

**ODFW AQUATIC INVENTORY PROJECT  
RESTORATION MONITORING  
STREAM HABITAT REPORT**

STREAM: BIG ELK CREEK SITE 2  
 GCG: 2-MC  
 SITE ID: 400  
 BASIN: YAQUINA  
 TREATMENT DATE: 2008  
 SURVEY DATE: 6/25/2008  
 SURVEY CREW: Gwyn Woolley-Scott / Linda Campbell  
 USGS MAPS: HARLAN  
 ECOREGION: Mid-Coastal Sedimentary  
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

**SURVEY DESCRIPTION:**

Channel morphology: Constrained by hillslopes  
 Dominant landuse(s): Second growth timber (15-30 cm dbh)  
 Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh  
 Primary channel length (meters) and area (m<sup>2</sup>): 307 : 6,030  
 Secondary channel length (meters) and area (m<sup>2</sup>) 0 : 0  
 VWI average: 1.7 VWI Range: 1.5 - 2 Average Gradient: 1.1%  
 Pieces LWD per 100m: 15.9 Wood Volume (m<sup>3</sup>) per 100m: 14.3  
 Percent pools: 36% Complex pools (LWD pieces>=3): 3 Pools >=1m deep: 3  
 Percent substrate (avg):

	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	5	8	7	14	17	49
Pool units	13	6	3	10	15	52
Fast water units	4	10	9	20	24	34

**COMMENTS:**

This is a pre-treatment, restoration survey.

**OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY**

**BIG ELK CREEK SITE 2  
GCG: 2-MC SITE ID: 400**

**Survey Date: 6/25/2008**

**Report Date: 12/29/2008**

**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	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	1.7	VWI Range:	1.5 - 2

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100%	Single Channel	0%
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	307	6,030	0
Secondary	0	0	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 0
Width: 20.4	Width: 24.2	27.8 ( 26.4 - 29.1 )	( - )
Depth: 0.53	Height: 0.9	1.8 ( 1.4 - 2 )	( - )

W:D ratio: 26.9  
 Stream Flow Type: MF  
 Average Unit Gradient: 1.1%  
 Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.2  
 Habitat Units/100m (total channel length): 4.6  
 Habitat Units/100m (primary channel length): 4.6

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	0%	Reach avg: 89%
Undercut Banks:	2%	Range: 69 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	49	15.9
Volume (m <sup>3</sup> ):	44	14.3
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE

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REACH 1

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
POOL-STRAIGHT SCOUR	3	114	19.3	1.13	2,162	35	13	6	3	10	15	52
RIFFLE	8	184	19.7	0.46	3,635	74	4	10	9	20	24	34
STEP/BEDROCK	3	10	23.1	0.13	232	8	0	5	5	0	2	88
<b>Total:</b>	14	307	20.4	0.53	6,030	117	<b>Avg:</b> 5	8	7	14	17	49

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	3	114	19.3	1.13	2,162	35.86%	35	1.6
Glides	0	0			0	0.00%	0	0.0
Riffles	8	184	19.7	0.46	3,635	60.29%	74	2.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	3	10	23.1	0.13	232	3.85%	8	3.4
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	3	9.8	9.8
Pools >=1m deep:	3	9.8	9.8
Complex pools (LWD pieces>=3):	3	9.8	9.8
Pool frequency (channel widths/pool):	4.2		
Residual pool depth (avg):	1.06		

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RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 2 transects

Total hardwoods/1000	518
Total conifers/1000 ft	61
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	1.0	0.0	1.5	0.0	1.0	0.0	3.5
15-30cm	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
30-50cm	0.0	0.5	0.0	0.5	0.0	2.0	0.0	3.0
50-90cm	0.0	0.5	0.0	0.5	0.0	0.0	0.0	1.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	2.0	0.0	2.5	1.0	4.0	0.3	2.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	60		76		70	
Shrub cover	44		69		44	
Grass/forb cover	55		29		56	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	100		100		100	
High terrace	0		0		0	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	48		43		20	

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

**2 transects**

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

Total hardwoods/1000	518
Total conifers/1000 ft	61
Total conifers >20" dbh/1000 ft	0
Total conifers >35" dbh/1000 ft	0

**Average number of trees in a 5-m wide band**

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.0	3.5
15-30cm	1.0	1.0
30-50cm	0.0	3.0
50-90cm	0.0	1.0
>90cm	0.0	0.0

**RIPARIAN ZONE VEGETATION**

Reach 1

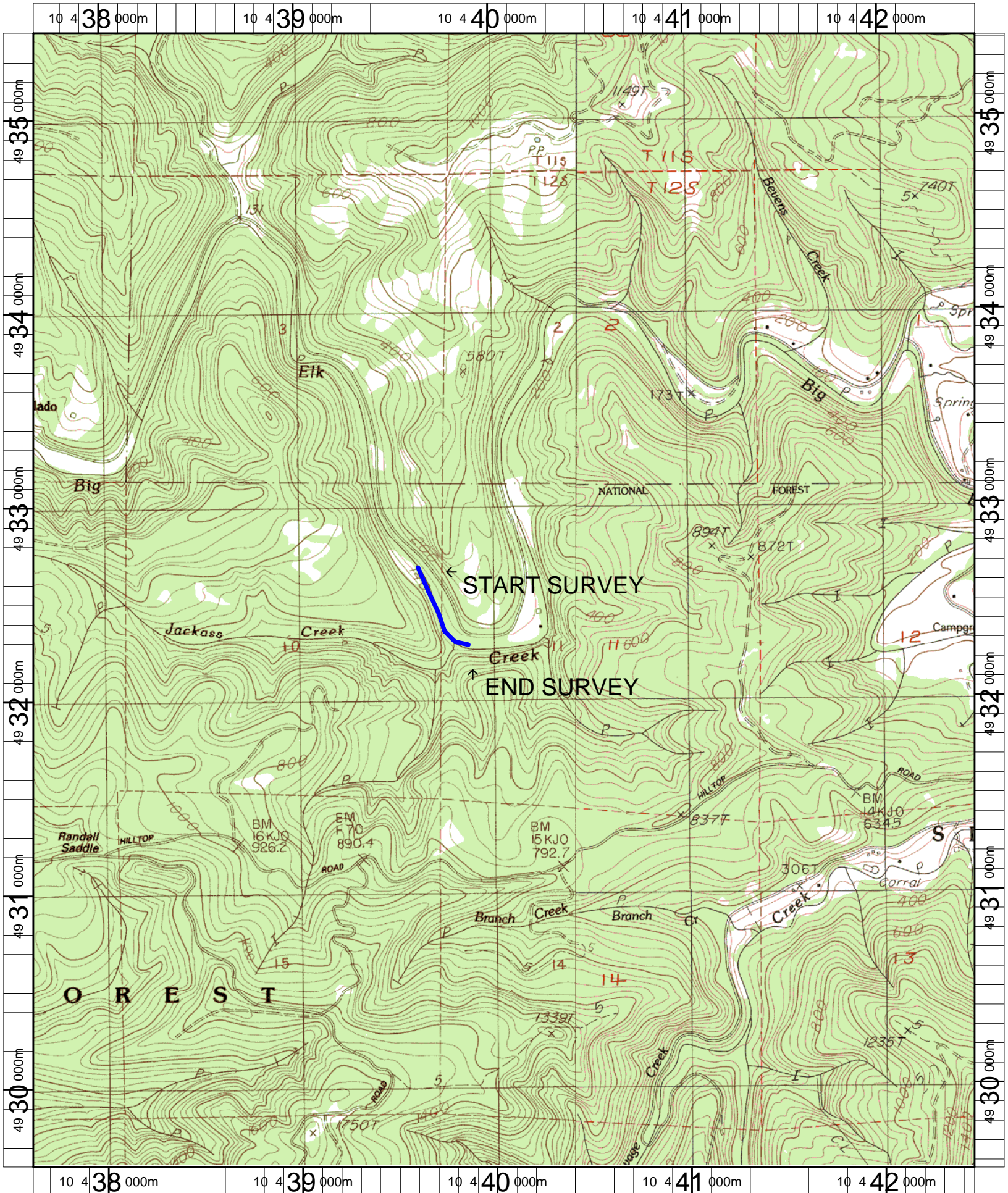
Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
6	LT	1	HS	30	60	80	20	Conifer							
								Hardwood	2						
6	LT	2	HS	3	70	80	20	Conifer							
								Hardwood	3						
6	LT	3	HS	3	80	30	70	Conifer							
								Hardwood		1					
6	RT	1	HS	65	30	25	75	Conifer							
								Hardwood				1			
6	RT	2	HS	85	90	55	45	Conifer							
								Hardwood							
6	RT	3	HS	65	50	15	85	Conifer							
								Hardwood			2				
10	LT	1	HS	20	70	40	55	Conifer							5% TRAIL
								Hardwood			1				
10	LT	2	HS	10	70	80	10	Conifer							5% TRAIL
								Hardwood			1	1			
10	LT	3	HS	10	85	75	25	Conifer							
								Hardwood		1	2				
10	RT	1	HS	75	80	30	70	Conifer							
								Hardwood							
10	RT	2	HS	75	75	60	40	Conifer							
								Hardwood							
10	RT	3	HS	0	65	55	45	Conifer				2			
								Hardwood	2						

**COMMENT SUMMARY**

MONITORING AREA: 2-MC      SITE ID: 400      STREAM: BIG ELK CREEK SITE 2

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
3	SR	00	49		H=0.20M
6	SR	00	132		STEP DIAGONAL ACROSS STREAM: ACTUAL LENGTH 26.6M, H=0.10M
12	SR	00	260.1		H=0.30M
14	SP	00	307.4	SS/	



Name: HARLAN (OR)  
Date: 3/3/2008  
Scale: 1 inch equals 2000 feet

Location: 10 0440055 E 4932510 N NAD 27  
Caption: BIG ELK CREEK SITE 2 RESTORATION SITE - YAQUINA BASIN