

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

STREAM: Necanicum River (NC-61)
BASIN: Necanicum River
SURVEY TYPE: Post-Tx
DATE: February 6, 2007
SURVEY CREW: Jeff O'Leary, Sheri Etchemendy
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 3.1 km²
USGS MAPS: Saddle Mountain
ECOREGION: Coast Range Coastal Uplands

GENERAL DESCRIPTION:

The Necanicum River habitat survey extended 396 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 6.1 (range: 3-10). Land use for the reach was second growth timber (15-30 cm dbh) and large timber (30-50 cm dbh) trees. The average unit gradient was 1.9 percent. Riffles (51%), scour pools (25%) and rapids (21%) dominated stream habitat. Cobble (52%) and gravel (25%) dominated stream substrate. Wood volume was low at 18.6 m³/100m.

COMMENTS:

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

The crew noted 3 debris jams during the survey.

Stream Necanicum Creek (N-61)
 Basin Necanicum River
 Treatment Large Wood and Culvert Replacement

	ODFW Benchmark		Pre	Post	Post		
Habitat Variable	Desirable	Undesirable	2/26/99	2/23/00	2/6/07		
% Pool Area	>35%	<10%	20.2	32.5	24.8		
Number of Pools			13	17	14		
Deep Pools/km (>1.0 m)			5.0	0.0	0.0		
% Off-Channel			3.5	12.7	2.5		
LWD – Pieces/100m	>20	<10	10.4	24.2	28.3		
LWD – Volume/100m	>30	<20	12.3	47.3	18.6		
LWD – Key Pieces/100m	>3	<1	0.3	1.1	0.5		
Large Wood Jams/km				33.0			
% Riffle Fines	<10	>20	0	17	22		
% Riffle Gravel	>35	<15	50	79	23		
% Bedrock			3	0	0		

Bold is noticeable change

Comments: Pool area has decreased somewhat since treatment, as has the number of deep pools, but this may be in part due to variable stream flows between survey years. Off channel habitat is also lower. Large wood pieces have increased, but wood volume is lower, suggesting that some larger pieces have left the reach while smaller pieces have been recruited. Riffle gravel appears lower, but the report shows riffle cobble as high (52% – in 2000 it was 4%) so gravel and cobble have been stable.

REACH 1

T05N-R08W-S18SE

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	6.1	VWI Range:	3 - 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 Channel	396	1,192	0
Secondary Channel	0	0	0
Off-Channel Units	35	30	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 2.7	Width: 12.4	24.0 (10 - 39)	28.4 (12 - 47)
Depth: 0.25	Height: 0.6	1.2 (1.1 - 1.2)	1.3 (1.2 - 1.3)

W:D ratio: 21.2
 Stream Flow Type: MF
 Average Unit Gradient: 1.9%
 Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.9
 Habitat Units/100m (total channel length): 7.9
 Habitat Units/100m (primary channel length): 8.6

Riparian, Bank, and Wood Summary

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

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):	112	28.3
Volume (m ³):	74	18.6
Key pieces (>=12m x 0.60m):	2	0.5

HABITAT INVENTORY

Report Date: 4/25/2007

Survey Date:

2/6/2007

REACH 1		T05N-R08W-S18SE					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	10	0.5	0.10	5	0	65	20	10	5	0	0
POOL-LATERAL SCOUR	13	120	2.5	0.47	292	0	5	9	30	53	3	0
POOL-PLUNGE	1	4	3.0	0.40	11	0	5	30	45	20	0	0
RAPID/BOULDERS	5	79	3.3	0.12	263	0	2	5	16	65	11	1
RIFFLE	12	211	2.8	0.11	627	0	14	8	23	52	3	0
STEP/COBBLE	1	7	3.0	0.10	21	0	5	5	15	75	0	0
STEP/LOG	1	1	4.0	0.01	4	0	10	10	40	40	0	0
Total:	34	431	2.7	0.25	1,222	0	Avg: 10	9	25	52	4	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	0	0			0	0.00%	0	0.0	
Scour Pools	14	123	2.5	0.46	303	24.75%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	12	211	2.8	0.11	627	51.28%	0	0.0	
Rapids	5	79	3.3	0.12	263	21.52%	0	0.0	
Cascades	1	10	0.5	0.10	5	0.41%	0	0.0	
Step/Falls	2	8	3.5	0.06	25	2.05%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

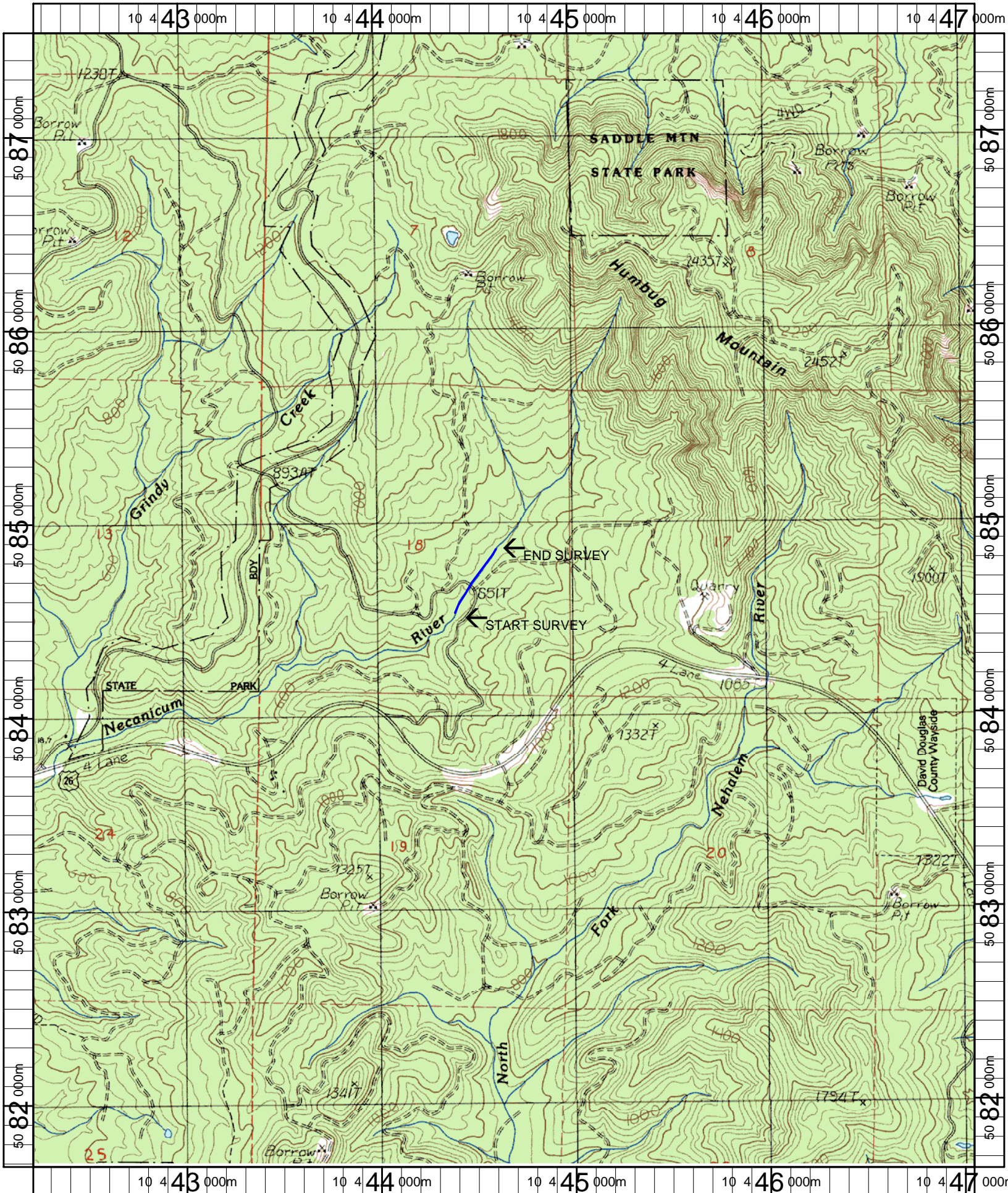
POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	14	32.5	35.3
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	4	9.3	10.1
Pool frequency (channel widths/pool):	2.5		
Residual pool depth (avg):	0.33		

Comment Summary

Restoration Monitoring Sites 2007

MONITORING AREA: 1-NC SITE ID: 61 NECANICUM RIVER POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR
1	RI	00	27		10T 0444407 UTM 5084566 (3D)
2	LP	00	38		T=7.5C
3	RI	00	56.5	DJ	BV
7	SL	00	78	DJ	
9	LP	00	116		PHOTO 31-32
11	LP	00	143	BC	
12	RI	01	159.5	TJ/	T=8.0C
13	RI	11	159.5		T=8.0C, ACW=1.50M
21	LP	00	270.8		10T 0444551 UTM 5084786 (3D)
22	RB	01	294.8	TJ/	T=8.0C AT 1:20PM
23	RI	11	294.8		T=8.0C AT 1:20 PM, ACW=1.50M
24	LP	00	302.8	DJ	
32	LP	00	387.2		T=7.5C
33	RB	01	396.2	/TJ	10T 0444610 UTM 5084856 (3D)
34	CB	11	396.2		T=8.0C



Name: SADDLE MT
 Date: 1/9/2007
 Scale: 1 inch equals 2000 feet

Location: 10 444652 E 5084591 N
 Caption: NECANICUM RIVER #61 RESTORATION SITE - NECANICUM BASIN