

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

STREAM: Big Elk Creek (MC-307)
BASIN: Yaquina River
SURVEY TYPE: Post-Tx
DATE: 7/18/2006
SURVEY CREW: Paul Jacobsen, Brian Cannon
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 1020 meters. The channel was constrained by multiple terraces within a broad valley floor. The average valley width index was 14.2 (range: 10-20). Land uses for the reach were second growth timber (15-30 cm dbh) and large timber (30-50 cm dbh). The average unit gradient was 0.4 percent. Scour pools (72%) dominated stream habitat. Fines (51%) and gravel (43%) dominated stream substrate. Wood volume was low at 8.2 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.

Beaver activity was noted from the start of the survey up to unit 28 (421.9 meters).

The crew observed Coho fry within the surveyed reach.

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	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	14.2	VWI Range:	10 - 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	1,020	3,804	0
Secondary Channel	0	0	0
Off-Channel Units	14	14	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 6
Width: 3.6	Width: 6.1	13.9 (8 - 20.5)	16.2 (8.5 - 23)
Depth: 0.39	Height: 0.7	1.4 (1.1 - 1.7)	1.7 (1.5 - 1.9)

W:D ratio: 8.6
 Stream Flow Type: LF
 Average Unit Gradient: 0.4%
 Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 2.3
 Habitat Units/100m (total channel length): 6.2
 Habitat Units/100m (primary channel length): 6.3

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	G	D30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	9%	Reach avg: 67%
Undercut Banks:	15%	Range: 28 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	78	7.6
Volume (m ³):	84	8.2
Key pieces (>=12m x 0.60m):	3	0.3

OREGON DEPT OF FISH AND WILDLIFE

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

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/18/2006

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
CASCADE/BEDROCK	1	13	5.0	0.03	64	0	0	0	0	0	0	100
GLIDE	3	34	4.0	0.15	136	0	7	40	10	2	0	42
POOL-BEAVER DAM	1	40	4.0	0.70	160	0	15	60	25	0	0	0
POOL-ISOLATED	2	6	1.1	0.10	7	0	32	64	3	0	0	2
POOL-LATERAL SCOUR	34	692	4.1	0.62	2,749	0	13	52	31	0	0	3
RIFFLE	9	138	2.4	0.13	359	1	4	24	71	0	0	0
RIFFLE W/ POCKETS	4	67	3.0	0.22	202	0	4	46	50	0	0	0
STEP/BEAVER DAM	1	0	3.0	0.05	1	0	0	20	80	0	0	0
STEP/BEDROCK	1	5	4.3	0.05	19	0	5	10	15	0	0	70
STEP/COBBLE	8	40	3.2	0.09	122	0	1	12	88	0	0	0
Total:	64	1,034	3.6	0.39	3,818	1	Avg: 10	41	43	0	0	6

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	3	46	2.1	0.30	167	4.37%	0	0.0	
Scour Pools	34	692	4.1	0.62	2,749	71.99%	0	0.0	
Glides	3	34	4.0	0.15	136	3.57%	0	0.0	
Riffles	13	204	2.6	0.16	561	14.70%	1	0.2	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	1	13	5.0	0.03	64	1.66%	0	0.0	
Step/Falls	10	45	3.3	0.08	142	3.71%	0	0.0	
Dry	0	0			0	0.00%	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:	37	35.8	36.3
Pools >=1m deep:	1	1.0	1.0
Complex pools (LWD pieces>=3):	13	12.6	12.7
Pool frequency (channel widths/pool):	4.6		
Residual pool depth (avg):	0.48		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

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

Survey Date 7/18/2006

RIPARIAN ZONE

Report Date: 3/5/2007

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	259
Total conifers/1000 ft	15
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	0.0	0.0	2.3	0.0	0.8	0.0	3.0
15-30cm	0.0	0.0	0.0	0.0	0.3	0.5	0.3	0.5
30-50cm	0.0	0.0	0.0	0.5	0.0	0.3	0.0	0.8
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	0.0	0.0	0.0	2.8	0.3	1.5	0.1	1.4

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	23		38		33	
Shrub cover	23		24		33	
Grass/forb cover	78		76		67	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		13		13	
High terrace	75		88		88	
Low terrace	13		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 (%)	0		7		9	

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	259
Total conifers/1000 ft	15
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	0.0	3.0
15-30cm	0.3	0.5
30-50cm	0.0	0.8
50-90cm	0.0	0.0
>90cm	0.0	0.0

48	LF	2	HT	0	0	0	100	Conifer			ALDER
								Hardwood	2		
48	RT	3	HS	70	85	5	95	Conifer			MAPLE, ALDER
								Hardwood	3	1	
48	RT	2	HS	50	95	10	90	Conifer			ALDER
								Hardwood		1	
48	LF	3	HT	0	20	10	90	Conifer	1		
								Hardwood			
48	LF	1	HT	0	40	60	40	Conifer			NO TREES
								Hardwood			
48	RT	1	LT	0	90	0	100	Conifer			NO TREES
								Hardwood			

Comment Summary

Restoration Monitoring Sites 2006

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

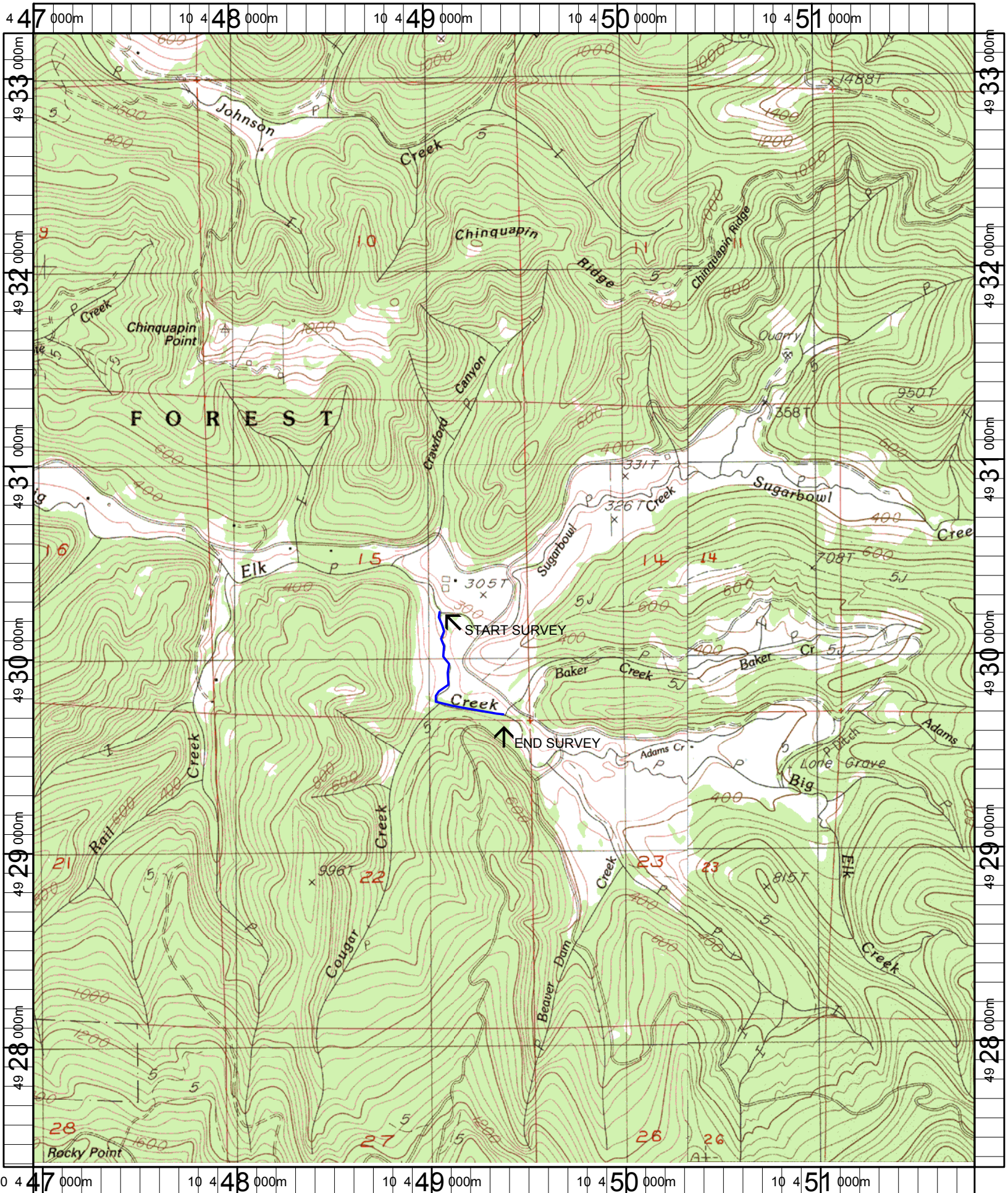
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	00	12.5	BV	START AT SUGARBOWL CR	RUFOUS HUMMINGBIRD,
2	LP	00	24.7		CT-MT,ST,G/D30	
4	LP	00	38.3		T=14.0C	
6	LP	00	67.1	BV		BV DEN
11	SC	00	120.8			CHESTNUT-BACKED CHIC
12	LP	00	167.3	BV		
13	LP	00	179.8			SONG SPARROW
14	LP	00	201.3			BANK COLLAPSE
15	LP	00	215.9			FRY
17	SD	00	223.4	BD	H=0.25M	TURKEY VULTURE
18	BP	01	263.4	BV	US-MT,ST,G/D30	DACE, COHO FRY
19	IP	10	263.4			CEDAR WAXWING
20	LP	00	279.4			COMMON YELLOWTHROA
24	LP	00	337.8	BV		BV TRAIL
25	RI	00	351.3		CT-MT, ST/LT, G/S	
26	LP	00	366.7	HS		7 LOGS, COHO FRY
28	LP	00	421.9	BV		
34	RP	00	552.4		CT-MT, ST/LT, G/D30	
35	LP	00	567.4			FRY
40	LP	01	647.6	HS, /TJ		4 LOGS
41	RI	11	647.6		COUGAR CREEK	COUGAR CREEK

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **307** **BIG ELK CREEK POST-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	SC	00	690.2			PACIFIC SLOPE FLYCATC
46	LP	00	718.2	HS		6 LOGS
48	RI	00	763.7		CT-MT, ST/MT, D30/G	
49	LP	00	799.4	HS		4 LOGS
52	IP	10	822.9	WL		RSN
53	LP	00	842.9	HS, WL		3LOGS, G. SNAKE W/RED
55	LP	00	873.6	HS		5 LOGS
59	LP	00	970.1	/LI		
64	LP	00	1020		CT-CT, D30/G, ST	



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