

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

STREAM: Klotchie Creek (N-310)  
BASIN: Necanicum River  
SURVEY TYPE: Post-Tx  
DATE: September 5, 2006  
SURVEY CREW: Gordon Rose, Ben Walczak  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 13.0 km<sup>2</sup>  
USGS MAPS: Necanicum Junction  
ECOREGION: Coast Range Coastal Uplands

**GENERAL DESCRIPTION:**

The Klotchie Creek habitat survey extended 341 meters. The channel was constrained by hillslopes in a steep V-shaped valley. The average valley width index was 2.1 (range: 1.1-6.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 6.4 percent. Rapids (43%) and riffles (36%) dominated stream habitat. Gravel (48%) dominated stream substrate. Wood volume was moderate at 23.9 m<sup>3</sup>/100m.

**COMMENTS:**

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

REACH 1

T05N-R09W-S18NW

REACH 1

**Valley and Channel Summary**

Valley Characteristics (Percent Reach Length)

<u>Narrow Valley Floor</u>		<u>Broad Valley Floor</u>	
Steep V-shape	100%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.1	VWI Range:	1.1 - 6

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100%	Single Channel	0%
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	341	348	1
Secondary Channel	9	5	0
Off-Channel Units	75	56	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 1
Width: 1.1	Width: 4.2	5.1 ( 4.7 - 5.8 )	7.1 ( 7.1 - 7.1 )
Depth: 0.04	Height: 0.2	0.5 ( 0.3 - 0.5 )	0.8 ( 0.75 - 0.75 )

W:D ratio: 18.7

Entrenchment (ACW:FPW ratio): 1.2

Stream Flow Type: LF

Habitat Units/100m (total channel length): 5.9

Average Unit Gradient: 6.4%

Habitat Units/100m (primary channel length): 7.3

Water temperature (°C): 16.0 - 16.0

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	12%	Reach avg: 60%
Undercut Banks:	1%	Range: 44 - 75

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	80	23.5
Volume (m <sup>3</sup> ):	81	23.9
Key pieces (>=12m x 0.60m):	2	0.6

OREGON DEPT OF FISH AND WILDLIFE

KLOOTCHIE CREEK POST-TX (1-NC, 310)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

9/5/2006

REACH 1		T05N-R09W-S18NW					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	2	46	1.0	0.01	46	0	0	10	40	10	0	40
POOL-LATERAL SCOUR	2	15	1.3	0.25	18	0	5	10	48	15	0	23
POOL-PLUNGE	1	2	1.3	0.25	2	0	5	5	40	10	0	40
PUDDLED UNIT	1	8	1.0	0.00	8	0	30	40	30	0	0	0
RAPID/BEDROCK	1	15	1.0	0.01	15	1	0	0	10	5	0	85
RAPID/BOULDERS	8	167	1.0	0.02	160	7	1	5	49	36	3	8
RIFFLE	8	169	0.8	0.01	149	1	7	13	64	15	0	2
STEP/BEDROCK	1	3	1.0	0.02	3	0	0	0	0	0	0	100
STEP/LOG	1	2	4.0	0.01	8	0	20	20	55	5	0	0
<b>Total:</b>	25	425	1.1	0.04	409	9	<b>Avg:</b> 5	10	48	19	1	17

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	0	0			0	0.00%	0	0.0	
Scour Pools	3	16	1.3	0.25	20	4.90%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	8	169	0.8	0.01	149	36.41%	1	0.7	
Rapids	9	182	1.0	0.02	175	42.90%	8	4.6	
Cascades	2	46	1.0	0.01	46	11.26%	0	0.0	
Step/Falls	2	5	2.5	0.02	11	2.57%	0	0.0	
Dry	1	8	1.0	0.00	8	1.96%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	3	7.1	8.8
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	33.7		
Residual pool depth (avg):	0.24		

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

KLOOTCHIE CREEK POST-TX  
GCG: 1-NC SITE ID: 310

Survey Date 9/5/2006  
Report Date: 3/5/2007

RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	427
Total conifers/1000 ft	569
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	0.7	2.3	0.3	0.0	1.0	2.3	2.0	4.7
15-30cm	1.7	1.7	0.7	0.0	0.3	0.3	2.7	2.0
30-50cm	1.3	0.3	2.0	0.0	1.3	0.0	4.7	0.3
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/100m2	3.7	4.3	3.0	0.0	2.7	2.7	3.1	2.3

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	67		53		56	
Shrub cover	18		17		15	
Grass/forb cover	68		43		26	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	100		67		83	
High terrace	0		0		0	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		33		17	
Riprap	0		0		0	
Surface slope (%)	53		38		44	

Summary of Riparian Zone (0-30m) for all reaches

3 transects

Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream

Total hardwoods/1000	427
Total conifers/1000 ft	569
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

**Average number of trees in a 5-m wide band**

Diameter class (cm)	Zones 1-3	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	2.0	4.7
15-30cm	2.7	2.0
30-50cm	4.7	0.3
50-90cm	0.0	0.0
>90cm	0.0	0.0

**RIPARIAN ZONE VEGETATION**

Reach 1

Reach 1

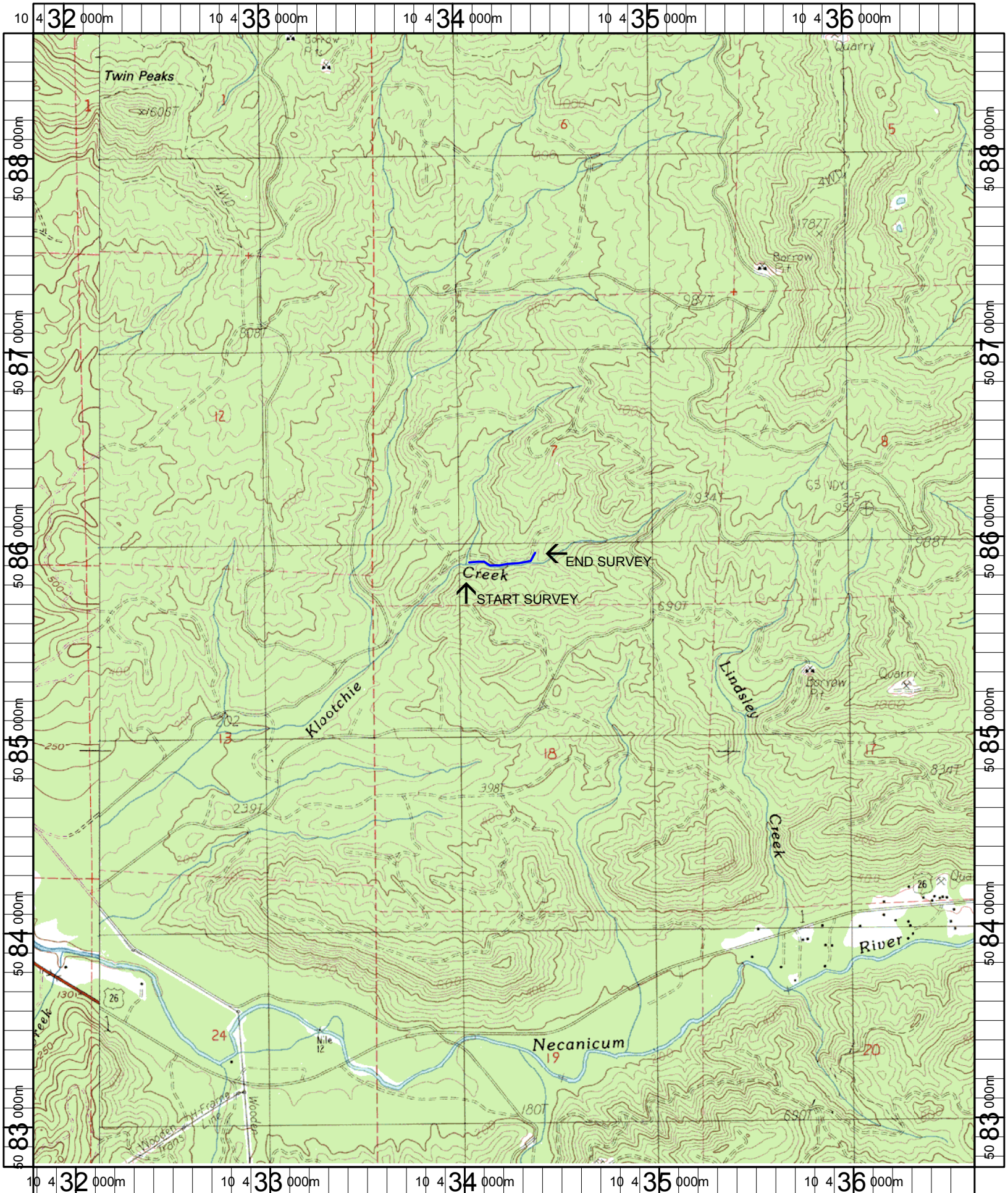
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
7	RT	1	HS	45	60	10	70	Conifer		1	1				
								Hardwood		2					
7	LF	1	HS	40	80	30	60	Conifer	1	1	1				
								Hardwood	4	1					
7	LF	3	RB	0	80	10	20	Conifer							
								Hardwood							
7	RT	2	HS	45	40	20	20	Conifer		1	1				
								Hardwood							
7	RT	3	HS	45	20	10	10	Conifer							
								Hardwood							
7	LF	2	HS	45	85	20	60	Conifer				3			
								Hardwood							
16	RT	2	HS	70	50	50	50	Conifer	1		1				
								Hardwood							
16	RT	3	HS	60	50	50	50	Conifer				1			
								Hardwood							
16	LF	1	HS	25	60	5	70	Conifer				1			
								Hardwood							
16	LF	2	RB	0	60	5	20	Conifer				1			
								Hardwood							
16	LF	3	HS	35	85	5	10	Conifer	2		3				
								Hardwood							
16	RT	1	HS	70	50	50	50	Conifer				1			
								Hardwood							
21	RT	1	HS	75	75	10	60	Conifer		3					
								Hardwood							
21	LF	1	HS	60	75	5	95	Conifer	1						
								Hardwood	3	2	1				
21	LF	2	RB	0	35	0	100	Conifer							
								Hardwood							
21	RT	3	HS	65	30	5	5	Conifer		1					
								Hardwood							
21	LF	3	HS	60	70	10	60	Conifer	1						
								Hardwood	7	1					
21	RT	2	HS	70	50	5	5	Conifer			1				
								Hardwood							

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: 1-NC      SITE ID: 310      KLOOTCHIE CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
7	RR	00	121		RIPARIAN #1	T=16.0C AT 14:00
8	SL	00	123		H=1.60M	
11	LP	00	176			COHO FRY
16	RB	00	268.5		RIPARIAN #2	
17	RI	00	297.5	SS/		
18	RB	00	307.5	EA/		
20	SR	00	311.5		H=1.70M	
21	RB	00	333	/SS, TJ/		
22	PD	01	341		RIPARIAN #3	
24	RI	11	341			OLD CC
25	RB	11	341		END SURVEY	



Name: NECANICUM JUNCTION  
 Date: 6/9/2005  
 Scale: 1 inch equals 2000 feet

Location: 10 434232 E 5085696 N  
 Caption: KLOOTCHIE CREEK RESTORATION SITE - NECANICUM BASIN