

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

STREAM: Square Creek (N-256)
BASIN: Necanicum River
SURVEY TYPE: Pre-Tx
DATE: August 5, 2004
SURVEY CREW: Scott Young, Ben Walczak
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 1.8 km²
USGS MAPS: Tillamook Head
ECOREGION: Coast Range Sitka Spruce

GENERAL DESCRIPTION:

The Square Creek habitat survey extended 524 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 8.2 (range: 6.0-10.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 4.3 percent. Rapids (73%) dominated stream habitat. Gravel (66%) dominated stream substrate. Wood volume was low at 7.3 m³/100m.

COMMENTS:

There was one potential barrier to upstream fish migration in the surveyed length. This is a culvert and step at units four and five (55 m).

REACH 1

T05N-R10W-S04NE

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	8.2	VWI Range:	6 - 10

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	524	1,673	0
Secondary	10	8	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 3.2	Width: 6.5	11.6 (7.7 - 20.2)	11.6 (8.5 - 13.9)
Depth: 0.18	Height: 0.4	0.8 (0.7 - 0.9)	1.0 (0.8 - 1.1)

W:D ratio: 16.6

Stream Flow Type: MF

Average Unit Gradient: 4.3%

Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 1.8

Habitat Units/100m (total channel length): 5.6

Habitat Units/100m (primary channel length): 5.7

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	9%	Reach avg: 87%
Undercut Banks:	4%	Range: 72 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	70	13.4
Volume (m ³):	38	7.3
Key pieces (>=12m x 0.60m):	2	0.4

OREGON DEPARTMENT OF FISH AND WILDLIFE

SQUARE CREEK PRE-TX (N-256)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

8/5/2004

REACH 1

T05N-R10W-S04NE

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	Cbl	Bldr	Bdrk
CULVERT CROSSING	1	7	1.4	0.10	10	0	0	0	0	20	0	80
POOL-LATERAL SCOUR	3	25	2.9	0.57	71	0	12	18	53	17	0	0
POOL-PLUNGE	2	17	4.5	0.58	75	0	15	30	55	0	0	0
RAPID/BOULDERS	18	417	2.9	0.11	1,232	0	5	9	68	19	0	0
RIFFLE	3	65	4.3	0.10	280	0	5	5	85	5	0	0
STEP/BEDROCK	1	2	7.0	0.10	11	0	5	0	60	35	0	0
STEP/LOG	1	1	5.3	0.10	3	0	5	5	85	5	0	0
STEP/STRUCTURE	1	1	1.0	0.10	1	0	0	11	84	5	0	0
Total:	30	534	3.2	0.18	1,681	0	Avg: 6	10	66	16	0	3

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m ²)	Percent	Number	(# / 100m ²)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	5	42	3.6	0.57	146	8.70%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	3	65	4.3	0.10	280	16.63%	0	0.0
Rapids	18	417	2.9	0.11	1,232	73.28%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	3	4.4	0.10	14	0.81%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	1	7	1.4	0.10	10	0.58%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	Total	# / Km	# / Km
All Pools:	5	9.4	9.5
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	1	1.9	1.9
Pool frequency (channel widths/pool):	16.4		
Residual pool depth (avg):	0.52		

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1 **REACH 1**

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

Total hardwoods/1000	244
Total conifers/1000 ft	264
Total conifers >20" dbh/1000 ft	81
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1		Zone 2		Zone 3		Zones 1-3	
	0-10 meters		10 - 20 meters		20 - 30 meters		0-30 meters	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	1.3	0.0	0.0	0.0	0.0	0.0	1.3
15-30cm	0.3	0.0	0.7	0.7	0.0	0.0	1.0	0.7
30-50cm	0.0	0.3	0.7	0.0	1.3	1.3	2.0	1.7
50-90cm	0.3	0.3	0.7	0.0	0.3	0.0	1.3	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.7	2.0	2.0	0.7	1.7	1.3	1.4	1.3

Canopy closure and ground cover

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	69		67		73	
Shrub cover	37		38		32	
Grass/forb cover	57		52		48	

Predominant landform in each zone

	Zone 1		Zone 2		Zone 3	
	0-10 meters		10 - 20 meters		20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	17		17		67	
High terrace	83		67		33	
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 (%)	60		25		54	

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

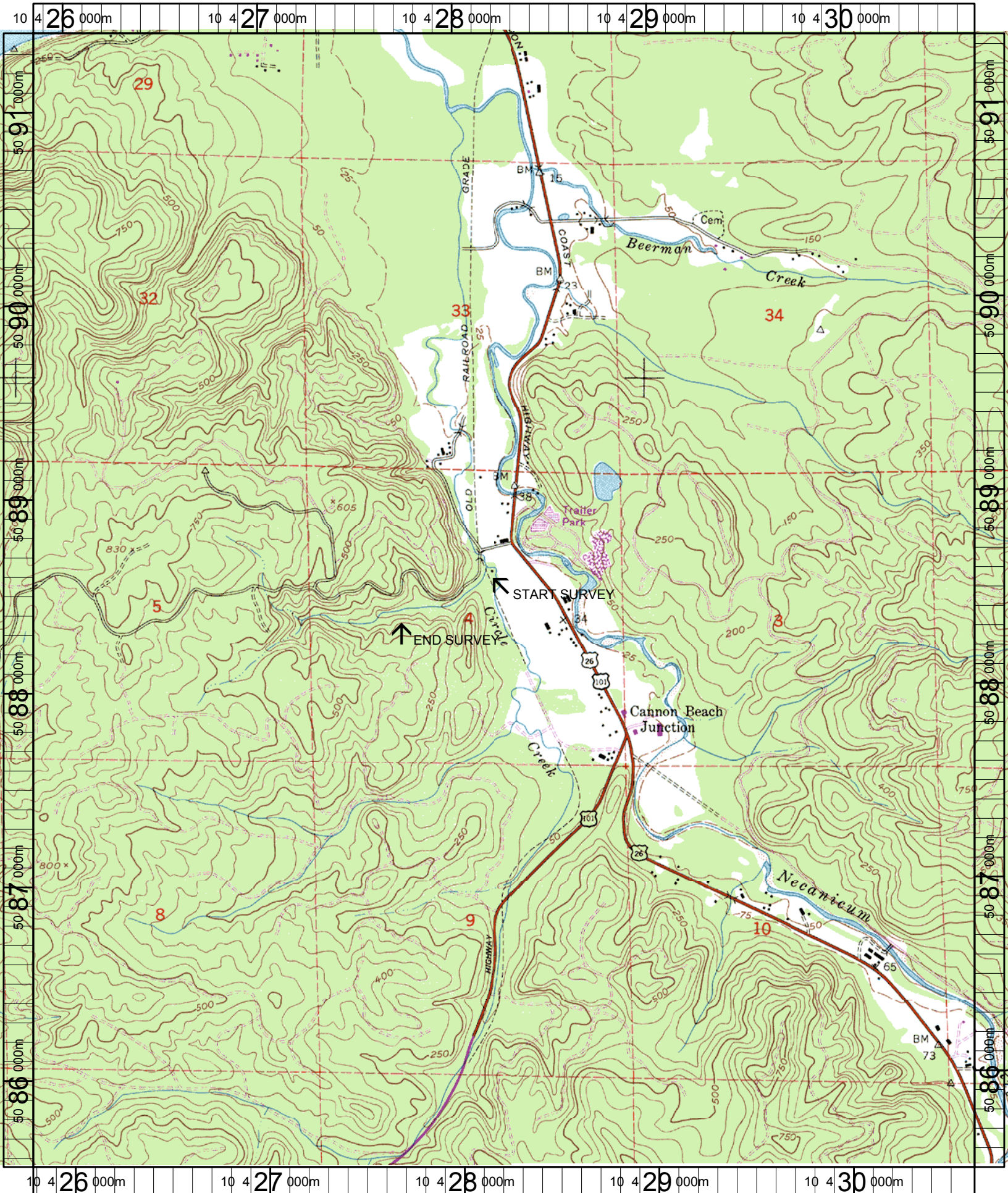
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
11	RT	3	HS	60	80	10	30	Conifer			1	1		
								Hardwood						
11	LF	1	HT		80	20	60	Conifer		1				GPS: POOR COVERAGE
								Hardwood	2					
11	LF	2	HT		75	20	60	Conifer			1			
								Hardwood		2				
11	LF	3	HT		80	20	60	Conifer			1			
								Hardwood			1			
11	RT	1	HS	60	80	10	80	Conifer				1		
								Hardwood						
11	RT	2	RB		70	20	50	Conifer					1	
								Hardwood						
16	RT	2	HS	25	60	80	20	Conifer		2	1			
								Hardwood						
16	RT	1	HT		60	80	20	Conifer						
								Hardwood	1					
16	LF	2	HT		60	80	20	Conifer					1	
								Hardwood						
16	LF	3	HS	45	70	70	30	Conifer			1			
								Hardwood			1			
16	RT	3	HS	45	65	40	50	Conifer			1			
								Hardwood						
16	LF	1	HT		60	80	20	Conifer						10T 0427986
								Hardwood						5088521
23	LF	3	HT		65	20	80	Conifer						
								Hardwood						
23	LF	2	HT		65	20	80	Conifer						
								Hardwood						
23	RT	1	HT		70	10	80	Conifer						
								Hardwood			1	1		
23	RT	2	HT		70	10	80	Conifer						
								Hardwood						
23	RT	3	HS	65	80		40	Conifer						BARE SOIL
								Hardwood			2			
23	LF	1	HT		65	20	80	Conifer						
								Hardwood	1					

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: 1-NC SITE ID: 256 SQUARE CREEK PRE-TX (N-256)

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RB	00	25		METRICS AFFECTED BY	
2	RB	00	42	BC		
3	PP	00	54.6	CC		
4	SS	00	55.1	PA	H=0.10M NO STEP IF FLO	CULVERT
5	CC	00	62.1	CC	2.70M ROUND STEEL CU	CONCRETE
10	SL	00	132.1		H=0.30M	
11	RB	00	157.1		RIP T 1	
12	LP	00	167.1		TEMP=13 DEG C AT 11:15	
16	RB	00	267.1		RIP T 2 10T 0427986 5088	RIP
18	RB	00	317.1	SS/		
21	RB	00	361	SS/		IN ABANDONED CHANNEL
22	LP	00	368.4		PHOTO 23 AT 12:00	
23	RB	00	394.3	SS/	RIP T 3 10T 0427819 5088	RELATED TO SS IN UNIT 21
26	RB	01	467.4	TJ/		
27	RB	11	467.4			TRIB - 10M UNIT
29	SR	00	493.9		H=0.5M	
30	RB	00	523.6	SS/	POOR COVERAGE	



Name: TILLAMOOK HEAD
 Date: 11/1/2004
 Scale: 1 inch equals 2000 feet

Location: 10 428230 E 5088458 N
 Caption: SQUARE CREEK RESTORATION SITE - NECANICUM BASIN