

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

STREAM: Square Creek (NC-256)
BASIN: Necanicum River
SURVEY TYPE: Pre-Tx
DATE: March 22, 2005
SURVEY CREW: Brain Bangs, Sheila Davis
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 546 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 6.4 (range: 2.8-16.0). Land use for the reach was large (30-50 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 3.8 percent. Rapids (55%) dominated stream habitat. Gravel (45%) and cobble (23%) dominated stream substrate. Wood volume was low at 11.4 m³/100m.

COMMENTS:

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

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	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	6.4	VWI Range:	2.8 - 16

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 Channel	546	1,463	0
Secondary Channel	177	219	6
Off-Channel Units	91	102	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 2
Width: 1.9	Width: 6.9	20.7 (4.6 - 38.4)	7.8 (6.3 - 9.2)
Depth: 0.17	Height: 0.4	0.7 (0.6 - 0.8)	1.2 (1.1 - 1.3)

W:D ratio: 19.6
 Stream Flow Type: LF
 Average Unit Gradient: 3.8%
 Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 2.6
 Habitat Units/100m (total channel length): 10.4
 Habitat Units/100m (primary channel length): 15.6

Riparian, Bank, and Wood Summary

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

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):	120	22.0
Volume (m ³):	62	11.4
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPT OF FISH AND WILDLIFE

SQUARE CREEK PRE-TX (1-NC, 256)

HABITAT INVENTORY

Report Date: 11/29/2005

Survey Date:

3/22/2005

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
CASCADE/BOULDERS	1	4	1.4	0.10	5	0	0	0	40	30	30	0
CULVERT CROSSING	1	7	1.1	0.10	7	0	10	0	30	50	10	0
POOL-ALCOVE	1	3	0.9	0.05	2	0	25	55	15	5	0	0
POOL-BACKWATER	26	52	0.9	0.14	46	0	14	15	50	17	4	0
POOL-ISOLATED	2	6	1.2	0.15	8	0	35	28	33	5	0	0
POOL-LATERAL SCOUR	11	70	3.1	0.52	221	0	7	12	42	29	9	1
PUDDLED UNIT	6	125	1.4	0.04	178	0	56	31	9	4	0	0
RAPID/BOULDERS	23	374	2.7	0.12	989	0	2	4	50	33	11	0
RIFFLE	12	172	1.9	0.13	325	0	7	10	54	22	7	0
STEP/COBBLE	1	1	0.8	0.10	0	0	0	0	10	60	30	0
STEP/LOG	1	0	0.5	0.10	0	0	0	0	50	30	20	0
Total:	85	813	1.9	0.17	1,783	0	Avg: 12	12	45	23	7	0

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	29	61	0.9	0.14	57	3.21%	0	0.0	
Scour Pools	11	70	3.1	0.52	221	12.40%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	12	172	1.9	0.13	325	18.22%	0	0.0	
Rapids	23	374	2.7	0.12	989	55.44%	0	0.0	
Cascades	1	4	1.4	0.10	5	0.30%	0	0.0	
Step/Falls	2	1	0.6	0.10	1	0.03%	0	0.0	
Dry	6	125	1.4	0.04	178	9.99%	0	0.0	
Culverts	1	7	1.1	0.10	7	0.41%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	Primary Channel Length
		<u># / Km</u>	<u># / Km</u>
All Pools:	40	49.2	73.3
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	2	2.5	3.7
Pool frequency (channel widths/pool):	2.9		
Residual pool depth (avg):	0.39		

Comment Summary

Restoration Monitoring Sites 2005

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

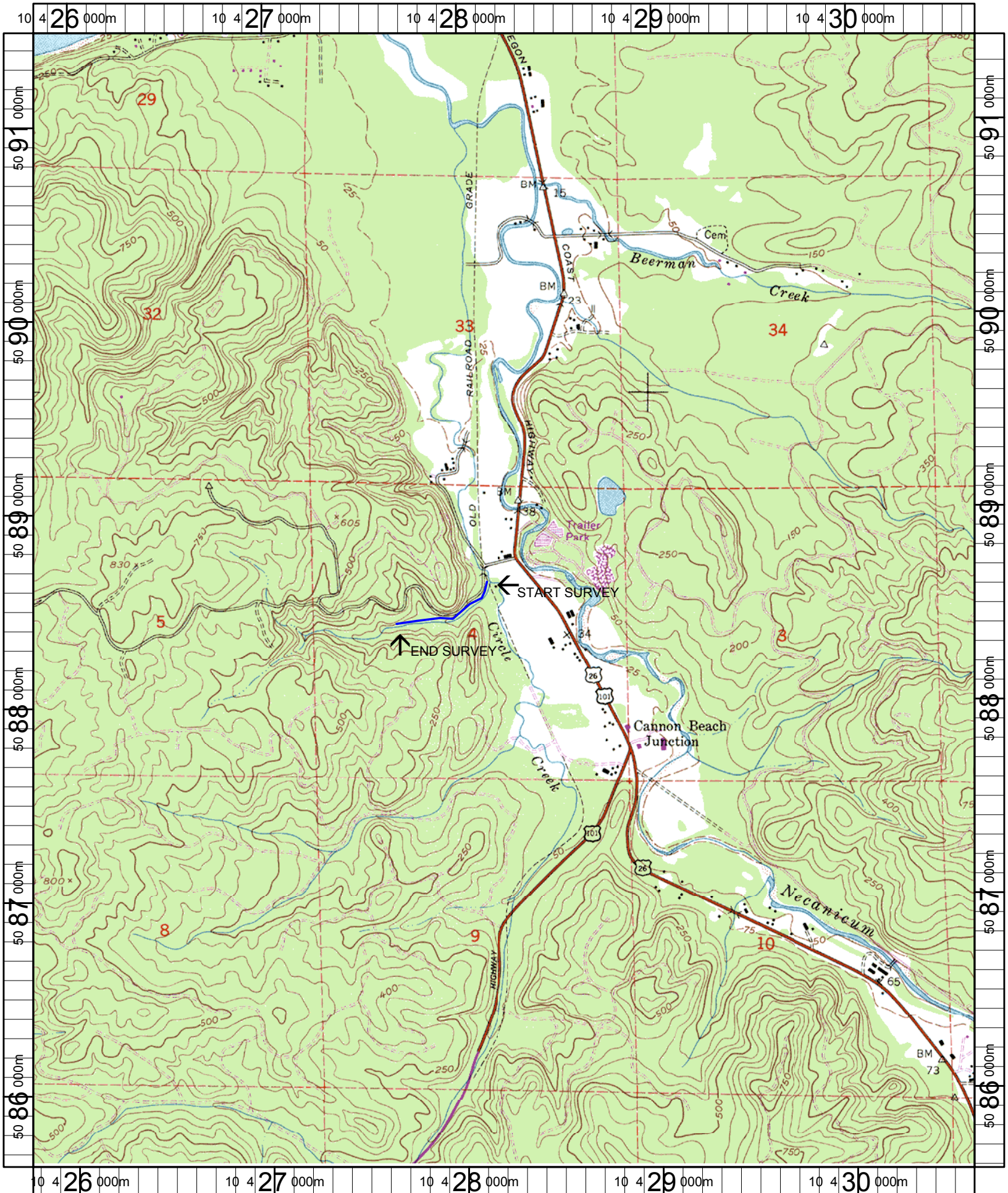
<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	RB	01	10.6		US WF C50 S AG RR	
5	LP	00	34.5		ALCOVE TO BE ADDED TO UNIT	
6	RB	00	41.2	BC		
7	RI	01	58.3	CE X 2	FRY, OLD CARCASS (COHO)	
8	BW	10	58.3		FRY (BUNCHES)	
9	BW	10	58.3		FRY	
10	CC	00	65.3	CS, CC	0.75 x 0.75, 0.75 x 0.8	
11	RB	01	89.8		2 CULVERTS SIDE BY SIDE	
12	BW	10	89.8		COUNTED TOGETHER	
13	RB	01	112.6		FRY	
18	SL	00	137.7		H=0.2	
22	RB	00	168.1	DJ		
23	LP	00	175.3		FRY	
25	BW	10	187.4	DJ		
26	RI	01	205.9		CA MT M30 D3 LT ST	
31	BW	10	223.4		FRY	
32	RI	01	236.2	DJ	FRY (COHO)	
35	BW	10	236.2		FRY	
37	BW	10	259.4		FRY	
38	AL	10	259.4	/SS		
39	RI	00	265.8	DJ		

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **1-NC** SITE ID: **256** SQUARE CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
41	BW	10	276.9		FRY	
42	BW	10	276.9		FRY	
44	LP	00	309.8	DJ	FRY	
45	SC	00	310.4		H=0.2	
46	RB	01	330.3	TJ/		
49	BW	10	345.1		FRY	
50	LP	00	350.5	DJ	FRY	
52	LP	01	381.5	DJ	FRY	
53	BW	10	381.5		FRY	
54	RB	01	405.3	DJ	CA MT M30 M15 MT LT	
55	RB	01	424.8	DJ		
58	RB	01	472	/SS		
62	RB	01	482.7	DJ, TJ		
65	RB	01	500.4	DJ		
67	BW	10	500.4		FRY	
68	LP	01	506.8	DJ		
73	RB	01	545.8		FRY, US WF D15 GS ST LT	
80	PD	02	545.8	SS/		
81	PD	02	545.8	DJ		
82	PD	02	545.8	SS/		



Name: TILLAMOOK HEAD
 Date: 6/9/2005
 Scale: 1 inch equals 2000 feet

Location: 10 428212 E 5088536 N
 Caption: SQUARE CREEK RESTORATION SITE - NECANICUM BASIN