

ODFW AQUATIC INVENTORY PROJECT
OREGON PLAN FOR SALMON & WATERSHEDS
STREAM RESTORATION HABITAT REPORT

STREAM: Wood Creek (U-65)
 BASIN: Umpqua River
 SURVEY TYPE: Pre and Post-Tx
 DATE: October 28, 2003
 REPORT PREPARED BY: Paul Jacobsen

The Wood Creek restoration project extended approximately 1,600 meters, with about 500 meters of the project being monitored for pre- and post-treatment conditions. Fifteen habitat structures were created and 62 key pieces (according to the ODF Large Wood Placement Guide) were used. In addition, one culvert was replaced, opening about three miles of stream to anadromous fish use. The intended goals of the project included increasing stream complexity, improved interaction with the floodplain, gravel retention, increased pool area, improved fish passage, and enhanced salmonids spawning and rearing habitat. In the first seasons after restoration activities, large wood pieces, volume, and key pieces are increased as expected. In addition, pool area and complex pools are higher, as is riffle gravel.

	ODFW	Benchmark	Winter Pre	Summer Pre	Winter Post	Summer Post	
Habitat Variable	Desirable	Undesirable	3/6/00	7/6/00	2/20/01	7/3/01	
Reach #							
Pool Area	>35	<10	17.2	11.0	18.3	25.3	
Pool Frequency	5-8	>20	6.1	15.0	9.8	7.9	
Residual Pool Depth	>0.5-1.0m	<0.2-0.5m	.43	.50	.38	.30	
Complex Pools/km	>2.5	<1.0	3.8	2.0	5.8	10.7	
Width/Depth Ratio	<15	>30	10.1	7.9	8.1	8.8	
Riffle Gravel % area	>35	<15	40	26	40	40	
Silt-Sand-Organic %	<12	>25	30	16	20	32	
Shade %	>70	< 60		62		87	
LWD - pieces/100m	>20	<10	16.4	19.1	19.9	22.0	
LWD - Volume/100m	>30	<20	44.2	14.6	37.6	41.2	
LWD - Key pieces/ 100m	>3	<1	2.8	0.2	0.2	5.8	
Riparian Conifers>20" dbh/1000ft	>300	<150		20		0	
Riparian Conifers>35" dbh/1000ft	>200	<75		0		0	

COMMENTS:

There were no potential barriers to upstream fish migration in the surveyed length.

Thirteen habitat structures were recorded.

**ODFW AQUATIC INVENTORY PROJECT
OREGON PLAN FOR SALMON & WATERSHEDS
STREAM RESTORATION HABITAT REPORT**

STREAM: Wood Creek (U-65)
BASIN: Umpqua River
SURVEY TYPE: Post-Tx
DATE: July 3, 2001
SURVEY CREW: Doug Garletts, Andrea Mull
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 8.4 km²
USGS MAPS: McCullough Creek
ECOREGION: Coast Range Klamath Siskiyou

GENERAL DESCRIPTION:

The Wood Creek habitat survey extended 531 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 15.0 (range: 10.0 – 25.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 4.7 percent. Rapids (62%) dominated stream habitat. Gravel (32%) and cobble (30%) dominated stream substrate. Wood volume was high at 41.2 m³/100m.

COMMENTS:

There were no potential barriers to upstream fish migration in the surveyed length.

The crew noted several habitat structures during the survey.

REACH 1

T32S-R6W-S9SE

REACH 1

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

<u>Narrow Valley Floor</u>		<u>Broad Valley Floor</u>	
Steep V-shape	0	Constraining Terraces	100
Moderate V-shape	0	Multiple Terraces	0
Open V-shape	0	Wide Floodplain	0

Valley Width Index avg: 15.0 range: 10.0-25.0

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0	Single Channel	0
Bedrock	0	Multiple Channel	0
Terrace	100	Braided Channel	0
Alt. Terrace/Hill	0		
Landuse	0		

Channel Characteristics

<u>Type</u>	<u>Length(m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary	531	1,025	0
Secondary	31	37	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	1.9	Width	4.5	10.7	6.5
Depth	0.20	Height	0.5	1.0	1.5
		W:D ratio	8.8	Entrenchment	2.4

Stream Flow Type: LF Water Temp: 11.0-11.0°C
 Avg. Unit Gradient: 4.7% Habitat Units/100m: 9.3

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	M30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	1%	Reach avg: 87%
Undercut Banks	16%	Range: 25-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	117	22.0
Volume (m ³)	219	41.2
Key pieces (≥10m x 0.6m)	31	5.8

REACH 1

T32S-R6W-S9SE

REACH 1

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbbl	Bldr	Bdrk
CULVERT CROSSING	1	13	2.0	0.10	26	2	5	40	30	25	0	0
POOL-DAMMED	5	38	2.0	0.33	77	3	26	20	32	21	1	0
POOL-LATERAL SCOUR	5	40	2.2	0.39	88	0	18	26	29	20	0	7
POOL-PLUNGE	3	13	3.2	0.42	41	4	20	23	33	22	2	0
POOL-STRAIGHT SCOUR	3	25	2.4	0.35	63	11	10	33	26	29	2	0
RAPID/BOULDERS	21	356	1.8	0.14	656	206	1	23	32	35	6	2
RIFFLE	4	47	1.2	0.11	56	5	8	24	40	29	0	0
RIFFLE W/ POCKETS	1	21	1.9	0.15	40	14	0	10	30	35	25	0
STEP/BOULDERS	4	4	1.2	0.09	4	12	0	5	29	43	23	0
STEP/COBBLE	1	2	1.1	0.10	2	0	5	20	45	30	0	0
STEP/LOG	3	3	2.0	0.07	9	0	5	22	38	34	0	0
STEP/STRUCTURE	1	0	1.5	0.03	0	0	30	55	15	0	0	0
Total:	52	562	1.9	0.20	1,062	257	Avg: 8	23	32	30	5	1

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Percent	Large Boulders Number	Boulders #/100m ²
Dammed & BW Pools	5	38	2.0	0.33	77	7.22	3	3.9
Scour Pools	11	78	2.5	0.39	192	18.05	15	7.8
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	5	68	1.3	0.12	96	9.06	19	19.8
Rapids	21	356	1.8	0.14	656	61.82	206	31.4
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	9	9	1.5	0.08	15	1.40	12	80.5
Dry	0	0	-	-	0	0.00	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	16	28.5
Pools ≥1m deep:	0	0.0
Complex pools (LWD pieces ≥3):	6	10.7
Pool Frequency (channel widths/pool):	7.9	
Residual pool depth (avg)	0.30m	

STREAM SUMMARY

WOOD CREEK POST-TX. (#65)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate Percent Wetted Area						Total Large Boulder
					S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	
52	562	1.9	0.20	1,062	8	23	32	30	5	1	257

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	192	18.0
Backwater Pools	77	7.2
Glide	0	0.0
Riffle	96	9.1
Rapid	656	61.8
Cascade	0	0.0
Step	15	1.4
Dry	0	0.0

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) (3 transects)

Total hardwoods/1000 ft	1,016
Total conifers/1000 ft	610
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters		Zones 1-3 0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	1.3	5.0	0.0	3.3	2.3	3.7	3.7	12.0
15-30cm	1.0	2.3	2.0	1.3	2.0	0.0	5.0	3.7
30-50cm	0.7	0.7	0.0	0.0	0.7	0.3	1.3	1.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m ²	3.0	8.0	2.0	4.7	5.0	4.0	3.3	5.6

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	85		70		56	
Shrub cover	43		24		38	
Grass/forb cover	41		33		43	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	67		50		50
High terrace	33		33		50	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		17		0	
Riprap	0		0		0	
Surface slope (%)	16		8		15	

Summary of Riparian Zone (0-30m) for all reaches (3 transects)

Summary of riparian zone (0-100ft) extrapolated to 1,000 feet along stream

Total hardwoods/1000 ft	1,016
Total conifers/1000 ft	610
Total conifers >20" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	3.7	12.0
15-30cm	5.0	3.7
30-50cm	1.3	1.0
50-90cm	0.0	0.0
>90cm	0.0	0.0

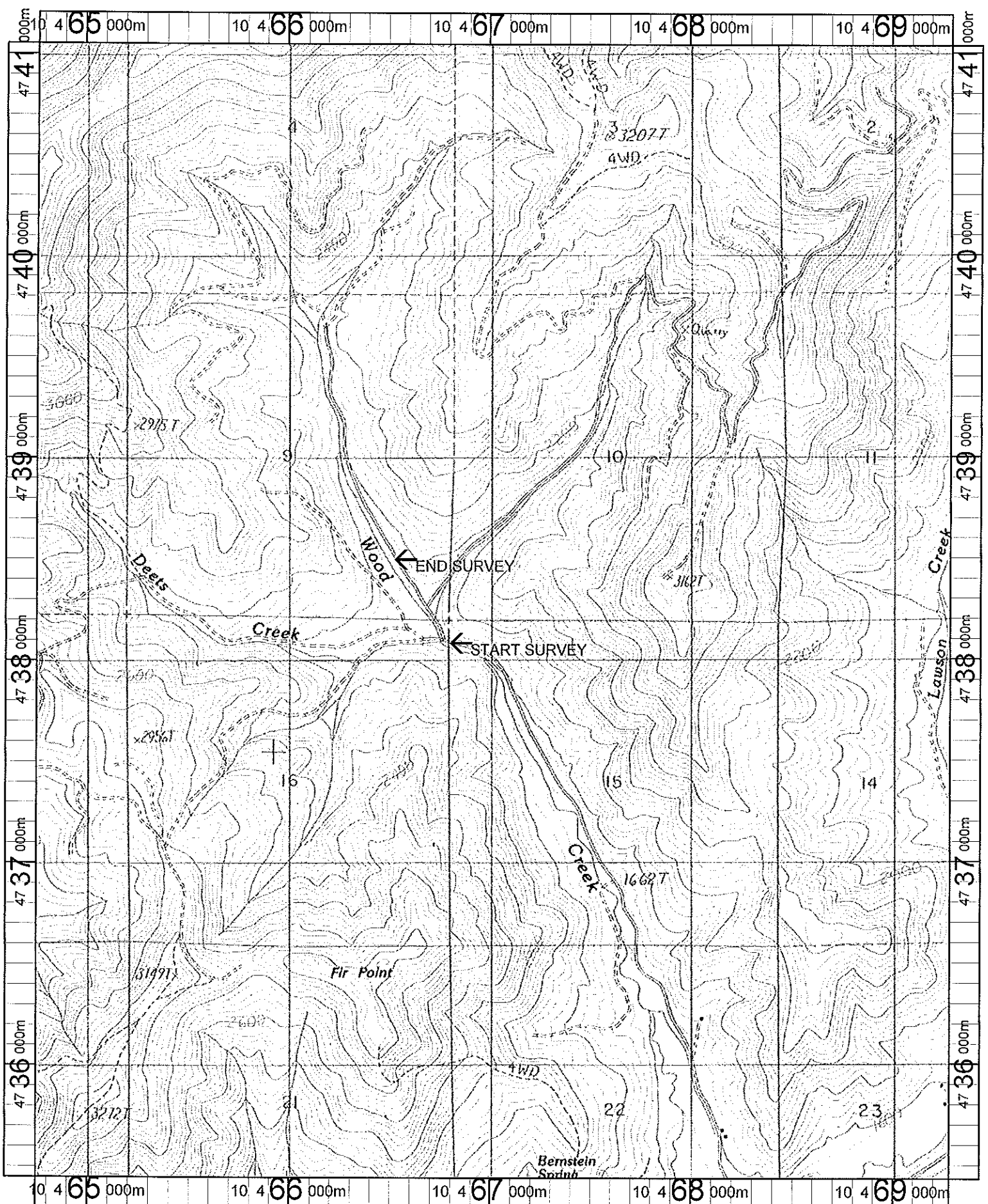
RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

VEGETATION DETAIL

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
18	LF	1	HS	19.0	95	50	10	Conifer	0	0	1	0	0	
								Hardwood	0	1	0	0	0	
18	LF	2	HS	15.0	95	5	20	Conifer	0	0	0	0	0	
								Hardwood	3	2	0	0	0	
18	LF	3	HT	2.0	25	1	90	Conifer	1	2	0	0	0	
								Hardwood	0	0	0	0	0	
18	RT	1	HS	10.0	80	60	30	Conifer	0	0	0	0	0	
								Hardwood	5	3	1	0	0	BIG LEAF MAPLE, ALD
18	RT	2	HS	8.0	50	5	90	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	VINEMAPLE
18	RT	3	HS	4.0	10	40	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
33	LF	1	HS	6.0	90	40	60	Conifer	0	0	1	0	0	
								Hardwood	1	0	0	0	0	ALDER
33	LF	2	HS	18.0	100	15	40	Conifer	0	0	0	0	0	
								Hardwood	6	1	0	0	0	ALDER
33	LF	3	HS	28.0	50	35	15	Conifer	1	0	0	0	0	
								Hardwood	10	0	0	0	0	BIG LEAF MAPLE, ALD
33	RT	1	HS	40.0	75	40	25	Conifer	0	0	0	0	0	
								Hardwood	6	0	0	0	0	VINE MAPLE
33	RT	2	RB	0.0	0	1	5	Conifer	0	3	0	0	0	
								Hardwood	0	0	0	0	0	
33	RT	3	HS	45.0	75	5	90	Conifer	3	2	1	0	0	
								Hardwood	0	0	0	0	0	D. FIR, CEDAR
45	LF	1	HT	20.0	75	10	80	Conifer	4	3	0	0	0	
								Hardwood	1	0	0	0	0	D. FIR, YEW
45	LF	2	HT	6.0	80	40	20	Conifer	0	3	0	0	0	
								Hardwood	0	0	0	0	0	D. FIR
45	LF	3	HT	8.0	80	65	35	Conifer	0	0	1	0	0	
								Hardwood	1	0	1	0	0	D. FIR, BIG LEAF MA
45	RT	1	HT	1.0	95	60	40	Conifer	0	0	0	0	0	
								Hardwood	2	3	1	0	0	BIG LEAF MAPLE
45	RT	2	HT	2.0	95	80	20	Conifer	0	0	0	0	0	
								Hardwood	1	0	0	0	0	VINE MAPLE
45	RT	3	HT	3.0	95	80	20	Conifer	2	2	0	0	0	
								Hardwood	0	0	0	0	0	D. FIR



Name: MC CULLOUGH CREEK
 Date: 1/10/2002
 Scale: 1 inch equals 2000 feet

Location: 10 467023 E 4738241 N
 Caption: WOOD CREEK RESTORATION SITE - UMPQUA
 BASIN