ODFW AQUATIC INVENTORY PROJECT

OREGON PLAN FOR SALMON & WATERSHEDS

STREAM RESTORATION HABITAT REPORT

STREAM:	Buck Creek (L-73)
BASIN:	Clatskanie River
SURVEY TYPE:	Post-Tx
DATE:	February 28, 2007
SURVEY CREW:	Jeff O-Leary, Sheri Etchemendy
REPORT PREPARED BY:	Paul Jacobsen
BASIN AREA:	3.3 km^2
USGS MAPS:	Delena
ECOREGION:	Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Buck Creek habitat survey extended 463 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 2.1 (range: 1.0-3.0). Land use for the reach was young (3-15 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 2.5 percent. Beaver pools (39%) and riffles (39%) dominated stream habitat. Gravel (45%) and silt (35%) dominated stream substrate. Wood volume was low at 13.3 m^3/100m.

COMMENTS:

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

Stream Buck Creek (L-73)

Basin Clatskanie River

Treatment Large Wood

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	**Desirable**	**Undesirable**	2/7/01	2/11/02	2/28/07		
% Pool Area	>35%	<10%	32.1	61.5	**45.7**		
Number of Pools			16	14	10		
Deep Pools/km (>1.0 m)			1.6	4.8	**0.0**		
% Off-Channel			13.6	9.9	**6.0**		
LWD – Pieces/100m	>20	<10	18.2	24.4	**16.0**		
LWD – Volume/100m	>30	<20	16.2	17.8	13.3		
LWD – Key Pieces/100m	>3	<1	0	0	0		
Large Wood Jams/km			10.9	9.6			
% Riffle Fines	<10	>20	48	11	29		
% Riffle Gravel	>35	<15	46	43	54		
% Bedrock			5	31	10		

Bold is noticeable change

Comments: Pool area is higher than pre-treatment conditions, but has faded from the first post-treatment survey. The number of pools seem to have decreased with time, as have the number of deep pools, although this latter characteristic may be a symptom of flows rather than an actual change. Large wood pieces have decreased since treatment, as has wood volume, suggesting that wood is leaving the reach without being replenished from the riparian area or from upstream. Substrates appear variable but relatively unchanged. It appears that the treatment was initially effective but is less so with time.

OREGON DEPT OF FISH AND WILDLIFE **BUCK CREEK POST-TX (7-L, 73)**

HABITAT INVENTORY Report Date: 4/25/2007 Survey Date: 2/28/2007

REACH 1 **T06N-R03W-S15SE** **REACH 1**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 2.1 VWI Range: 1 - 3

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary Channel	463	2,063	0
Secondary Channel	93	131	0
Off-Channel Units	0	0	0

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 5		First Terrace *n* = 3	
Width:	4.3	Width:	5.9	10.2	(4.5 - 16)	12.9	(11.9 - 13.8)
Depth:	0.33	Height:	0.4	0.8	(0.7 - 0.8)	1.0	(1 - 1)

W:D ratio: 15.6
Stream Flow Type: HF
Average Unit Gradient: 2.5%
Water temperature (°C): 4.0 - 4.0

Entrenchment (ACW:FPW ratio): 1.8
Habitat Units/100m (total channel length): 5.9
Habitat Units/100m (primary channel length): 7.1

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	YT	ST
Riparian Vegetation:	M15	D15

Bank Condition and Shade

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

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	74	16.0
Volume (m^3):	62	13.3
Key pieces (>=12m x 0.60m):	0	0.0

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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	Cbl	Bldr	Bdrk
CASCADE/BEDROCK	1	25	2.7	0.15	68	0		10	0	5	5	0	81
POOL-BEAVER DAM	5	89	8.9	0.71	846	0		75	3	21	1	0	0
POOL-LATERAL SCOUR	4	35	3.6	0.64	133	0		32	4	53	11	0	0
POOL-PLUNGE	1	8	3.0	0.95	24	0		35	0	35	15	5	10
RAPID/BOULDERS	5	99	2.6	0.25	255	0		20	5	68	6	0	1
RIFFLE	14	296	2.9	0.17	845	0		26	3	54	7	0	10
STEP/BEDROCK	1	2	4.0	0.07	8	0		5	0	0	0	0	95
STEP/LOG	2	2	9.5	0.09	15	0		73	5	20	3	0	0
Total:	33	556	4.3	0.33	2,193	0	**Avg:**	35	3	45	6	0	10

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / $100m^2$)
Dammed & BW Pools	5	89	8.9	0.71	846	38.55%	0	0.0
Scour Pools	5	43	3.5	0.70	157	7.17%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	14	296	2.9	0.17	845	38.53%	0	0.0
Rapids	5	99	2.6	0.25	255	11.64%	0	0.0
Cascades	1	25	2.7	0.15	68	3.08%	0	0.0
Step/Falls	3	4	7.7	0.08	23	1.03%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

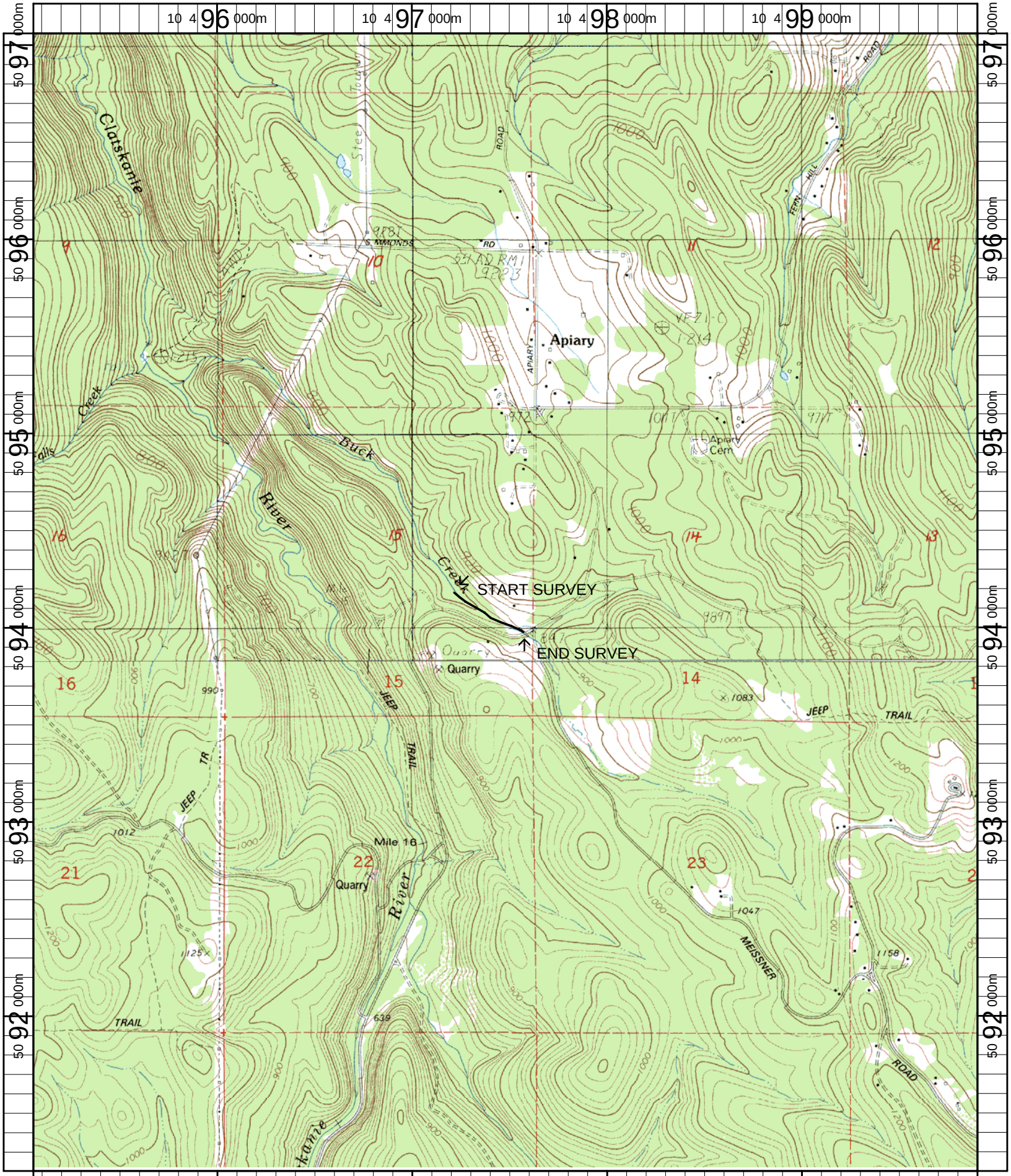
POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	10	18.0	21.6
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	5	9.0	10.8
Pool frequency (channel widths/pool):	9.5		
Residual pool depth (avg):	0.60		

Comment Summary
Restoration Monitoring Sites 2007

MONITORING AREA: **7-L** **SITE ID:** **73** **BUCK CREEK POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
1	BP	00	34.6	BV	
4	LP	00	63.3	BV, SS/	
12	BP	00	162.4	BV	
16	BP	00	210.7	BV	
18	BP	00	236.3	BV	
23	BP	00	300.5	BV	



Name: DELENA
Date: 4/25/2007
Scale: 1 inch equals 2000 feet

Location: 10 0497478 E 5094130 N
Caption: BUCK CREEK RESTORATION SITE - CLATSKANIE BASIN