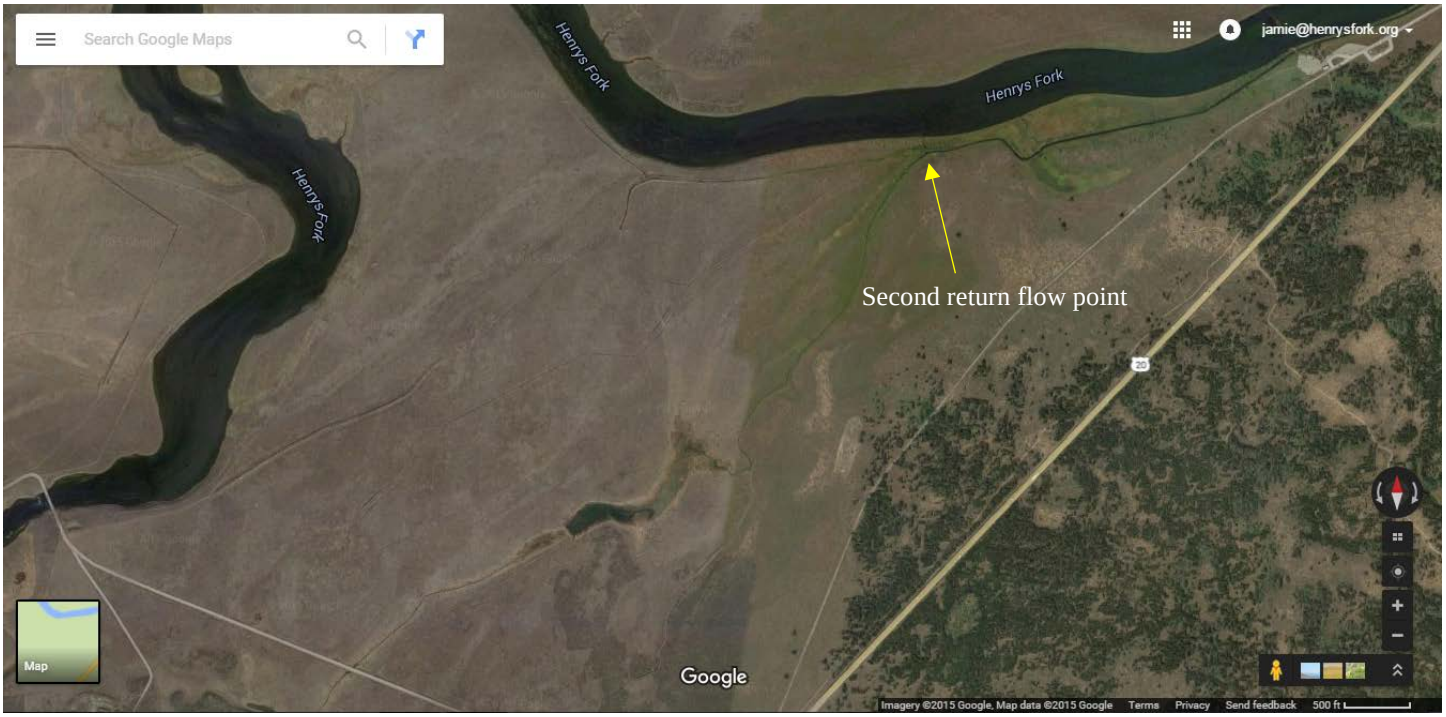

Figure 6. Map of Harriman Canal, showing second point of return flow and a portion of the pasture irrigated from the canal.