

21-1014, Plan, Walla Walla Co Cons Dist Mainstem Touchet Project Area 09 Design, RCO Grant Request: \$104,800

BASICS

FUNDING

Costs

RCO	\$104,800	97%
Sponsor Match	\$3,000	3%
Total	\$107,800	100%

Sponsor Match Breakdown

Grant - State	\$3,000
Total	\$3,000



DESCRIPTION

The Walla Walla County Conservation District intends to complete an engineered design for the MS-9 project area as identified in the Touchet River Conceptual Plan. The MS-9 project area is located upstream of the City of Waitsburg (46.2720, -118.1211). The engineered design will likely include a series of engineered log structures and possible levee setback along 1.26 mile to benefit mid-Columbia steelhead and bull trout habitat. The design will include multiple Hec-Ras modeling as has been requested by past RCO peer reviews.

[Project Application](#)

LOCATION

Project Location Questions

- #1: Project location. Describe the geographic location, water bodies, and the location of the project in the watershed, i.e. nearshore, tributary, main-stem, off-channel, etc.

The project is located in the Upper Mainstem of the Touchet River between RM 53.44 and 61.86 (46.2950, -118.3320), in the Walla Walla River Watershed (WRIA 32), Walla Walla County, Washington.

Project Factsheet

#2: How does this project fit within your regional recovery plan and/or local lead entity’s strategy to restore or protect salmonid habitat? Cite section and page number.

This project fits with the goals and objectives of the Snake River Salmon Recovery Plan for SE Washington (SRSRB 2011), by addressing limiting factors for ESA listed Mid-Columbia steelhead, bull trout and reintroduced spring Chinook salmon. ” For the mainstem (Touchet), these limiting factors include: sedimentation, habitat diversity, flow, channel stability, and temperature.” (p.1, GARP, October 2020)

This project addresses the six goals and restoration objectives for basin restoration including; improved floodplain connectivity, development of a high functioning riparian corridor, increase channel complexity at low winter flows and during spring and winter peaks, increase quantity of pools, and increase temporary storage of in-channel bedload sediments.

#3: Is this project part of a larger overall project?
Yes

#3a: How does this project fit into the sequencing of the larger project?

The Touchet River Conceptual Plan identified this reach as a Tier 1 project area within a Priority Restoration Reach as defined by the SE Recovery Plan (SRSRB 2011) and Walla Walla Subbasin Plan (2004). As an identified Major Spawning Area, this is a targeted reach for restoration in overall basin recovery efforts.

METRICS/COSTS

OVERALL PROJECT METRICS

PLANNING METRICS

Worksite: TR-MS9 (#1)

COSTS

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$19,800	
Design for Salmon restoration	Preliminary design	\$88,000	
	Subtotal:	\$107,800	
	Total Estimate For Worksite:	\$107,800	

METRICS

Miles of Stream and/or Shoreline Affected (B.0.b.2)	1.26
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Project Factsheet

Total Planning Cost

\$107,800

PROJECT PROPOSAL

Targeted ESU Species

Worksites	Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
1	Chinook-Middle Columbia River Spring, Not Warranted		✓	✓	Unknown
1	Steelhead-Middle Columbia River, Touchet River, Threatened	✓	✓	✓	Stable

Reference or source used

Upper Touchet Basin Habitat Restoration, Geomorphic Assessment and Restoration Prioritization (September 2020)

Targeted Non-ESU Species

Worksites	Species by Non-ESU	Notes
1	Bull Trout	
1	Lamprey	
1	Rainbow	

PROPOSAL QUESTIONS

Project Factsheet

- #1: Problem statement. What are the problems your project seeks to address? Include the source and scale of each problem. Describe the site, reach, and watershed conditions. Describe how those conditions impact salmon populations. Include current and historic factors important to understand the problems.

This site is characterized by an altered floodplain with a levee confining the river, preventing floodplain connection and function during high water events. The channel has minimal roughness and complexity with reduced channel migration, sediment delivery, and floodplain storage and exchange. Upstream of this site a flood-control levee confines the river through the town of Dayton, resulting in increased velocity, high bed-scour, and reduced channel complexity leading to few pools. The term “fire hose effect” is a very apt description for a section in this reach. These issues have been worsened by historical practices which have left this reach with degraded instream habitat, and rapid erosion, hindering the establishment of riparian vegetation. Extreme cobble movements have led to side channel abandonment as well as riparian disconnection. The reach has a lot of underutilized available floodplain. This has resulted in poor instream habitat complexity, scarce high-flow refugia, and sub-par juvenile rearing and overwintering habitat. The river in this reach is a single shallow channel that is over-widened with few pools, low cover and resting areas, and with a minimal potential to recruit or hold large wood.

- #2: Describe the limiting factors, and/or ecological concerns, and limiting life stages (by fish species) that your project expects to address.

The limiting factors, according to the Touchet River Geomorphic Assessment (2020) and (SE WA Recovery Plan; SRSRB 2011) in the Touchet basin include simplified instream conditions, lack of deep pools, degraded riparian conditions, fine sediment input from agriculture and other activities, high temperatures, restricted floodplain, and low large woody debris (LWD) counts. According to the Northwest Salmon and Steelhead Recovery, Middle Columbia River Steelhead DPS Recovery Plan (Pg. 3, NOAA, 2009) “summer steelhead enter freshwater between May and October and require several months to mature before spawning”. Steelhead can be anadromous or lifelong freshwater residents and yield offspring of either form. Unlike most other salmonid species which typically spawn once and die, steelhead can spawn multiple times. Construction of this project will improve local ecosystem functions and create more key habitat for spawning, rearing and overwintering salmonid populations from egg to adult via bioengineered structures and improvements to the riparian buffer.

Project Factsheet

- #3: What are the project goals? The goal of the project should be to solve identified problems by addressing the root causes. Then clearly state the desired future condition. Include which species and life stages will benefit from the outcome, and the time of year the benefits will be realized. **Example Goals and Objectives**

The goals of this project are to improve the quantity and quality of accessible rearing, foraging and in-stream habitat for ESU listed Mid-Columbia steelhead, bull trout and reintroduced spring Chinook salmon in the Touchet basin. This project should increase juvenile survival as a result of reduced sedimentation and temperatures and improved instream habitat. The goal will be met by overall habitat restoration through improving and adding resilience to river processes that have been altered by historic and current land use. Riparian habitat will be restored and improved on approximately 1.26 mile of the Touchet River to benefit all species that require a functioning forested riparian buffer. These restoration actions will increase the quantity and quality of accessible off-channel foraging and over-wintering habitat for migrating bull trout, improve complexity of in-channel habitats, connection to off channel habitats during migration and holding of Mid-Columbia steelhead and spring Chinook salmon. When mature, the buffer will help regulate water temperature by providing shade, shelter, and eventually large woody debris.

This project aims to restore natural hydrologic processes of the Touchet River through actions designed to improve habitat diversity, ecosystem functions and resiliency to climate change.

- #4: What are the project objectives? Objectives support and refine biological goals, breaking them down into smaller steps. Objectives are specific, quantifiable actions the project will complete to achieve the stated goal. Each objective should be SMART (Specific, Measurable, Achievable, Relevant, and Time-bound). **Example Goals and Objectives**

The objective of this project is to provide a set of engineered designs within 18 months of funding that adequately detail restoration actions. The design will include multiple Hec-Ras modeling. Based upon our understanding of the project reach we anticipate the design to incorporate these specific objectives:

- Add a series of Main/Side Channel bioengineered wood structures to provide instream habitat and high-flow refugia for juvenile steelhead and chinook.
" Small fish tend to utilize shallow areas that larger competitors or predators cannot access. Preferred feeding habitat involves low velocity areas immediately downstream of food sources." Chapter 4 of the Washington Department of Fish and Wildlife's Stream Habitat Restoration Guidelines pg. 2.34
- Reconnect historical side channels where applicable to provide off-channel/high-flow rearing, foraging and overwintering habitat for all native species and life stages.
- Plant riparian trees and shrubs at a minimum of 250 stems/acre to provide shade, reduce erosion and sedimentation, and ultimately add large woody debris inputs as they mature. Plantings will be established in the immediate riparian area, channel migration areas and island complexes. (GARP,I-21)
- Remove or set back levees on 1.26 miles to improve connection and functioning of floodplain.

Project Factsheet

- #5: Scope of work and deliverables. Provide a detailed description of each project task/element and how they will lead to the objectives. With each task/element, identify who will be responsible for each, what the deliverables will be, and the schedule for completion.

Preliminary Engineered Design – Licensed Engineer (within 18th months)
Cultural Resources Review –Archeologist (after completion of the engineered design)

- #6: What are the assumptions and physical constraints that could impact whether you achieve your objectives? Assumptions and constraints are external conditions that are not under the direct control of the project, but directly impact the outcome of the project. These may include ecological and geomorphic factors, land use constraints, public acceptance of the project, delays, or other factors. How will you address these issues if they arise?

This project will not take any action on levees or land use upstream of the project area, but we hope to alleviate some of their effects. Parts of the project are susceptible to extreme changes during high flows and designs will be “field fit” as river conditions change. Minor adjustments to the design may be required before implementation; these would be made in consultation with the local Snake River Salmon Recovery Funding Board team.

During the design phase, we will assess the results of previous projects in the Touchet basin to know what may or may not work in that reach.

Funding constraints are always a concern and finding match for implementation can be problematic. The Walla Walla County Conservation District (WWCCD) will pursue funding for implementation from multiple sources including the United States Fish and Wildlife Service (USFWS), the Bonneville Power Administration and the Washington State Conservation Commission and other opportunities as they arise.

This area of the Touchet River is complex given existing agricultural and residential land use in the immediate area and upstream of the project reach. Some potential constraints in working in this reach could include landowner reluctance to fully restore the active floodplain, given concerns for preserving and protecting existing property from further channel migration and potential flooding. To address these concerns to the best of our ability, we will work actively with all landowners in the project reach to ensure they understand the ultimate intent of this design project and that the focus of the project must be on restoring natural river processes and benefitting salmonids. With the involvement of multiple landowners, we may need to hold stakeholder meetings to promote clear communication.

- #7: How have lessons learned from completed projects or monitoring studies informed this project?

We hope to incorporate state technical suggestions and ideas early in the process and understand the collaborative process needed to ensure broad support. Design changes and field adjustments are not unusual which makes our strong working relationship with Washington Department of Fish and Wildlife (WDFW) and the Snake River Salmon Recovery Board a must. The existing Touchet River Mile 42.5 Habitat Enhancement project has shown us that focusing on longer reaches and the root causes are important to designing a lasting and effective project. The Upper Touchet Basin Geomorphic Assessment and Restoration Prioritization study completed in October 2020 has given us information for a broader scale approach to designing new projects. Remediation and adaptive management will be a part of the design.

Project Factsheet

#8: Describe the alternatives considered and why the preferred was chosen.

Alternative practices are discussed in the Walla Walla Sub basin Plan (NW Power Council, 2004) and bioengineered large wood structures were determined to be the most suitable alternative for the basin. Beaver Dam Analogs are not strong enough to withstand average yearly flows at the site. Concrete armoring can have detrimental effects the functioning of the floodplain.

#9: How were stakeholders consulted in the development of this project? Identify the stakeholders, their concerns or feedback, and how those concerns were addressed.

Landowners, CTUIR, WW and Columbia County representatives were consulted during the development of the Touchet River Conceptual Plan (2020).

#10: Does your project address or accommodate the anticipated effects of climate change?

Yes

#10a: How will your project be climate resilient given future conditions?

Climate change will likely have complex and far-reaching effects on fluvial processes and will increase variability in timing and magnitude of flows. This project will be designed accommodate higher flows, lower low flows and changes in timing of peak events, which are observed and expected trends for this watershed. Riparian restoration will mitigate the effects of the expected increases in stream temperatures that are predicted locally. Fluvial restoration projects focused on the recovery of focal species should counter the effects of these changes. This project aims to improve the resiliency of local ecosystem functions to the effects of climate change through restoration actions that will allow natural process such as sediment and large wood transport, floodplain connection, channel migration, and riparian growth to occur. These actions will help maintain a dynamic equilibrium that promotes more favorable habitat conditions at all levels of flow timing and magnitudes.

#10b: How will your project increase habitat and species adaptability?

A more intact and functioning riparian area will prove to be more resilient to changes in temperatures and flows providing habitat for aquatic and terrestrial species. Revegetating the floodplain and uplands with native grasses, trees and shrubs will help prevent spread of invasive species and; prevent sediment from entering the waterways and; provide long term food, habitat and shade for terrestrial and aquatic species. Strategic placement of bioengineered structures will activate side channels, encourage pool development, recruit woody debris and provide juvenile anadromous fish with more habitat for rearing and overwintering. Plant species that can withstand changing flow timing and duration, temperature and access to water will be utilized to ensure the success of the project.

Project Factsheet

- #11: Describe the sponsor's experience managing this type of project. Describe other projects where the sponsor has successfully used a similar approach.

The Walla Walla County Conservation District has designed and implemented several habitat restoration projects with engineered structures. Most of these involved collaborating with the Snake River Salmon Recovery Board and RCO under previous grants such as the Touchet River Mile 42 Restoration Project and the McCaw Reach Fish Habitat Restoration Project.

- #12: Will veterans (including the veterans conservation corps) be involved in the project? If yes, please describe.

No

PLANNING SUPPLEMENTAL QUESTIONS

- #1: Is the project an assessment / inventory?

No

- #2: Is your project a Barrier / Screening Diversion Inventory Project?

No

- #3: Is this a fish passage design / screening design project?

No

- #4: Will the project develop a design?

Yes

- #4a: Will a licensed professional engineer design of the project?

Yes

- #4b: Will you apply for permits as part of the project scope?

Yes, the WWCCD will apply for permits after the design is complete. WDFW for HPA, Walla Walla County for Shoreline/Critical Area/SEPA, & USACE for Nationwide 404.

ATTACHMENTS

PHOTOS (JPG, GIF)



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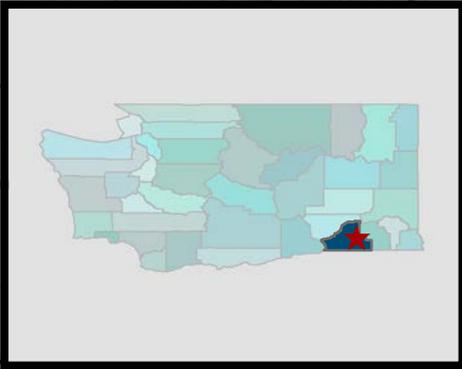
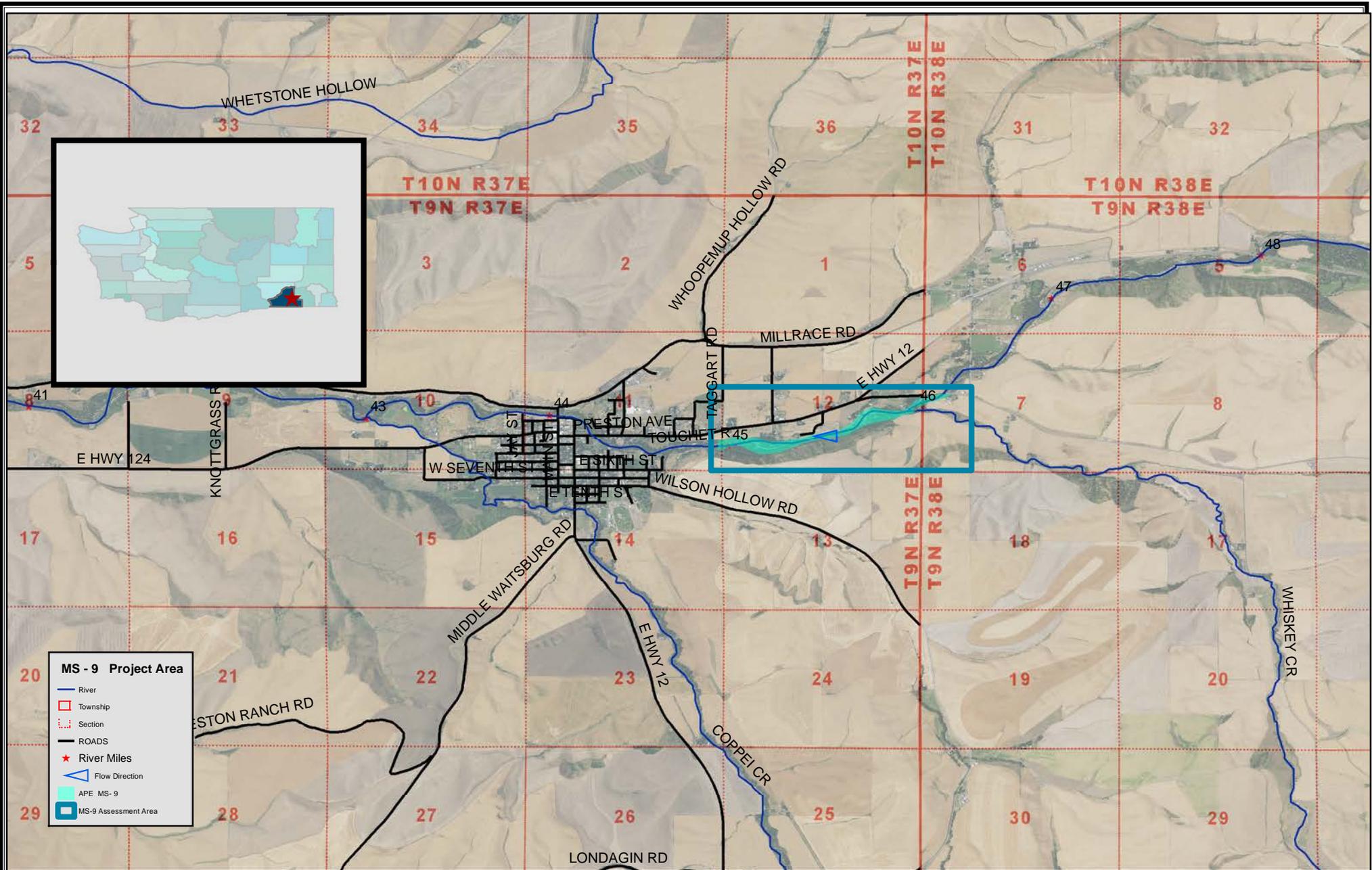
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RELEVANT DOCUMENTS

File Type	Attach Date	Attachment Type	Title
	02/02/2021	Map: Planning Area	TR_MS9_Area Map.JPG
	02/02/2021	Map: Area of Potential Effect (APE)	MS_9_ProjectArea_Map20210128.pdf
	02/01/2021	Photo	MS-9_B.jpg
	02/01/2021	Photo	MS-9_A.jpg



MS - 9 Project Area

- River
- Township
- Section
- ROADS
- River Miles
- Flow Direction
- APE MS-9
- MS-9 Assessment Area



APE MS - 9

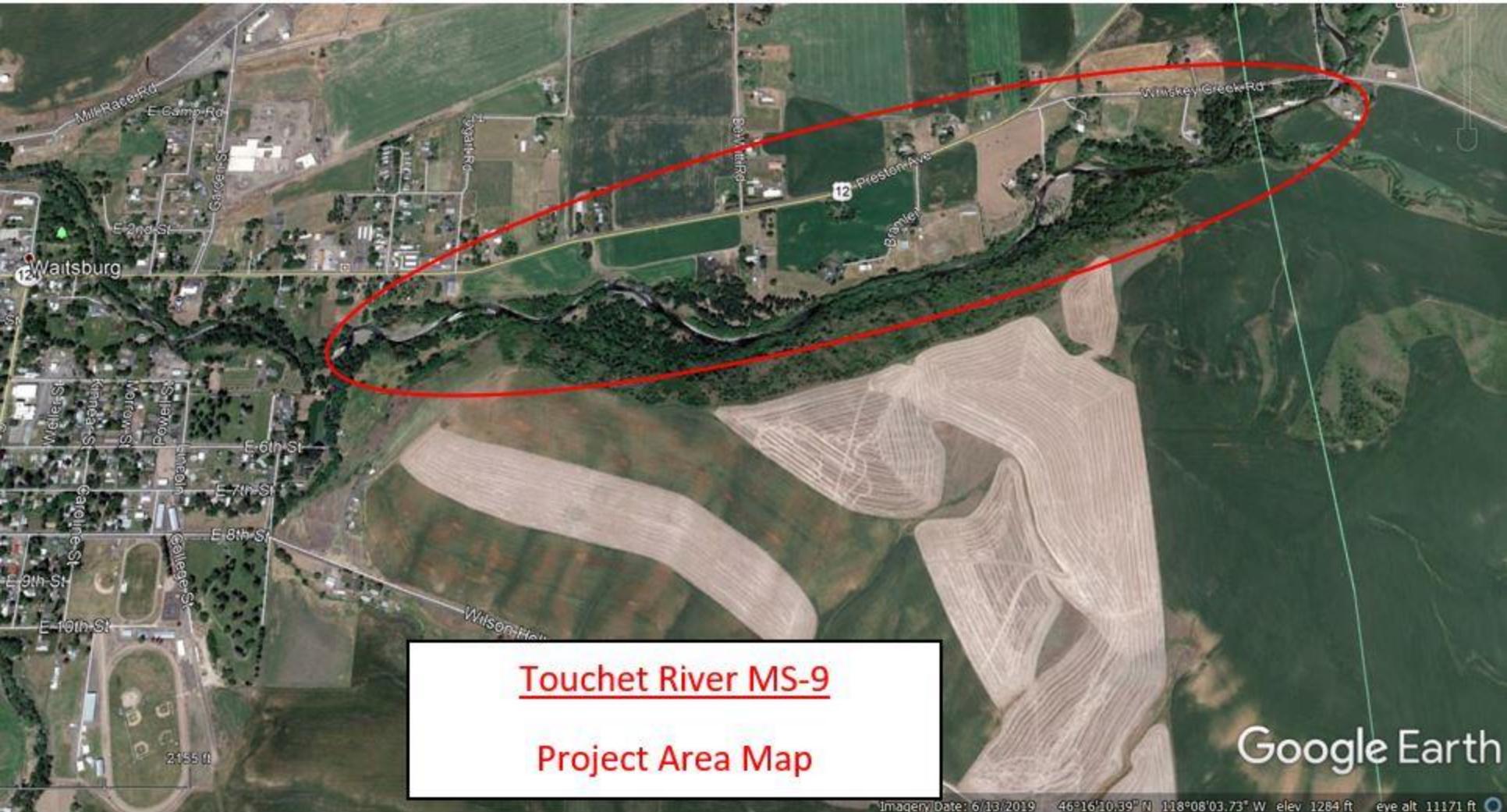


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1/29/2021
Cartographer: Lynda



Touchet River MS-9
Project Area Map

Imagery Date: 6/13/2019 46°16'10.39" N 118°08'03.73" W elev 1284 ft eye alt 11171 ft

Walla Walla Co Cons Dist; Mainstem Touchet Project Area 09 Design (#21-1014)

Attachment #461887, TR_MS9_Area Map.JPG



Walla Walla Co Cons Dist; Mainstem Touchet Project Area 09 Design (#21-1014)

Attachment #461764, MS-9_B.jpg



Walla Walla Co Cons Dist; Mainstem Touchet Project Area 09 Design (#21-1014)

Attachment #461763, MS-9_A.jpg

