

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

STREAM: Big Elk Creek (MC-307)
BASIN: Yaquina River
SURVEY TYPE: Pre-Tx
DATE: July 6, 2005
SURVEY CREW: Jeremy Romer, Sheila Davis
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 24.6 km²
USGS MAPS: Harlan
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Big Elk Creek habitat survey extended 1,203 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 16.0 (range: 12.0-20.0). Land use for the reach was second growth (15-30 cm dbh) trees and rural residential. The average unit gradient was 0.6 percent. Scour pools (71%) and riffles (25%) dominated stream habitat. Gravel (38%) and sand (38%) dominated stream substrate. Wood volume was very low at 3.1 m³/100m.

COMMENTS:

There was one potential barrier to upstream fish migration in the surveyed length. This was a bedrock step, 322 m into the survey.

REACH 1

T12S-R08W-S15SE

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	16.0	VWI Range:	12 - 20

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	1,203	4,989	0
Secondary Channel	21	21	1
Off-Channel Units	94	135	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 6
Width: 4.0	Width: 6.3	8.4 (5.3 - 12.8)	9.7 (6.8 - 13.1)
Depth: 0.52	Height: 0.5	1.0 (0.8 - 1.1)	1.6 (1.35 - 1.8)

W:D ratio: 12.5

Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: MF

Habitat Units/100m (total channel length): 4.2

Average Unit Gradient: 0.6%

Habitat Units/100m (primary channel length): 4.6

Water temperature (°C): 14.0 - 14.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	RR
Riparian Vegetation:	D30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	11%	Reach avg: 49%
Undercut Banks:	5%	Range: 28 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	54	4.5
Volume (m ³):	38	3.1
Key pieces (>=12m x 0.60m):	2	0.2

OREGON DEPT OF FISH AND WILDLIFE

BIG ELK CREEK PRE-TX (2-MC, 307)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/6/2005

REACH 1		T12S-R08W-S15SE					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
POOL-BACKWATER	1	4	1.8	0.35	6	0	100	0	0	0	0	0
POOL-LATERAL SCOUR	32	859	4.6	0.75	3,677	0	14	51	25	0	0	10
PUDDLED UNIT	1	21	1.0	0.01	21	0	30	70	0	0	0	0
RIFFLE	14	346	2.9	0.20	1,025	1	4	22	68	0	0	5
RIFFLE W/ POCKETS	2	57	4.3	0.25	245	0	5	30	45	3	0	18
STEP/BEDROCK	2	17	6.0	0.05	122	0	0	0	0	0	0	100
STEP/COBBLE	3	15	3.1	0.17	49	0	0	12	86	3	0	0
Total:	55	1,318	4.0	0.52	5,145	1	Avg: 12	38	38	0	0	11

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	1	4	1.8	0.35	6	0.13%	0	0.0	
Scour Pools	32	859	4.6	0.75	3,677	71.46%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	16	402	3.1	0.21	1,270	24.68%	1	0.1	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	5	32	4.3	0.12	171	3.32%	0	0.0	
Dry	1	21	1.0	0.01	21	0.40%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	
		<u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	33	25.0	27.4
Pools >=1m deep:	3	2.3	2.5
Complex pools (LWD pieces>=3):	4	3.0	3.3
Pool frequency (channel widths/pool):	6.3		
Residual pool depth (avg):	0.52		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

BIG ELK CREEK PRE-TX
GCG: 2-MC SITE ID: 307

Survey Date 7/6/2005
Report Date: 4/26/2006

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 4 transects

Total hardwoods/1000	198
Total conifers/1000 ft	168
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	0.0	0.5	0.3	0.3	0.0	0.3	0.3	1.0
15-30cm	0.0	0.3	0.5	0.8	2.0	0.8	2.5	1.8
30-50cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-90cm	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	1.3	0.8	1.0	2.0	1.0	0.9	1.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	30		40		53	
Shrub cover	45		63		49	
Grass/forb cover	55		38		44	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	13		25		25	
High terrace	75		75		75	
Low terrace	0		0		0	
Floodplain	13		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	9		7		10	

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

4 transects

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

Total hardwoods/1000	198
Total conifers/1000 ft	168
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	0.3	1.0
15-30cm	2.5	1.8
30-50cm	0.0	0.0
50-90cm	0.0	0.5
>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		
16	LF	1	HT	0	0	60	40	Conifer							3D 0449081 / 4930125
								Hardwood							
16	RT	3	HT	0	50	100	0	Conifer		3					
								Hardwood							
16	RT	2	HT	0	60	100	0	Conifer			1				
								Hardwood	1						
16	LF	3	HT	20	0	100		Conifer							
								Hardwood							
16	LF	2	HT	0	0	95	5	Conifer							
								Hardwood							
16	RT	1	HT	0	50	0	100	Conifer							
								Hardwood	2						
26	LF	3	HT	0	90	100	0	Conifer			3				
								Hardwood							
26	RT	3	HT	0	0	5	95	Conifer							
								Hardwood							
26	RT	2	HT	0	0	5	95	Conifer							
								Hardwood							
26	RT	1	HT	0	20	5	95	Conifer							
								Hardwood							
26	LF	1	HT	0	0	95	5	Conifer							3D 0449094 / 4929826
								Hardwood				1			
26	LF	2	HT	0	40	100	0	Conifer			1				
								Hardwood							
37	LF	1	HT	0	30	70	30	Conifer							3D 0449095 / 4929938
								Hardwood							
37	RT	3	HS	40	85	0	100	Conifer							
								Hardwood	1	3					
37	RT	2	HS	40	70	70	30	Conifer							
								Hardwood		2					
37	RT	1	HT	0	50	100	0	Conifer							
								Hardwood							
37	LF	3	HT	0	45	30	70	Conifer							
								Hardwood							
37	LF	2	HT	0	60	20	80	Conifer							
								Hardwood		1					

48	LF	3	HT	0	70	0	0	Conifer	2		GROUND ALL PINE NEEDLES
								Hardwood			
48	LF	2	HT	0	5	50	50	Conifer	1		
								Hardwood			
48	RT	1	HS	40	90	30	70	Conifer			
								Hardwood	1	1	
48	RT	2	HS	15	85	60	40	Conifer			
								Hardwood			
48	RT	3	HS	20	85	60	40	Conifer			
								Hardwood			
48	LF	1	FP	30	0	0	100	Conifer			2D 0449266 / 4929727
								Hardwood			

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 2-MC SITE ID: 307 BIG ELK CREEK PRE-TX

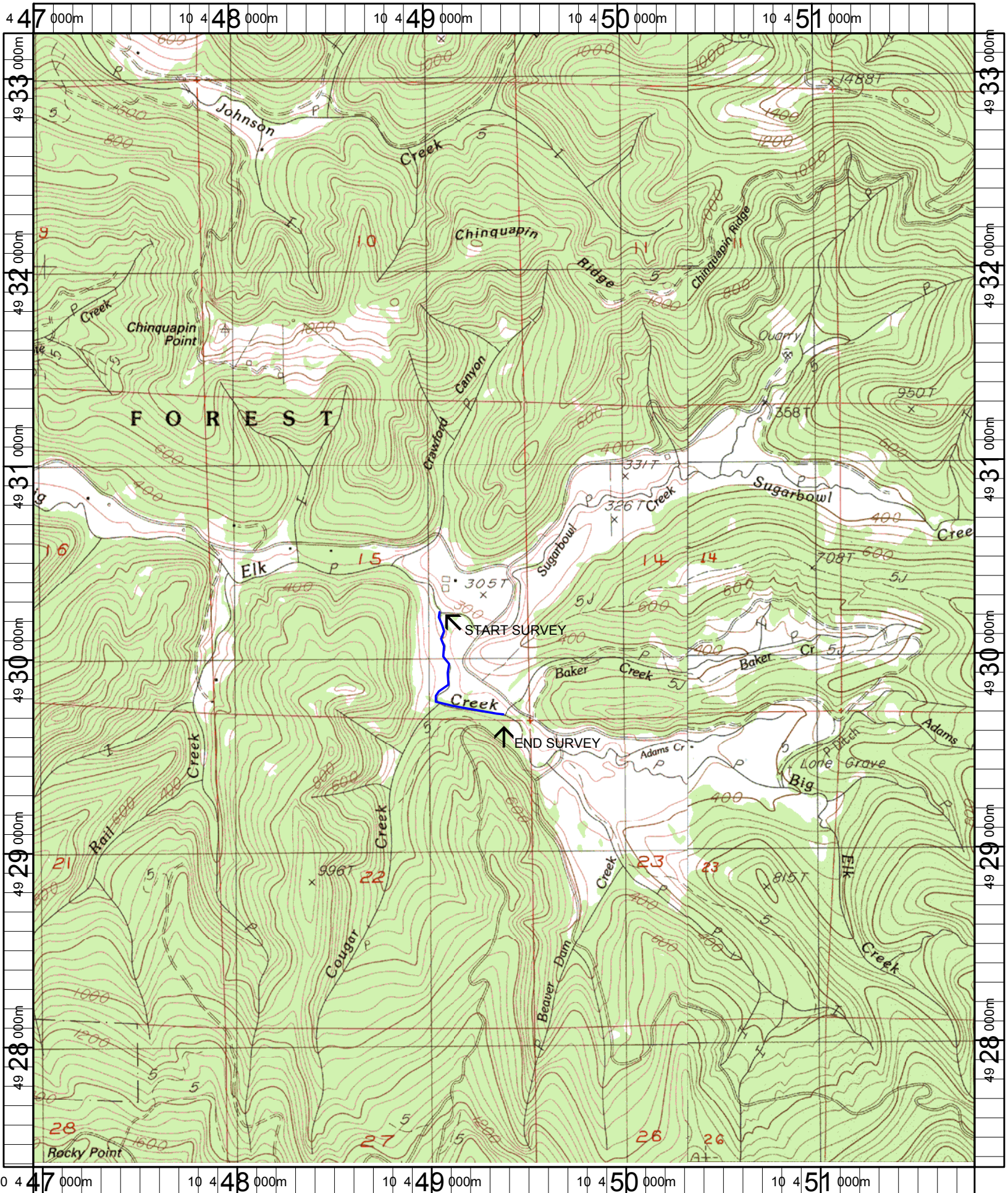
<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	LP	01	38.8	TJ/	01 POOL BEFORE SUGAR	BEGIN AT POOL BELOW STA
2	RI	11	38.8		11 SUGARBOWL CREEK	SUGARBOWL CREEK, ACW
6	SC	00	73.2		D30 G ST RR CT CT	
7	LP	00	89.4			FISH
9	LP	00	138.3			BANK UNDERCUT 1.0M IN
10	LP	00	171.3			JUVENILE SALMONIDS
12	RI	00	210.6			RIPARIAN 1
15	SC	00	243.5		S G ST RR CT CT	
16	LP	01	276.4			SHINER
17	BW	10	276.4			SALAMANDERS (RSN), SALM
21	SR	00	321.8	PN	PICTURE	
22	LP	00	330.2	WL		DEER, ELK
25	LP	00	557.8	BV, DJ	DJ	
26	RI	00	588.4		RIP 2, D30 G ST RR CT C	RIPARIAN 2
27	LP	00	663.1	BV		FISH
28	LP	00	710.5			FISH
29	LP	00	749.7			SALMONIDS
34	RI	01	856.8	/TJ		
35	RI	11	856.8		COUGAR CREEK, ACW 2.	COUGAR CREEK, TEMP 13C
37	RP	00	904.8		RIP 3, D30 S, ST LT, CT M	RIPARIAN 3
38	LP	00	916.3		TEMP 14C	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **2-MC** SITE ID: **307** **BIG ELK CREEK PRE-TX**

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
45	LP	00	1032.6	WL		DEER
48	RI	01	1116.5		RIP 4, D15 S, ST LT, CT M	RIPARIAN 4
49	LP	01	1130.4	WL, LA		DEER, BEDROCK IS HARDP
54	LP	01	1203.4	TJ/	CT CT, D30 S, ST RR	
55	RI	11	1203.4		BAKER CR, ACW 1.6M	BAKER CREEK, ACW 1.6M



Name: HARLAN
 Date: 1/21/2005
 Scale: 1 inch equals 2000 feet

Location: 10 449393 E 4930291 N
 Caption: BIG ELK CREEK RESTORATION SITE - YAQUINA BASIN