

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

STREAM: Baxter Creek (NC-2)
BASIN: Nestucca River
SURVEY TYPE: Post-Tx
DATE: February 16, 2006
SURVEY CREW: Brian Cannon, Jon Nott
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 3.11 km²
USGS MAPS: Dolph
ECOREGION: Coast Range Volcanic

GENERAL DESCRIPTION:

The Baxter Creek habitat survey extended 719 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 3.3 (range: 2.2-5.0). Land use for the reach was large (30-50 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 2.0 percent. Riffles (33%), rapids (29%) and scour pools (28%) dominated stream habitat. Cobble (38%) and gravel (37%) dominated stream substrate. Wood volume was moderate at 21.4 m³/100m.

COMMENTS:

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

The crew noted several habitat structures during the survey.

Stream Baxter Creek (NC-2)

Basin Nestucca River

Treatment Large Wood

	ODFW Benchmark		Pre 3/3/99	Post 3/2/00	Post 2/16/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	44.9	35	29.6		
Number of Pools			60	28	23		
Deep Pools/km (>1.0 m)			5.6	2.2	0		
% Off-Channel			9.1	7.2	7.9		
LWD – Pieces/100m	>20	<10	20.6	18.1	23.1		
LWD – Volume/100m	>30	<20	6.8	24.8	21.4		
LWD – Key Pieces/100m	>3	<1	0	4.4	0.1		
Large Wood Jams/km			0	15.0	12.5		
% Riffle Fines	<10	>20	42	19	8		
% Riffle Gravel	>35	<15	47	61	40		
% Bedrock			7	5	1		

Bold is noticeable change

Comments: Since the treatment was large wood assembled in complex jams, it is no surprise that there was an increase in those variables. What is important is that the large wood is being generally retained in the treated reach. However, key pieces have decreased, perhaps flushing out of the reach. Deep pools, pool area, and number of pools were all reduced, which suggest that the treatment has actually created more fast water area and filled in some of the pools present prior to treatment. Riffles fines have been mostly flushed from the reach, while gravel remains relatively unchanged.

REACH 1

T05S-R09W-S28NE

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	3.3	VWI Range:	2.2 - 5

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	719	2,857	0
Secondary Channel	103	193	3
Off-Channel Units	33	53	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 1
Width: 3.6	Width: 7.2	16.5 (10.4 - 23.4)	13.4 (13.4 - 13.4)
Depth: 0.34	Height: 0.6	1.2 (1 - 1.3)	1.8 (1.8 - 1.8)

W:D ratio: 12.6

Entrenchment (ACW:FPW ratio): 2.4

Stream Flow Type: MF

Habitat Units/100m (total channel length): 6.0

Average Unit Gradient: 2.0%

Habitat Units/100m (primary channel length): 7.1

Water temperature (°C): 2.5 - 2.5

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	ST
Riparian Vegetation:	D30	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):	166	23.1
Volume (m ³):	154	21.4
Key pieces (>=12m x 0.60m):	1	0.1

OREGON DEPT OF FISH AND WILDLIFE

BAXTER CREEK POST-TX (1-NC, 2)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/16/2006

REACH 1		T05S-R09W-S28NE					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	2	16	1.1	0.10	16	0	10	50	15	25	0	0
POOL-BACKWATER	2	18	2.7	0.50	37	0	0	45	33	23	0	0
POOL-LATERAL SCOUR	21	244	3.6	0.59	880	0	0	20	39	32	1	8
PUDDLED UNIT	3	103	1.8	0.01	193	0	7	62	20	10	2	0
RAPID/BOULDERS	8	193	4.9	0.16	914	0	0	10	42	45	3	1
RIFFLE	11	269	3.8	0.18	1,014	0	0	8	40	48	2	2
STEP/COBBLE	4	13	3.9	0.18	49	0	0	0	31	68	1	0
Total:	51	854	3.6	0.34	3,103	0	Avg: 1	19	37	38	2	4

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	2	18	2.7	0.50	37	1.18%	0	0.0	
Scour Pools	21	244	3.6	0.59	880	28.37%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	11	269	3.8	0.18	1,014	32.67%	0	0.0	
Rapids	8	193	4.9	0.16	914	29.46%	0	0.0	
Cascades	2	16	1.1	0.10	16	0.53%	0	0.0	
Step/Falls	4	13	3.9	0.18	49	1.58%	0	0.0	
Dry	3	103	1.8	0.01	193	6.21%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

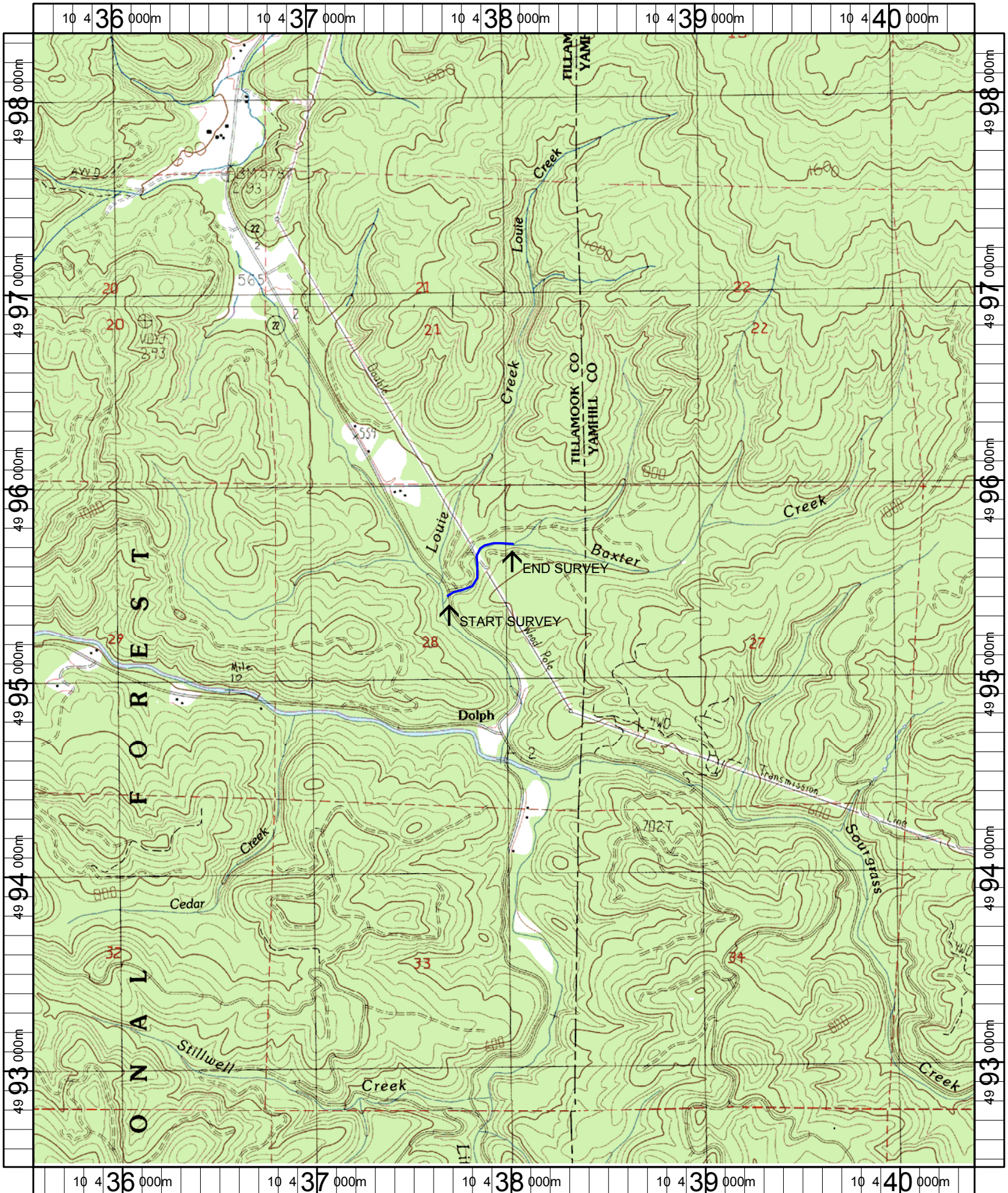
POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	23	26.9	32.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	7	8.2	9.7
Pool frequency (channel widths/pool):	5.2		
Residual pool depth (avg):	0.40		

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 1-NC SITE ID: 2 BAXTER CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	01	38		T=2.5, START ABOVE CULVERT	
2	LP	01	60.7		CORRUGATED W/ CONCRETE BOTTOM	
3	PD	02	60.7	HS x 3	SIDE CHAN MOSTLY A FLOOD CHAN.	
6	LP	00	137.7	HS		
8	LP	00	155.2	HS		
14	LP	00	248	HS		
17	RI	01	305.7	HS		
21	RI	01	353.2	BV		
22	LP	01	363.9	HS		
23	PD	02	363.9		SALMONID FRY	
24	LP	00	371.4	HS		
25	RB	00	388.4		OLD ROAD XING, NO LONGER HERE	
28	LP	00	414	HS		
37	LP	01	517.7	TJ/		
39	RI	00	536.2	BV	ACTIVE BEAVER DEN	
41	RB	00	567.8	SS/		
50	RI	01	718.7	TJ/		



Name: DOLPH
 Date: 1/19/2006
 Scale: 1 inch equals 2000 feet

Location: 10 437989 E 4995405 N
 Caption: BAXTER CREEK RESTORATION SITE - NESTUCCA BASIN