



EEL RIVER WATERSHED
IMPROVEMENT GROUP

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Little Van Duzen River Instream Habitat Enhancement Project Final Report

FRGP Grant Number: P1710505
May 2020



Prepared by:

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For:

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Final Report

PROJECT TITLE: Little Van Duzen River Instream Habitat Enhancement Project

FRGP GRANT #: P1710505

Grant Term: June 1st, 2018 – May 31st, 2020

GRANTEE NAME AND CONTACT INFORMATION:

Eel River Watershed Improvement Group
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Author Information: Dave Heaton - ERWIG Project Manager

Overview of Project

Implementation start and end dates:

Instream work began on July 24th, 2018 and ended on August 16th, 2018. A second phase of instream work was initiated on August 27th, 2019 and culminated on September 4th, 2019. The second phase of work consisted of adding three features to a section of stream channel that changed position after 2018/2019 winter storms bypassing three previously installed structures and repairing minor damage to feature 6642.

Location:

Little Van Duzen River (aka South Fork Van Duzen River), tributary to the Van Duzen River, tributary to the Eel River, tributary to the Pacific Ocean.

The project is located on the Little Van Duzen River. The downstream end of the project reach is approximately 1.85 miles upstream from the confluence with the Van Duzen River and approximately 0.72 miles upstream of the confluence with Burr Creek. The project reach extends 0.5 miles up the Little Van Duzen with 8 total features (16 structures) in the reach. The upstream end of the project reach is 0.5 miles downstream of the confluence with Butte Creek.

Latitude and Longitude (decimal degrees):

The center of the project reach is located at 40.45891° north latitude, 123.65800 ° west longitude.



Project Description:

During the time span from July 24th to August 16th, 2018, eight large wood log (LW) features were installed along a half mile reach of the Little Van Duzen River. These features included a total of 16 structures and 48 pieces of LW, including 23 "key pieces". The LW features were designed to increase shelter, add habitat complexity and enhance pools. In addition to the installed structures, 150 conifers were planted along the stream bank to provide shade and future LW recruitment. The 2018/2019 winter storms produced flows in this reach that caused the channel to change position and bypass three of the structures (Feature 4033, 4304, and 4408). From August 27th to September 4th, 2019 additions feature 4408 were completed. The additions included 10 pieces of anchored LW, including 5 key pieces, bring the project total to 58 pieces of LW and 28 key pieces. These additions are intended to provide additional fish habitat and refugia, hydraulically reconnect flow with the previously established channel and provide fish access to the bypassed habitat structures and maintain overall habitat objectives as originally intended. As of the writing of this report the additions are intact and functioning as anticipated.

See attached maps for more detail.

Listed Species Surveys:

A professional botanist followed field survey guidelines developed by CNPS and CDFW, in order to identify listed plant species in the project area. No sensitive plant species or communities were encountered during the field survey. No other listed species surveys were necessary.

No dewatering of the channel or fish relocation was performed.

Recovery Plan/Assessment Information:

- The project area was identified in the listed assessment/plans:
 - NOAA. 2012. Southern Oregon/ Northern California Coastal Coho Salmon Recovery Plan, NOAA, Washington, D.C
 - CDFG. 1992. Little Van Duzen River Stream Inventory Report, CDFG, Fortuna, CA

- All habitat improvements are made in accordance with techniques described in:
 - Flosi, Gary. 1998. *California Salmonid Stream Habitat Restoration Manual*, California Department of Fish and Wildlife, Fortuna, CA 95540.
 - Flosi, Gary. 2004. *California Salmonid Stream Habitat Restoration Manual 3rd edition*, Volume II, Part XI, California Department of Fish and Wildlife, Fortuna, CA 95540.



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Final Budget

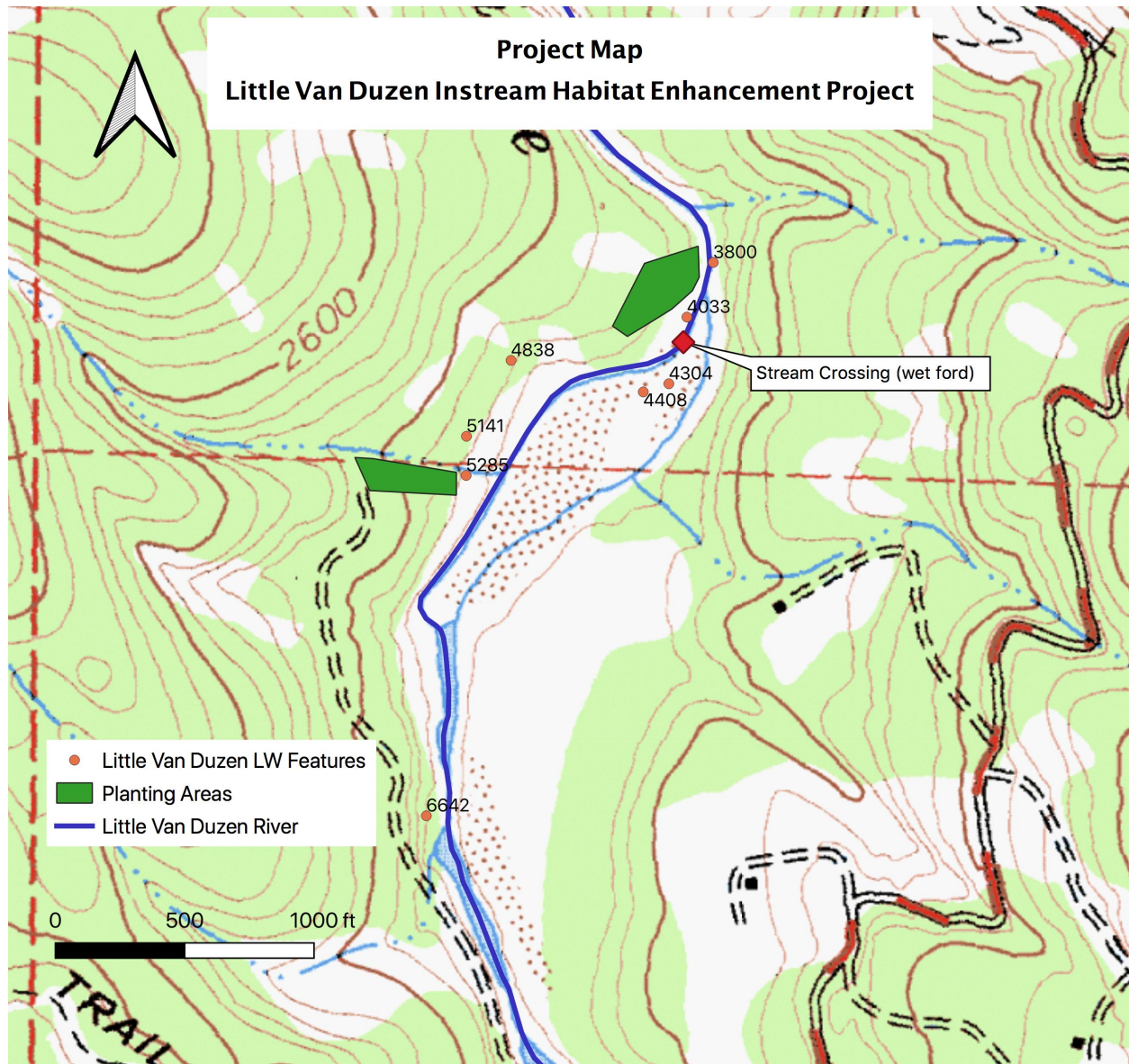
Personnel Services	FRGP Funds	In-Kind Cost Share	Total
<i>Project Manager</i>	\$12,000.00	\$0.00	\$12,000.00
<i>Project Associate</i>	\$3,000.00	\$0.00	\$3,000.00
<i>Staff Benefits</i>	\$3,600.00	\$0.00	\$3,600.00
Total Personnel Services	\$18,600.00	\$0.00	\$18,600.00
Operating Expenses: Subcontractors			
<i>Fish Habitat Subcontractor - California Conservation Corps</i>	\$29,956.96	\$12,265.00	\$42,221.96
<i>RPF</i>	\$795.00	\$0.00	\$795.00
<i>Geotechnical Sub</i>	\$0.00	\$0.00	\$0.00
<i>Biological Sub</i>	\$570.00	\$0.00	\$570.00
<i>Heavy Equipment Sub</i>	\$32,640.00	\$0.00	\$32,640.00
<i>Bookkeeper</i>	\$0.00	\$0.00	\$0.00
Total Sub Costs	\$63,961.96	\$12,265.00	\$76,226.96
Operating Expenses: Other Costs			
Tools and Materials	\$6,703.39	\$0.00	\$6,703.39
Mileage @ \$0.54/mile	\$1,691.28	\$0.00	\$1,691.28
Repair and Rental	\$143.86	\$0.00	\$143.86
Permit Fees	\$3,185.25	\$0.00	\$3,185.25
Total Other Costs	\$11,677.78	\$0.00	\$11,677.78
Additional Cost Share			
Betty Heaton - landowner	\$0.00	\$18,025.00	\$18,025.00
Subtotals and Indirect Charges			
Allowable MTDC	\$81,688.78	\$0.00	\$81,688.78
<i>Costs not included In MTDC</i>	\$12,596.96	\$30,290.00	\$42,886.96
<i>Administrative Overhead @10%</i>	\$8,168.88	\$0.00	\$8,168.88
Grand Total	\$102,454.62	\$30,290.00	\$132,744.62



Cost Share:

Source of Funds	Cash	In-Kind	Total	Description
California Conservation Corps (CCC)	\$0	\$12,265.00	\$12,265.00	The CCC contributed in-kind funds to the project, by paying for a portion of the corpsmember labor costs.
Betty Heaton - Landowner	\$0	\$18,025.00	\$18,025.00	The landowner donated all the logs for the project as well as the conifer seedlings.

Location Map





Performance Measures

P1710505 Little Van Duzen Instream Habitat Enhancement	
Salmon Habitat Restoration	
Overall stream length treated (miles, count one side of stream only)	0.54
Length of aquatic habitat disturbed (sum of feature lengths - feet)	670
Area of in-stream features installed within bankfull channel (feet ²)	3473
Instream Habitat	
Instream Habitat Funding (dollars)	\$102,000
Total length of instream habitat treated (miles)	0.54
Channel Reconfiguration and Connectivity	
Length of stream treated for channel reconfiguration/reconnectivity (miles)	0
Length of off-channel stream created (miles):	0
Area of off-channel or floodplain connected (acres):	0
Instream pools created/added via excavation (number):	0
Channel Structure Placement	
Instream features installed/modified (number)	11
Length of stream treated for channel structure placement (miles)	0.53
Area of streambed created (acres)	0
Expected amount of pools created through channel structure placement	5
Spawning Gravel Placement	
Yards of gravel placed (cubic yards)	0
Length of stream treated with spawning gravel placement (miles)	0
Plant Removal/Control	
Species of aquatic plants removed/controlled (text)	N/A
Length of stream treated for plant removal/control (miles)	0
Area of plants removed/controlled (acres)	0
Predator/Competitor Removal	
Species of predators or competitors controlled/removed (text)	N/A
Length of stream treated for predator/competitor removal/control (miles)	0
Predators/competitors removed/controlled (number)	0
Methods used to control/remove predators or competitors (text)	N/A
Estuarine/Nearshore	
Estuarine/nearshore funding (dollars)	0
Amount of estuarine/nearshore area treated (acres)	0
Channel Modification	
Yards of channel modified/created (yards)	0
Dike or Berm Modification/Removal	
Length of dikes removed (miles)	0
Area of available habitat created (acres)	0
Removal of Existing Fill Material	
Area of estuary treated (acres)	0
Estuarine Plan Removal/Control	
Species of plants removed (text)	N/A
Amount of estuarine area treated for invasive species (acres)	0
Exclusion Devices	
Area treated (acres)	0
Estuarine Planting	
Species of plants planted (text)	N/A
Amount of estuarine area treated for planting (acres)	0



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Riparian Habitat	
Riparian habitat funding (dollars)	\$404
Length of riparian stream bank treated (miles, one side of stream)	630
Amount of riparian area treated (acres)	0.52
Riparian Planting	
Species of plants planted in riparian	Pseudotsuga menziesii
Area planted in riparian (acres)	0.5
Riparian Plant Removal/Control	
Species of plants treated/removed in riparian (text)	N/A
Amount of riparian area treated for invasive species (acres)	0
Debris/Structures Removal	
Amount of riparian area treated (acres)	0
Trail or Campground Improvement	
Amount of area improved (acres)	0

Appendix F Metrics				
Waterbody	Little Van Duzen	Little Van Duzen	Little Van Duzen	Little Van Duzen
Affected Resource	Streambed	Streambed	Riparian	Riparian
Duration of Direct Impact	Permanent	Temporary	Temporary	Permanent
F/E	F - Logs	E – Bank Disturbance	E - Riparian Disturbance	F - Logs
Fill Direct Impacts	523 feet long, 0.076 acres	210 feet long, 0.04 acres	450 feet long, 0.151 acres	180 feet long, 0.02 acres
Indirect Impacts	None	None	None	None
Restoration Method	Enhancement	Rehabilitation	Rehabilitation	Rehabilitation
Acres Restored	3.001 acres	0.04 acres	0.5 acres	0.02 acres
Linear Feet Restored	2640 feet	210 feet	450 feet	180 feet
CRAM	No	No	No	No



Photo Logs

Referenced to digital files

Pre-project Photo Log			
File Name	Date	Feature #	Viewpoint
P3800.jpg	3/6/17	3800	Standing on left bank, looking upstream
P4033.jpg	3/6/17	4033	Standing on left bank, looking downstream
P4304.jpg	3/6/17	4304	Standing on left bank, looking downstream
P4408.jpg	3/6/17	4408	Standing on left bank, looking downstream
P4838.jpg	3/6/17	4838	Standing on left bank, looking upstream
P5141.jpg	3/6/17	5141	Standing on left bank, looking upstream
P5285.jpg	3/6/17	5285	Standing mid-channel, looking upstream
P6642.jpg	3/6/17	6642	Standing on left bank, looking upstream

Post-project Photo Log			
File Name	Date	Feature #	Viewpoint
3800.jpg	11/20/18	3800	Standing on left bank, looking at right bank
4033.jpg	11/20/18	4033	Standing on left bank looking downstream
4304A.jpg	11/20/18	4304	Looking at upstream extent of feature, standing on left bank looking at right bank
4304B.jpg	11/20/18	4304	Looking at middle of feature, standing on left bank, looking at right bank
4304C.jpg	11/20/18	4304	Looking at downstream extent of feature, standing on left bank, looking at right bank
4408A.jpg	11/20/18	4408	Looking at middle of feature, standing on left bank looking downstream (upstream extent not installed)
4408B.jpg	11/20/18	4408	Looking at downstream extent of feature, standing on left bank, looking upstream
4408C.jpg	1/10/20	4408	Looking at upstream extent of feature (2019 addition), standing on left bank looking at right bank
4838.jpg	11/20/18	4838	Standing on right bank, looking upstream
5141.jpg	11/20/18	5141	Standing on left bank, looking at right bank
5285.jpg	11/20/18	5285	Standing on left bank, looking upstream
6642A.JPG	11/20/18	6642	Looking at upstream extent of feature, standing on left bank, looking upstream
6642B.JPG	11/20/18	6642	Looking at downstream extent of feature, standing on left bank, looking upstream
TreePlanted.jpg	1/11/19	N/A	Looking at planted Douglas fir seedling