ODFW AQUATIC INVENTORY PROJECT

OREGON PLAN FOR SALMON & WATERSHEDS

STREAM RESTORATION HABITAT REPORT

STREAM:	Elk Creek (N-316)
BASIN:	Nehalem River
SURVEY TYPE:	Pre-Tx
DATE:	March 20, 2006
SURVEY CREW:	Brian Cannon, Jon Nott
REPORT PREPARED BY:	Paul Jacobsen
BASIN AREA:	8.8 km^3
USGS MAPS:	Bacona
ECOREGION:	Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Elk Creek habitat survey extended 1,119 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 5.4 (range: 4.0-10.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 0.3 percent. Scour pools (86%) dominated stream habitat. Sand (62%) dominated stream substrate. Wood volume was low at 17.4 m^3/100m.

COMMENTS:

There were two potential barriers to upstream fish migration in the surveyed length. One was a concrete culvert under the Scappoose-Vernonia Road at unit 14 (236 m). The other was a step and metal culvert under the McKee Mainline at unit 26 (461 m).

REACH 1 **T05N-R04W-S36SE** **REACH 1**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 5.4 VWI Range: 4 - 10

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary Channel	1,119	3,996	0
Secondary Channel	19	13	0
Off-Channel Units	32	31	0

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 5	First Terrace *n* = 2
Width:	3.4	Width:	5.9	17.9 (10 - 24.5)	11.6 (11.1 - 12)
Depth:	0.86	Height:	0.9	1.8 (1.4 - 2)	2.2 (2 - 2.3)

W:D ratio: 6.7
Entrenchment (ACW:FPW ratio): 3.3
Stream Flow Type: MF
Habitat Units/100m (total channel length): 4.4
Average Unit Gradient: 0.3%
Habitat Units/100m (primary channel length): 4.6
Water temperature (°C): 6.0 - 6.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	
Riparian Vegetation:	D30	S

Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:		Reach avg:
Undercut Banks:		Range: -

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	200	17.9
Volume (m^3):	195	17.4
Key pieces (>=12m x 0.60m):	3	0.3

OREGON DEPT OF FISH AND WILDLIFE **ELK CREEK PRE-TX (1-NC, 316)**

HABITAT INVENTORY Report Date: 12/6/2006 Survey Date: 3/20/2006

REACH 1 **T05N-R04W-S36SE** **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/BEDROCK	1	7	0.5	0.05	4	0	15	35	0	0	0	50
CULVERT CROSSING	2	45	1.8	0.18	84	0	18	60	23	0	0	0
GLIDE	2	27	0.6	0.25	17	0	30	70	0	0	0	0
POOL-BACKWATER	1	3	3.0	0.90	9	0	20	80	0	0	0	0
POOL-DAMMED	1	38	3.0	1.40	113	0	15	60	25	0	0	0
POOL-LATERAL SCOUR	31	894	3.8	1.13	3,209	0	16	63	20	0	0	0
POOL-PLUNGE	1	30	9.0	2.00	274	0	20	60	20	0	0	0
RIFFLE	5	83	2.9	0.34	222	0	15	62	21	0	0	2
RIFFLE W/ POCKETS	2	42	2.5	0.50	101	0	13	60	28	0	0	0
STEP/LOG	4	2	3.5	0.18	7	0	32	61	7	0	0	0
STEP/STRUCTURE	1	0	1.2	0.20	0	0	20	60	20	0	0	0
Total:	51	1,170	3.4	0.86	4,040	0	**Avg:** 18	62	18	0	0	1

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	2	41	3.0	1.15	122	3.01%	0	0.0
Scour Pools	32	924	3.9	1.15	3,483	86.21%	0	0.0
Glides	2	27	0.6	0.25	17	0.43%	0	0.0
Riffles	7	125	2.7	0.39	323	7.99%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	1	7	0.5	0.05	4	0.09%	0	0.0
Step/Falls	5	2	3.0	0.18	8	0.19%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	2	45	1.8	0.18	84	2.08%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	34	29.1	30.4
Pools >=1m deep:	24	20.5	21.4
Complex pools (LWD pieces>=3):	16	13.7	14.3
Pool frequency (channel widths/pool):	5.9		
Residual pool depth (avg):	0.86		

Comment Summary
Restoration Monitoring Sites 2006

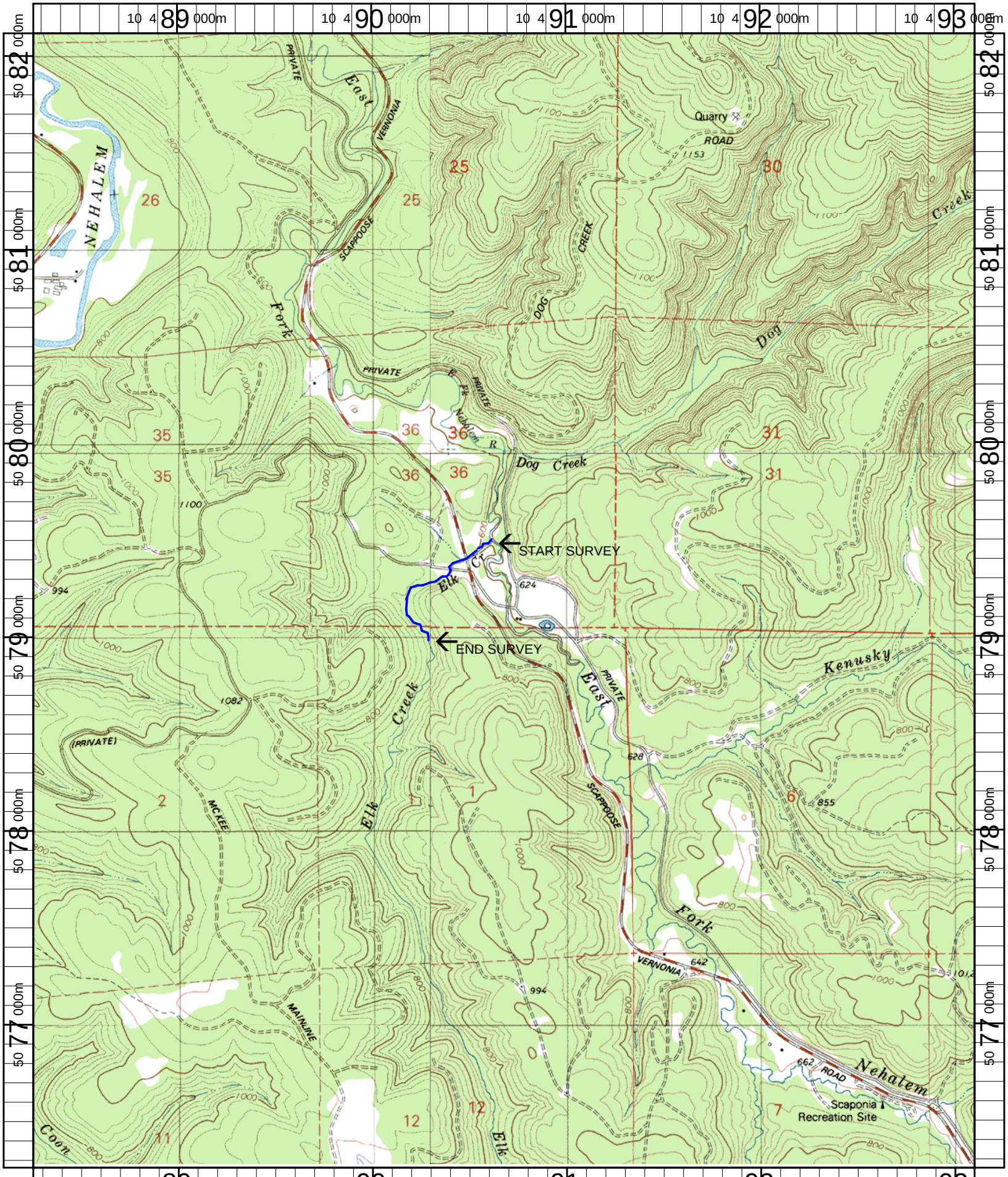
MONITORING AREA: **1-NC** **SITE ID:** **316** **ELK CREEK PRE-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	00	17	/SS		
6	LP	01	105.7		T = 6.0	
11	SL	00	172.1		H = 0.25	
13	LP	00	210.3	BV		
14	CC	00	235.8	CC	SCAPPOOSE-VERNONIA ROAD, CONCR	
15	LP	00	273.8	SS/		
19	SL	00	328.2		H = 0.3, OLD ROAD CROSSING	
20	DP	01	365.7	/TJ		
21	CR	11	365.7		T = 0.7	
25	SS	00	441.6		H = 0.6	
26	CC	00	460.6	CC, PA	1.8 m ROUND, MCKEE CR MAINLINE	
29	LP	00	610.7	BV	OLD BLOWNOUT BV DAM	
31	LP	00	657.8	LS/		
34	RI	01	703.2	/TJ		
36	LP	00	748.2		OLD BD	
38	LP	01	792.3		OLD BD, POWERLINES	
39	RI	01	798.5		OLD BLOWNOUT BD	
40	LP	01	853.5	TJ/		
43	LP	00	866	DJ		
44	SL	00	866.7		H = 0.2	
47	LP	00	1025.9	DJ, BV		

Comment Summary
Restoration Monitoring Sites 2006

MONITORING AREA: **1-NC** **SITE ID:** **316** **ELK CREEK PRE-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
48	SL	00	1026.4		H = 0.15, OLD BLOWNOUT BD	
49	LP	00	1073.4	DJ		
50	LP	00	1093.9		OLD BLOWNOUT BD	
51	LP	00	1119.2	/SS		



Name: BACONA
Date: 1/25/2007
Scale: 1 inch equals 2000 feet

Location: 10 490679 E 5079188 N
Caption: ELK CREEK #316 RESTORATION SITE - NEHALEM BASIN