

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

STREAM: Johnson Creek (NC-38)  
BASIN: Necanicum River  
SURVEY TYPE: Post-Tx  
DATE: March 29, 2007  
SURVEY CREW: Jeff O'Leary, Sheri Etchemendy  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 2.1 km<sup>2</sup>  
USGS MAPS: Tillamook Head  
ECOREGION: Coast Range Coastal Uplands

**GENERAL DESCRIPTION:**

The Johnson Creek habitat survey extended 548 meters. The channel was alternately constrained by hillslope and terrace in a broad valley floor. The average valley width index was 3.7 (range: 2.5-6). Land use for the reach was timber harvest and second growth timber (15-30 cm dbh). The average unit gradient was 3.6 percent. Cascades (52%), rapids (20%) and scour pools (13%) dominated stream habitat. Gravel (53%) and cobble (26%) dominated stream substrate. Wood volume was moderate at 28.2 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.

Coho salmon fry were observed during the survey.

REACH 1

T5N-R10W-S234SE

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	3.7	VWI Range:	2.5 - 6

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary Channel	548	2,038	0
Secondary Channel	10	10	0
Off-Channel Units	12	10	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 3.7	Width: 6.4	7.8 ( 4.3 - 10.6 )	9.3 ( 4.4 - 13.2 )
Depth: 0.27	Height: 0.5	1.0 ( 1 - 1.1 )	1.2 ( 1.1 - 1.2 )

W:D ratio: 12.4  
 Stream Flow Type: MF  
 Average Unit Gradient: 3.6%  
 Water temperature (°C): 6.0 - 6.0

Entrenchment (ACW:FPW ratio): 1.2  
 Habitat Units/100m (total channel length): 6.7  
 Habitat Units/100m (primary channel length): 6.9

**Riparian, Bank, and Wood Summary**

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

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):	109	19.9
Volume (m <sup>3</sup> ):	154	28.2
Key pieces (>=12m x 0.60m):	11	2.0

HABITAT INVENTORY

Report Date: 4/25/2007

Survey Date:

3/29/2007

REACH 1		T5N-R10W-S234SE					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	14	304	3.5	0.20	1,083	0	0	6	48	36	10	0
POOL-BACKWATER	1	4	1.5	0.35	6	0	90	5	5	0	0	0
POOL-LATERAL SCOUR	5	57	3.6	0.56	210	0	21	20	48	11	0	0
POOL-PLUNGE	3	17	4.1	0.87	69	0	0	7	66	25	2	0
RAPID/BOULDERS	6	116	3.4	0.16	424	0	1	7	59	31	3	0
RIFFLE	4	66	3.3	0.14	238	0	11	15	53	21	0	0
STEP/LOG	5	5	5.1	0.06	28	0	0	16	65	18	0	1
<b>Total:</b>	<b>38</b>	<b>570</b>	<b>3.7</b>	<b>0.27</b>	<b>2,058</b>	<b>0</b>	<b>Avg: 6</b>	<b>10</b>	<b>53</b>	<b>26</b>	<b>4</b>	<b>0</b>

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	1	4	1.5	0.35	6	0.29%	0	0.0
Scour Pools	8	74	3.8	0.68	279	13.58%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	4	66	3.3	0.14	238	11.54%	0	0.0
Rapids	6	116	3.4	0.16	424	20.59%	0	0.0
Cascades	14	304	3.5	0.20	1,083	52.65%	0	0.0
Step/Falls	5	5	5.1	0.06	28	1.35%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

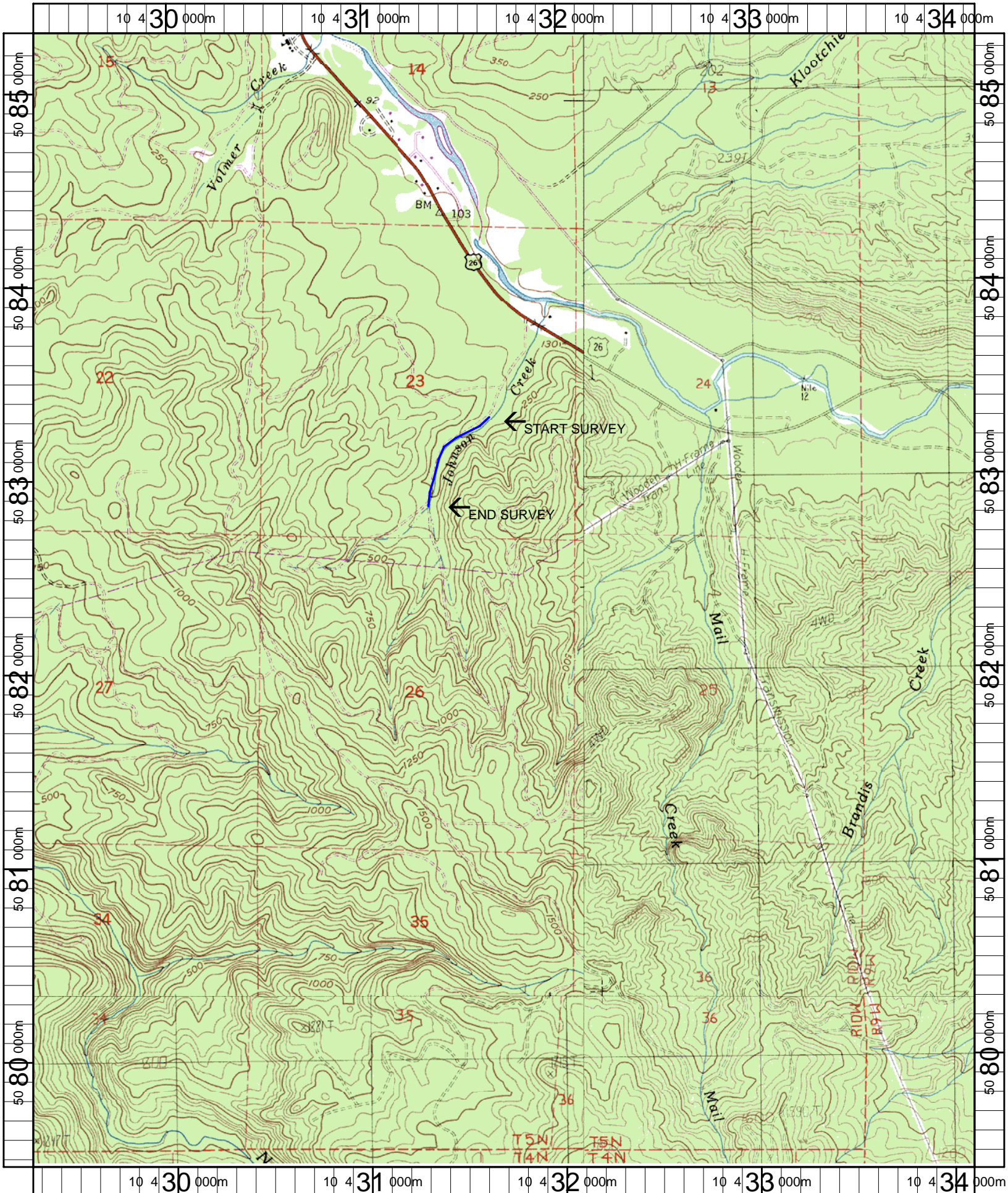
POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	9	15.8	16.4
Pools >=1m deep:	1	1.8	1.8
Complex pools (LWD pieces>=3):	2	3.5	3.6
Pool frequency (channel widths/pool):	9.8		
Residual pool depth (avg):	0.53		

# Comment Summary

## Restoration Monitoring Sites 2007

MONITORING AREA: 1-NC      SITE ID: 38      JOHNSON CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
3	RB	11	24.7		ACW=1.2
9	CB	00	115.9		ACW=1.7
29	RI	00	437.3	/SS	SALMONID FRY OBSERVED
30	CB	00	464.8	SS/	
35	CB	00	530.5	SS/	
38	CB	00	548	/SS	



Name: TILLAMOOK HEAD  
 Date: 5/9/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 431706 E 5082362 N  
 Caption: JOHNSON CREEK RESTORATION SITE - NECANICUM BASIN