

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

STREAM: Charlotte Creek (U-14)  
BASIN: Umpqua River  
SURVEY TYPE: Post-Tx  
DATE: February 27, 2007  
SURVEY CREW: Joanne Lowden, Charlie Stein  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 10.0 km<sup>2</sup>  
USGS MAPS: Deer Head Point  
ECOREGION: Coast Range Coastal Uplands

**GENERAL DESCRIPTION:**

The Charlotte Creek habitat survey extended 547 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 2.1 (range: 1.5-2.5). Land use for the reach was large (30-50 cm dbh) trees. The average unit gradient was 2.2 percent. Riffles (57%) and scour pools (32%) dominated stream habitat. Gravel (64%) dominated stream substrate. Wood volume was low at 19.9 m<sup>3</sup>/100m.

**COMMENTS:**

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

The crew noted several habitat structures during the survey.

Stream Charlotte Creek (U-14)  
 Basin Umpqua River  
 Treatment Large Wood

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	Desirable	Undesirable	3/1/00	2/23/01	2/27/07		
% Pool Area	>35%	<10%	30.8	42.0	<b>33.8</b>		
Number of Pools			9	13	<b>9</b>		
Deep Pools/km (>1.0 m)			9.6	6.9	<b>3.4</b>		
% Off-Channel			1.5	2.4	3.4		
LWD – Pieces/100m	>20	<10	20.8	19.7	<b>16.5</b>		
LWD – Volume/100m	>30	<20	10.3	32.0	<b>19.9</b>		
LWD – Key Pieces/100m	>3	<1	0.0	0.9	0.2		
Large Wood Jams/km			12.0	7.4			
% Riffle Fines	<10	>20	9	18	9		
% Riffle Gravel	>35	<15	55	74	72		
% Bedrock			0	0	0		

**Bold** is noticeable change

Comments: Pool area and the number of pools have returned to pre-treatment conditions, while deep pools seem to have decreased through time. However, the change in deep pools may merely be a symptom of stream flows rather than real change. Off channel habitat appears to be slowly increasing. However, wood values are decreasing since treatment, suggesting that wood is leaving the reach and not being recruited from the riparian area. Stream substrate remains relatively unchanged. The treatment appears to have been initially successful, but seems to be dropping off with time.

REACH 1

T22S-R10W-S17NW

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	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.1	VWI Range:	1.5 - 2.5

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	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 Channel	547	3,548	0
Secondary Channel	27	76	0
Off-Channel Units	20	49	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 4
Width: 6.1	Width: 11.4	15.2 ( 12.5 - 18 )	18.6 ( 15 - 21 )
Depth: 0.51	Height: 0.7	1.3 ( 1.3 - 1.4 )	1.9 ( 1.6 - 2.3 )

W:D ratio: 17.2  
 Stream Flow Type: MF  
 Average Unit Gradient: 2.2%  
 Water temperature (°C): 5.0 - 5.0

Entrenchment (ACW:FPW ratio): 1.3  
 Habitat Units/100m (total channel length): 4.2  
 Habitat Units/100m (primary channel length): 4.6

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	
Riparian Vegetation:	D15	

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	90	16.5
Volume (m <sup>3</sup> ):	109	19.9
Key pieces (>=12m x 0.60m):	1	0.2

OREGON DEPT OF FISH AND WILDLIFE

CHARLOTTE CREEK POST-TX (4-UMP, 14)

HABITAT INVENTORY

Report Date: 4/25/2007

Survey Date:

2/27/2007

REACH 1		T22S-R10W-S17NW					REACH 1					
HABITAT DETAIL												
Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	1	27	2.8	0.25	76	0	0	10	40	30	20	0
POOL-BACKWATER	3	20	2.5	0.53	49	0	10	50	38	2	0	0
POOL-LATERAL SCOUR	6	189	6.4	0.97	1,193	0	0	11	72	15	2	0
RAPID/BOULDERS	1	34	5.5	0.40	187	0	0	10	50	20	20	0
RIFFLE	10	272	6.7	0.35	1,821	0	0	9	72	18	0	0
RIFFLE W/ POCKETS	1	44	6.5	0.40	286	0	0	15	60	15	10	0
STEP/BOULDERS	1	2	8.0	0.30	16	0	0	0	20	20	60	0
STEP/COBBLE	1	6	7.5	0.25	44	0	0	5	80	15	0	0
STEP/LOG	1	0	8.5	0.15	3	0	0	0	90	10	0	0
<b>Total:</b>	25	593	6.1	0.51	3,672	0	<b>Avg:</b> 1	14	64	16	5	0

HABITAT SUMMARY									
Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders		
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )	
Dammed & BW Pools	3	20	2.5	0.53	49	1.33%	0	0.0	
Scour Pools	6	189	6.4	0.97	1,193	32.47%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	11	316	6.7	0.35	2,107	57.36%	0	0.0	
Rapids	1	34	5.5	0.40	187	5.09%	0	0.0	
Cascades	1	27	2.8	0.25	76	2.06%	0	0.0	
Step/Falls	3	8	8.0	0.23	62	1.69%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	9	15.2	16.5
Pools >=1m deep:	2	3.4	3.7
Complex pools (LWD pieces>=3):	6	10.1	11.0
Pool frequency (channel widths/pool):	5.8		
Residual pool depth (avg):	0.59		

# Comment Summary

## Restoration Monitoring Sites 2007

MONITORING AREA: **4-UMP**    SITE ID: **14**    **CHARLOTTE CREEK POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
1	RI	00	25		START AT HWY 38 CULVERT
4	SB	01	70		H=0.50M
6	RI	00	106		QUARRY ON RIGHT
7	RB	00	140		CH/MV/D30/LT
8	RP	00	184	SS/, HS	T=5.0C, HABITAT LOG
11	LP	00	274.5	/CE, HS/HS	CH/MV/D30/LT
12	RI	00	299.5	HS/	
15	LP	00	374.5	HS/HS	TRIB ON RIGHT BUT NO CHANNEL
17	RI	00	424.5		CH/MV/D15/LT
18	LP	01	464.5		LUMPED A SMALL SC
19	BW	10	464.5	HS	
21	LP	00	511.3	HS/HS	
22	SL	01	511.6		H=0.20M
24	LP	01	546.6	HS/HS	
25	BW	10	546.6		CH/MV/D15/LT



