

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

STREAM: Buck Creek (L-73)
BASIN: Clatskanie River
SURVEY TYPE: Pre-Tx
DATE: July 2, 2001
SURVEY CREW: Rachel Werner, Sean Allen
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 5.7 km²
USGS MAPS: Delena
ECOREGION: Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Buck Creek habitat survey extended 493 meters. The channel was single channel unconstrained in a broad valley floor. The average valley width index was 3.2 (range: 1.0 – 6.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 2.8 percent. Riffles (56%) and scour pools (24%) dominated stream habitat. Cobble (29%), sand (25%) and gravel (24%) dominated stream substrate. Wood volume was moderate at 22.2 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. Beaver activity was also recorded.

REACH 1

T6N-R3W-S15SE

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	0	Multiple Terraces	100
Open V-shape	0	Wide Floodplain	0

Valley Width Index avg: 3.2 range: 1.0-6.0

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0	Single Channel	100
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	493	1,119	0
Secondary	86	78	2

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	2.1	Width	7.5	16.5	20.1
Depth	0.15	Height	0.4	0.9	1.1
		W:D ratio	16.1	Entrenchment	2.8

Stream Flow Type: LF Water Temp: 11.0-11.0°C
Avg. Unit Gradient: 2.8% Habitat Units/100m: 7.8

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D15	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	11%	Reach avg: 86%
Undercut Banks	6%	Range: 36-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ($\geq 3m \times 0.15m$)	80	16.2
Volume (m ³)	109	22.2
Key pieces ($\geq 10m \times 0.6m$)	1	0.2

REACH 1

T6N-R3W-S15SE

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
DRY CHANNEL	2	20	0.8	0.00	16	0	5	25	35	35	0	0
POOL-BACKWATER	2	10	2.1	0.10	18	0	29	53	10	9	0	0
POOL-BEAVER DAM	2	32	4.8	0.60	161	0	22	49	11	19	0	0
POOL-LATERAL SCOUR	10	86	2.5	0.23	212	2	19	30	26	24	1	0
POOL-PLUNGE	2	9	3.5	0.35	31	0	25	60	13	3	0	0
POOL-STRAIGHT SCOUR	1	9	5.3	0.40	49	0	20	30	10	10	0	30
RAPID/BEDROCK	1	23	1.3	0.10	30	0	5	5	10	10	0	70
RIFFLE	16	293	1.8	0.09	518	15	15	18	29	35	3	0
RIFFLE W/ POCKETS	5	92	1.5	0.08	150	9	19	21	26	30	4	0
STEP/BEDROCK	1	3	3.2	0.01	10	0	0	0	0	0	0	100
STEP/COBBLE	2	1	0.9	0.03	1	0	3	3	15	80	0	0
STEP/LOG	1	0	1.1	0.10	0	0	5	10	38	48	0	0
Total:	45	579	2.1	0.15	1,198	26	Avg:16	25	24	29	2	4

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Percent	Large Boulders Number	#/100m ²
Dammed & BW Pools	4	42	3.4	0.35	180	15.00	0	0.0
Scour Pools	13	104	2.8	0.26	293	24.45	2	0.7
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	21	385	1.7	0.09	668	55.80	24	3.6
Rapids	1	23	1.3	0.10	30	2.51	0	0.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	4	4	1.5	0.04	11	0.88	0	0.0
Dry	2	20	0.8	0.00	16	1.37	0	0.0

POOL SUMMARY

	<u>Total</u>	<u>#/Km</u>
All Pools	17	29.4
Pools ≥1m deep:	0	0.0
Complex pools (LWD pieces ≥3):	3	5.2
Pool Frequency (channel widths/pool):	4.5	
Residual pool depth (avg)	0.21m	

STREAM SUMMARY

BUCK CREEK PRE-TX (#73)

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	
45	579	2.1	0.15	1,198	16	25	24	29	2	4	26

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	293	24.4
Backwater Pools	180	15.0
Glide	0	0.0
Riffle	668	55.8
Rapid	30	2.5
Cascade	0	0.0
Step	11	0.9
Dry	16	1.4

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	2,662
Total conifers/1000 ft	406
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	1.7	5.3	0.3	12.3	0.7	15.7	2.7	33.3
15-30cm	0.3	8.3	1.0	1.0	2.3	1.0	3.7	10.3
30-50cm	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
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	2.0	13.7	1.3	13.3	3.3	16.7	2.2	14.6

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	54		71		66	
Shrub cover	15		26		15	
Grass/forb cover	80		61		62	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	17		83		67
High terrace	50		17		0	
Low terrace	33		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		33	
Riprap	0		0		0	
Surface slope (%)	15		34		31	

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	2,662
Total conifers/1000 ft	406
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	2.7	33.3
15-30cm	3.7	10.3
30-50cm	0.3	0.0
50-90cm	0.0	0.0
>90cm	0.0	0.0

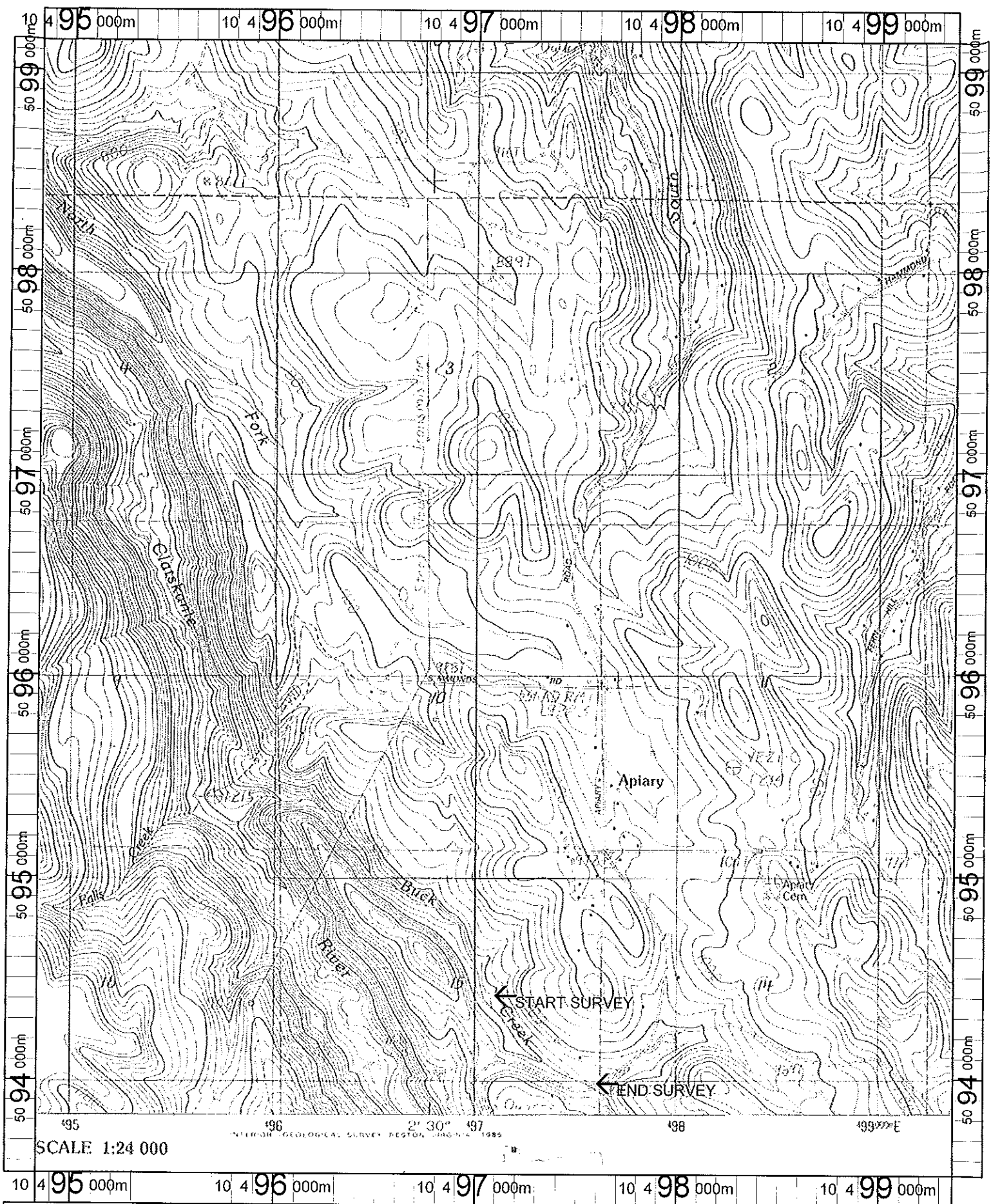
RIPARIAN ZONE VEGETATION

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	
12	LF	1	HT	10.0	85	15	85	Conifer	0	1	0	0	0	
								Hardwood	8	6	0	0	0	
12	LF	2	HS	25.0	80	5	80	Conifer	0	0	0	0	0	
								Hardwood	3	0	0	0	0	VINE MAPLE
12	LF	3	HS	30.0	95	10	80	Conifer	2	1	0	0	0	
								Hardwood	9	0	0	0	0	NETTLES, MAPLES
12	RT	1	HT	10.0	0	50	50	Conifer	4	0	0	0	0	
								Hardwood	6	0	0	0	0	CEDAR
12	RT	2	HS	70.0	90	10	40	Conifer	1	3	0	0	0	
								Hardwood	1	0	0	0	0	
12	RT	3	HS	20.0	85	0	30	Conifer	0	6	0	0	0	
								Hardwood	0	0	0	0	0	
20	LF	1	LT	2.0	70	0	75	Conifer	0	0	0	0	0	
								Hardwood	1	14	0	0	0	
20	LF	2	HT	5.0	90	10	75	Conifer	0	0	0	0	0	
								Hardwood	13	0	0	0	0	
20	LF	3	HS	25.0	85	0	95	Conifer	0	0	1	0	0	
								Hardwood	22	0	0	0	0	VINE MAPLES
20	RT	1	HS	35.0	75	2	98	Conifer	1	0	0	0	0	
								Hardwood	0	2	0	0	0	
20	RT	2	HS	30.0	75	10	90	Conifer	0	0	0	0	0	
								Hardwood	7	2	0	0	0	
20	RT	3	RB	45.0	50	20	80	Conifer	0	0	0	0	0	
								Hardwood	9	3	0	0	0	
32	LF	1	LT	20.0	20	5	90	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
32	LF	2	HS	40.0	10	40	60	Conifer	0	0	0	0	0	
								Hardwood	1	0	0	0	0	
32	LF	3	HS	35.0	80	50	45	Conifer	0	0	0	0	0	
								Hardwood	7	0	0	0	0	
32	RT	1	HT	10.0	75	20	80	Conifer	0	0	0	0	0	
								Hardwood	1	3	0	0	0	
32	RT	2	HS	35.0	80	80	20	Conifer	0	0	0	0	0	
								Hardwood	12	1	0	0	0	
32	RT	3	RB	30.0	0	10	40	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	



SCALE 1:24 000

UNITED STATES GEOLOGICAL SURVEY REGIONAL OFFICE 1985

Name: DELENA
 Date: 1/10/2002
 Scale: 1 inch equals 2000 feet

Location: 10 497103 E 5096340 N
 Caption: BUCK CREEK RESTORATION SITE - CLATSKANIE BASIN