WASHINGTON STATE Recreation and Conservation Office

Final Report

Project #12-1282, Bear Creek Reach 6 Restoration

Submitted by Walter Rung on 01/14/2016 Accepted by Josh Lambert on 01/21/2016

CONTACTS

Primary Sponsor: Adopt A Stream Foundation

Lead Entity: WRIA 8 LE (King County)

Managing Agency: Rec. and Conserv. Office

Project Contact: Walter Rung
walterr@streamkeeper.org

Alt Project Contact: Tom Murdoch
murdoch@co.snohomish.wa.us

RCO Grant Manager: Josh Lambert
Josh.Lambert@rco.wa.gov

DESCRIPTION OF THE COMPLETED PROJECT

Project Start Date: 12/06/2012 **FundingEnd Date:** 11/30/2015 **RCO Closure Date:**

Adopt A Stream Foundation (AASF) restored 370 linear feet (0.07 miles) of Bear Creek located in Friendly Village (18509 NE 95th Street) in the City of Redmond.

This project:
1) Converted 0.3 acres of lawn to riparian habitat along 0.07 miles, with 100 new native trees and 500 native shrubs,
2) Widened the existing channel cross-section to 4 m, along 0.06 miles to reduce bank erosion, improve flood capacity, and create space for a seasonal inundated plant community,
3) Installed 4 large wood structures using 40 individual large wood pieces to create fish habitat (6 pools), reduce erosion, and protect existing infrastructure on 0.1 acres along 0.06 miles of streambank,
4) Created 0.01 acres and 0.02 miles of overflow off-channel habitat

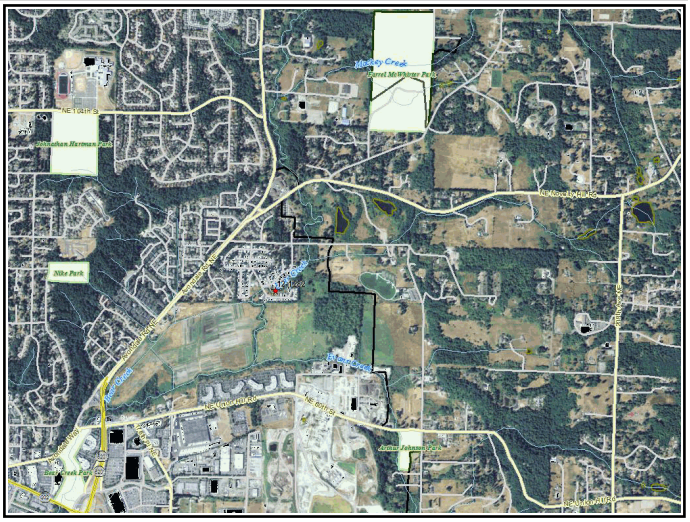
All work was performed by AASF staff with Earthcorps assisting one day for plant mulching. Jay Kidder Chinook Enigneering, Assumtiption Saint Bridget School, City of Redmond, DFW, Duane Derosier and Earthcorps provided donated services and materials to complete this project. Native plant maintenance and monitoring will be completed as needed, with responsibilities shared by the landowner, AASF staff, and City of Redmond staff for ten years from project completion (2026).

AASF is continuing to work with the landowners to develop additional restoration projects at this location. In 2015 AASF submitted a SRFB grant for developing designs to restore 330' linear feet of stream channel and covert 1.0 acre of lawn into a native riparian forest.

SITE LOCATION

General Area of Project: Bear Creek, Redmond

Waterbodies:



Cong District 2012:	01
County:	King
HUC:	Lake Washington
Leg District 2012:	48
Salmon Recov Reg 05:	Puget Sound
Section:	06
Township/Range:	T25NR06E
WAU:	LAKE WASHINGTON, N
WRIA:	Cedar-Sammamish

Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

Bear Creek Reach 6, WRIA 8

PROJECT NARRATIVE

Project History:

This project was identified during canvassing efforts by AASF in 2011 as part of a DOE grant to improve water quality in Bear Creek by restoring riparian areas, increase in-channel complexity and add large wood. The Friendly Village park has approximately 1,500' of Bear Creek flowing through the property with dominate riparian vegetation being lawn. Recognizing the need for restoration at this location AASF contacted Matt the owner of Friendly Village and persuaded him to allow us to restoration native riparian vegetation at two locations within the property. After successfully implementing a few small riparian restoration projects we were able to gain the trust of the landowner and pursue bigger and better projects at this location. The Bear Creek Reach 6 restoration at Friendly Village was originally scheduled to be installed in the 2013 but design changes and permitting issues delayed the project, which was installed in the following 2014 fish window. Site was planted in the fall of 2014 with a series of volunteer events. Site was maintained by AASF and Friendly Village grounds crew during 2015, AASF watered the site during the summer and controlled invasive vegetation.

Project Changes:

There were no project changes from the time I started managing the grant to project completion date.

Lesson Learned:

Every project has unique challenges and the Bear Creek Reach 6 Restoration was no exception. A major set back for this project was obtaining the necessary permits for project implementation. The lessoned learned from this project is to involve permitting agencies early in design discussions and to document their involvement and apply for project permits as early as possibly. We were under the false assumption that if the SRFB review panel, a panel of professionals, found the project to "technically sound" then WDFW AHB would also be comfortable with permitting the designs, this is not true.

Contractor:

AASF is unique in that we install are stream restoration project with our own staff and typically do not hire outside contractors with the exception of engineering as we do not have a licensed civil engineer on staff. For our engineering needs we contract with Chinook Engineering, which is owned by Jay Kidder who has over 30 years of stream restoration experience and has a degree in Fisheries Biology and Civil Engineering.

Project Outcomes:

The successful implementation of this project resulted in securing permission to implement additional stream restoration work at Friendly Village.

This project resulted in:

Conversion of approximately 0.3 acres of lawn into native riparian vegetation. Restoring native riparian vegetation has multiple benefits with the greatest benefit at this site being the creation of shade.

Enhancement of instream fish habitat by adding over 40 pieces of LWD extending from the streambank into the low flow channel. The log placement on the outside of the channel meanders created fish habitat in deep pools that will provide cover and rearing habitat for both juvenile and adult salmonid species. The installed LWD will provide numerous other benefits for fish including creating slack water edges for juvenile refuge during high flows and accumulating and hold other biological debris for processing within the system.

Increased floodplain connectivity by grading streambanks to match a more natural bank. The stream channel at Friendly Village is moderately incised with an estimated incision of 3-4' effectively isolating the stream channel from its floodplain in small to moderate flood events. For this project we opted to create a pseudo floodplain by re-sloping the streambanks, the grading of the streambanks increase channel cross-section within the project area resulting in a more active engagement of flood waters with the floodplain and increase flood storage. This project may have help to reduce further incision of reaches downstream of project area be reducing floodwater velocities.

AMENDMENTS

#	Type	Applied Date	Description
2	Time Extension	12/02/2014	The project period of 12/06/2012 to 12/31/2014 is extended to allow the contracting party until 11/30/2015 to complete the project.
1	Special Conditions Change	05/21/2013	A special condition is added to reflect the outcome of GEO 05-05 consultation.

OVERALL PROJECT COSTS

Funding Formula:	Requested		Original		Final	
Salmon Federal Projects:	$0.00	(0%)	$74,356.00	(85%)	$73,723.26	(85%)
Salmon State Projects:	$74,356.00	(85%)	$0.00	(0%)	$0.00	(0%)
Sponsor Match:	$13,120.00	(15%)	$13,120.00	(15%)	$13,008.35	(15%)
Total:	$87,476.00	(100%)	$87,476.00	(100%)	$86,731.61	(100%)

Paid To Date:	$73,723.26				**Last Released Billing:**	01/26/2016
Remaining RCO Funds:	$0.00				**Pending Billing:**	No
Advance Balance:	$0.00		**Match Bank:**	$42.07	**Number of Billings:**	6
Admin Limit:	$0.00		**Admin Spent:**	$0.00		
A&E Limit:	$12,393.63	16.67%	**A&E Spent:**	$12,494.96	14.40%	

Billed Cost Summary:	Original Agreement	Expended	Non-Reimbursable	Total Billed
Restoration				
Construction	$74,976.00	$63,179.87	$11,098.85	$74,278.72
AA&E	$12,500.00	$10,543.39	$1,951.57	$12,494.96
Restoration Total	$87,476.00	$73,723.26	$13,050.42	$86,773.68
Total	$87,476.00	$73,723.26	$13,050.42	$86,773.68

Project Cost Metrics:	Original Agreement	Final
PCSRF Federal Funds (A.10):		$73,723.26
State Funds (A.11):		
Other Federal Funding:		
Pending Billing - RCO Share Approved:		
Retainage - RCO amount retained:		$0.00
Amount of other monetary funding (A.12):		$0.00
Project identifier for the other monetary funding (A.12.b):		N/A
Source of other monetary funding (A.12.a):		N/A
Value of Donated Unpaid Labor (Volunteers) (A.13.a.2):		$6,557.00
Source of Donated Un-paid labor contributions (A.13.a.4):		Jay Kidder Chinook Enigneering donated $1,620 and Assumtiption Saint Bridget School donated $3,216 in student and teacher time to plant, AASF unpaid interns donated $1,818.75 in time to help with instream construction and $120 to control invasives
Number of hours volunteers contributed to the project (A.13.a.1):		351
Describe how the value of the volunteers was determined (A.13.a.3):		Volunter rates were determined from the RCO manual for unskilled labor for adult and children
Value of Donated Paid Labor (A.13.b.1):		$1,000.00
Source of Donated Paid Contributions (A.13.b.2):		City of Redmond donated $800 and WDFW donated $200
Value of Other In-Kind Contributions (A.13.c.1):		$5,494.00
Source of Other In-Kind Contributions (A.13.c.3):		Earthcorps donated plant protectors valued at $89.10 and AASF donated the use of our trailer valued at $30 and Duane Derosier donated $5,375 in LWD
Description of other In-Kind contributions (A.13.c.2):		N/A

PROJECT METRICS

	Original Agreement	Final
Completion Date		
Projected date of completion:		10/30/2015
Project Goals		
Goals, purpose, and expected benefits (A.17):		Project goal is to restore riparian areas, increase in-channel complexity and add large wood to improve habitat for salmonids (Chinook, coho, and steelhead).

WORKSITE #1: Friendly Village

Worksite Description: Friendly Village is a 40 acre moblie home park locted in Redmond Washinton, 780 linear feet of lower Bear Creek bisects the property. The creek has limited amounts of native vegetation, most of the channel has grass to the OHWM. Several crossings create pinch points, protions of the property typically floods in winter.

Driving Directions: 18425 NE 95th St. Redmond WA.
From I 405, east onto SR520 Continue onto Avondale Rd., Turn Right at NE 95th St., Friendly Village Park

Coordinates for Worksite Directions - Latitude: 47.68 **Longitude:** -122.09

Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

WORKSITE #1 COSTS

Worksite Billed Cost:	Estimated	Expended	Non-Reimbursable	Total Billed
AA&E	$12,500.00	$10,543.39	$1,951.57	$12,494.96
Construction	$74,976.00	$63,179.87	$11,098.85	$74,278.72
Worksite Total	$87,476.00	$73,723.26	$13,050.42	$86,773.68

Worksite Costs by Category:	Original Agreement	Final
Instream Habitat Funding (C.4.a):		$49,053.00
Riparian Habitat Funding (C.5.a):		$12,643.00
Cultural resource funding:		$6,333.00
Permits Funding:		$6,250.00
Architectural & Engineering Funding:		$12,494.96

WORKSITE #1 METRICS

	Original Agreement	Final
Targeted salmonid ESU/DPS (A.23):		Chinook Salmon-Puget Sound ESU, Coho Salmon-Puget Sound/Strait of Georgia ESU, Steelhead-Puget Sound DPS
Targeted species (non-ESU species):		Cutthroat, Kokanee
Miles Of Stream Treated/Protected (C.0.b):		0.06
Project Identified In a Plan or Watershed Assessment (C.0.c):		WRIA 8 Steering Committee, July 2005, Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan, King County Department of Natural Resources - Water and Land Resources, 201 South Jackson Street, Ste. 600, Seattle WA 98104
Type Of Monitoring (C.0.d.1):		None
Monitoring Location (C.0.d.2):		No monitoring completed
Instream Habitat Project		
Total Miles Of Instream Habitat Treated (C.4.b):		0.07
Channel reconfiguration and connectivity (C.4.c.1)		
Type of change to channel configuration and connectivity (C.4.c.2):		Creation of Instream Pools
Miles of Stream Treated for channel reconfiguration and connectivity (C.4.c.3):		0.06
Miles of Off-Channel Stream Created (C.4.c.4):		0.02
Acres Of Channel/Off-Channel Connected Or Added (C.4.c.5):		0.1
Instream Pools Created/Added (C.4.c.6):		4
Channel structure placement (C.4.d.1)		

Material Used For Channel Structure (C.4.d.2):		Individual Logs (Anchored), Logs Fastened Together (Logjam)
Miles of Stream Treated for channel structure placement (C.4.d.3):		0.06
Acres Of Streambed Treated for channel structure placement (C.4.d.4):		0.1
Pools Created through channel structure placement (C.4.d.5):		2
Yards Of Average Stream-Width At Mid-Point Of Worksite (C.4.d.6):		4
Number of structures placed in channel (C.4.d.7):		4
		composed of 40 individual large wood pieces

Streambank stabilization (C.4.e.1)

Material Used For Streambank Stabilization (C.4.e.2):		Logs, Rocks/Boulders
Miles of Streambank Stabilized (C.4.e.3):		0.06

Riparian Habitat Project

Total Riparian Miles Streambank Treated (C.5.b.1):		0.07
Total Riparian Acres Treated (C.5.b.2):		0.3

Planting (C.5.c.1)

Species Of Plants planted in riparian (C.5.c.2):		Shore Pine, Sala, Red Flowering Currant, Oregon Grape, Douglas Fir, Sitka Spruce, Western Red Cedar, Grand Fir, Salmonberry, Thimbleberry, Vine Maple, Pacific Nine Bark, Clustered Rose, Red-Osier Dogwood, Pacific Willow,
Acres Planted in riparian (C.5.c.3):		0.3
Miles of streambank planted (C.5.c.4):		0.07

Cultural Resources

Cultural resources

Cultural resource work completed : Acres excavated:		0
Cultural resource work completed : Hours of monitoring required:		0
Cultural resource work completed : Number of structures documented:		0
Acres surveyed for cultural resources:		0.30

Permits

Obtain permits

Number of permits required for implementation of project:		3

Architectural & Engineering

Architectural & Engineering (A&E)

Total cost for Architectural & Engineering (A&E):	$12,500.00	
Did A&E costs exceed billed amount (Yes/No):		No

PROPERTY DESCRIPTION (Friendly Village)

Activity: Restoration

Control & Tenure:

Instrument Type: Landowner Agreement

Timing: Proposed

Term Length: Fixed # of years **# yrs:** 10

Expiration Date:

Landowner Type: Private **Note:**

Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

Sponsor Clarifications:

SPONSOR CERTIFICATION

[X] I certify that this project has been completed in accordance with the project agreement.

[X] I certify that, to the best of my knowledge, the information in the Final Report is true and correct.

Submitted by Walter Rung on 01/14/2016