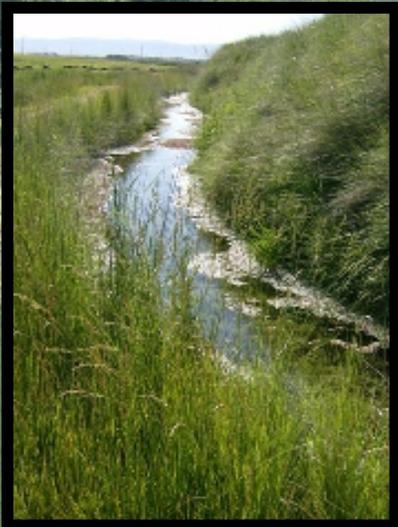


Walla Walla County Conservation District
Doan Creek Stream Restoration
Project Implementation Report



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Final Report

Doan Creek Restoration Project Phase 1 & 2

NPS Coop. Agreement H9550000001
NPS Coop. Agreement H9550040243
NPS Coop. Agreement J955005C213
IAC Grant No. 06-2233N (WA-SRFB)
IAC Grant No. 02-1543R (Screen Grant)
WA-DOE Grant No. C0300166 (Meter Grant)
CRM Grant
TSS Grant

Walla Walla County
Conservation District
December 31, 2008

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Doan Creek Restoration Project Results – Phase 1 and 2

SCOPE OF PROJECT

Doan Creek was historically a tributary of Mill Creek that flowed in a westerly direction through the northeast portion of the Whitman Mission National Historic Site (NHS). Its historical confluence was approximately $\frac{3}{4}$ mile from the mouth of Mill Creek but had been abandoned over 76 years ago. The waters of Doan Creek were diverted into the Doan Creek Irrigation Ditch which ran through the Mission site and supplied irrigation water to the Mission and to two downstream irrigators.

Earliest conversations regarding the restoration of Doan Creek date back to 1998 when the National Park Service (NPS) approached two of the impacted landowners with the idea. The idea's reception was less than favorable. In 2003, the Walla Walla County Conservation District (WWCCD) became involved at the request of WDFW biologist Dave Karl and developed the Doan Creek Channel Restoration Plan for the NPS to consider. At this point in time, the District staff started holding discussions with adjacent land owners and, essentially, carried out the negotiations that were needed to make the restoration of Doan Creek a reality.

According to the Doan Creek Environmental Assessment completed by NPS, there were three main objectives:

- Reduce dewatering of the new channel by moving the point of diversion for irrigation water to the mouth of Doan Creek.
- To restore natural processes to Whitman Mission NHS as called for in its General Management Plan, 9/2000.
- To increase the potential for wildlife in the northern fields of the park.
- To reintroduce fish passage to Doan Creek as called for in the WWCCD Doan Creek Channel Restoration Plan.

In order to reach the above objectives, several issues had to be considered and associated problems reconciled.

- Associated fish screens had to be brought up to appropriate standards.
- Downstream irrigators' water rights had to be considered and not interrupted.
- Associated wetlands could not be diminished.
- Any artifacts encountered during excavation had to be protected.



*Doan Creek Irrigation Channel
prior to stream restoration*



*Doan Creek traditional stream site
prior to stream restoration*

TARGET SPECIES

For the past 75 years or more, there has been no anadromous fish use of the waters of Doan Creek since there was no possible way for fish to enter the system. By restoring Doan Creek to or near its historic channel and outlet into Mill Creek, over one mile of potential rearing and spawning habitat for Mid-Columbia Steelhead and other desirable species. In addition, the establishment of a riparian forest buffer made up of native plants would not only create additional thermal protection of the creek but provide needed habitat for upland wildlife species. Over time, the species diversity of both vegetation and wildlife in the area would be increased and improved.

THE ROAD TO IMPLEMENTATION

Shortly after the WWCCD staff became involved in the planning process, the scope of the overall project began to evolve. Soon a solid partnership was formed that included the WWCCD, the NPS, the WA-Dept. of Fish & Wildlife (WDFW), the WA-Dept. of Ecology (WA-DOE), Walla Walla University, Tri-State Steelheaders (TSS), WA-Salmon Recovery Funding Board and impacted irrigators. The initial scope of the project encompassed only the lower reach of Doan Creek where it crossed NPS property to its historical outlet. With increased planning input and support of the various members of the partnership, the restoration effort took on a much more ambitious goal – the restoration of Doan Creek from its outlet to its headwaters.

The overall restoration was to be accomplished in three phases:

Phase 1 – Restoration of Doan Creek at the Whitman Mission National Historic Site. This phase included:

- Creating a natural meandering channel for Doan Creek across NHS land.
- Controlling the infestation of Reed's Canarygrass.
- Planting a riparian forest buffer of native tree and shrub species.



Aerial view of lower Doan Creek on Whitman Mission NHS property to its confluence with Mill Creek

Phase 2 – Final project activities on the NHS site and project activities through the Hanebut property. These activities included:

- Re-connecting Doan Creek with Mill Creek near its historic confluence.
- Creation of a meandering creek channel through the Hanebut property immediately upstream from the NHS.
- Installation of rock, gravel and large woody debris in the creek to add complexity.
- Changing the irrigation point of diversion from the Doan Creek Irrigation Channel to the mouth of the creek at its confluence with Mill Creek.
- Installation of a new metered pumping station with a self-cleaning fish screen that would meet more stringent fish screen standards.
- Installation of a buried irrigation water conveyance pipeline to deliver water from the point of diversion to the old irrigation ditch on the Mission site near the Great Grave.
- Enrollment of the new stream into the Conservation Reserve Enhancement Program (CREP) and establishment of a new riparian forest buffer (to be completed in 2009).



The new meandering channel of Doan Creek is shown just below the irrigation channel (in dark green). The new meander pattern was designed by WDFW staff and increased the stream length from 1900 ft. to 4100 ft.



Newly constructed meander



Newly constructed meander



Newly constructed meander in December 2008



Pipeline trench from point of diversion to Great Grave



Inspection of the new outlet of Doan Creek



New pumping station at reconstructed mouth of Doan Creek



New fish screen at Doan Creek pumping station

As with most projects of this complexity, there had to be a lot of cooperation and trust between agency representatives and private landowners in order for Doan Creek restoration to become a reality.

1. The project was first driven by a compliance issue – the need to develop fish screens that would meet WDFW screening criteria.
2. Whitman Mission National Historic Site staff saw an opportunity to not only become compliant with WDFW requirements, but take the extra steps necessary to restore Doan Creek to a properly functioning stream with all its inherent values.
3. An outstanding conservation partnership was formed including the NPS, WWCCD, WDFW, the WDFW Screen Shop, WA-DOE, the Washington Salmon Recovery Funding Board (WA-SRFB), the Tri-State Steelheaders, Walla Walla University, Whitman College and several local landowners (irrigators).
4. Funding came from a number of sources including NPS, TSS, WA-SRFB, the CREP program administered by USDA-Farm Services Agency, and the Cooperative Resource Management Program (CRMP) through the Washington Conservation Commission.
5. There was excellent technical support and assistance from WDFW to do design and layout of the meander reconstruction.

The total cost to date for the completed Phase 1 and Phase 2 of the project has been approximately \$103,000; this includes all but some incidental volunteer planting time donated by college students. The following breakdown of contributions is an indication of the diversity of the conservation partnership that made the Doan Creek Restoration Project a reality:

• National Park Service	\$50,558
• Walla Walla County Conservation District	18,809
• Tri-State Steelheaders	12,300
• Coordinated Resource Planning (WA Conservation Commission)	2,500
• WA-Salmon Recovery Funding Board	17,000
• Whitman College	1,560

This does not account for the many hours of staff technical assistance time that went into the project. Bruce Heiner, Dave Karl, and Mark Grandstaff – all WDFW staffers – spent many hours of their time in design, layout and permitting.



First returning steelhead spawner in Doan Creek, Walla Walla County, approximately 8-months after restoring creek to the footprint of its historical channel (photograph taken Apr. 7th, 2009)

ADDITIONAL IMPACTS

The completion of Phase 1 and Phase 2 of the Doan Creek Restoration Project has opened the door for additional work to occur upstream from Last Chance Road. Phase 3 will involve the restoration of Doan Creek through the Walla Walla University properties to approximately Martin Field. Included in this phase (to be completed in 2010) are:

- Creation of a meandering creek channel through the Walla Walla University property immediately upstream from the Hanebut property (east of Last Chance Road).
- Removal of old conveyance pipelines.
- Installation of rock, gravel and large woody debris in the creek to add complexity.
- Enrollment of the new stream into the Conservation Reserve Enhancement Program (CREP) and establishment of a new riparian forest buffer.
- Development of a outdoor educational walking path.