

**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: 1/26/2009  
 SURVEY CREW: Matt Strickland / Charlie Stein  
 USGS MAPS: HARLAN  
 ECOREGION: Mid-Coastal Sedimentary  
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T12S-R09W-S10NW

**SURVEY DESCRIPTION:**

Channel morphology: Constrained alternately by high terraces and 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>): 315 : 5,939

Secondary channel length (meters) and area (m<sup>2</sup>) 0 : 0

VWI average: 2.7 VWI Range: 1.5 - 3.5 Average Gradient: 0.4%

Pieces LWD per 100m: 19.1 Wood Volume (m<sup>3</sup>) per 100m: 73.2

Percent pools: 60% Complex pools (LWD pieces>=3): 4 Pools >=1m deep:4

<u>Percent substrate (avg):</u>	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	2	8	4	8	11	67
Pool units	4	13	5	10	13	56
Fast water units	3	8	5	13	18	55

**SURVEY COMMENTS:**

Big Elk Creek Site 2 is a post-treatment, restoration site. The crew noted habitat structures throughout consisting of placed boulder wings and logs. They also noted beaver trails and chewed sticks. A live adult winter steelhead and two coho salmon carcasses were observed. There were no potential barriers to upstream fish migration observed within the survey reach.

Survey Date: 1/26/2009

Report Date: 2/16/2010

T12S-R09W-S10NW

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	2.7	VWI Range:	1.5 - 3.5

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m<sup>2</sup>)</u>	<u>Dry Units</u>
Primary	315	5,939	0
Secondary	0	0	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 3	<u>First Terrace</u> n = 3
Width: 19.6	Width: 23.6	28.8 ( 28.5 - 29.1 )	36.6 ( 34.5 - 38.5 )
Depth: 0.84	Height: 0.8	1.6 ( 1.6 - 1.6 )	4.4 ( 4.2 - 4.5 )

W:D ratio: 29.5

Stream Flow Type: LF

Average Unit Gradient: 0.4%

Water temperature (°C): 6.0 - 6.0

Entrenchment (ACW:FPW ratio): 1.2

Habitat Units/100m (total channel length): 2.9

Habitat Units/100m (primary channel length): 2.9

**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:		Reach avg:
Undercut Banks:		Range: -

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	60	19.1
Volume (m <sup>3</sup> ):	230	73.2
Key pieces (>=12m x 0.60m):	23	7.3

HABITAT INVENTORY

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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
GLIDE	1	48	20.1	0.50	955	0	0	10	5	5	10	70
POOL-LATERAL SCOUR	3	149	18.4	1.57	2,721	0	3	12	5	10	12	58
POOL-STRAIGHT SCOUR	1	48	17.3	1.20	822	0	5	15	5	10	15	50
RIFFLE	1	35	20.6	0.35	715	0	0	10	5	15	20	50
RIFFLE W/ POCKETS	1	29	20.0	0.35	580	0	5	5	5	10	15	60
STEP/BEDROCK	2	7	21.4	0.25	146	0	0	0	0	0	0	100
<b>Total:</b>		<b>9</b>	<b>315</b>	<b>19.6</b>	<b>5,939</b>	<b>0</b>	<b>Avg: 2</b>	<b>8</b>	<b>4</b>	<b>8</b>	<b>11</b>	<b>67</b>

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	4	197	18.2	1.48	3,543	59.66%	0	0.0
Glides	1	48	20.1	0.50	955	16.08%	0	0.0
Riffles	2	64	20.3	0.35	1,295	21.80%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	2	7	21.4	0.25	146	2.47%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE  
HABITAT INVENTORY

BIG ELK CREEK SITE 2  
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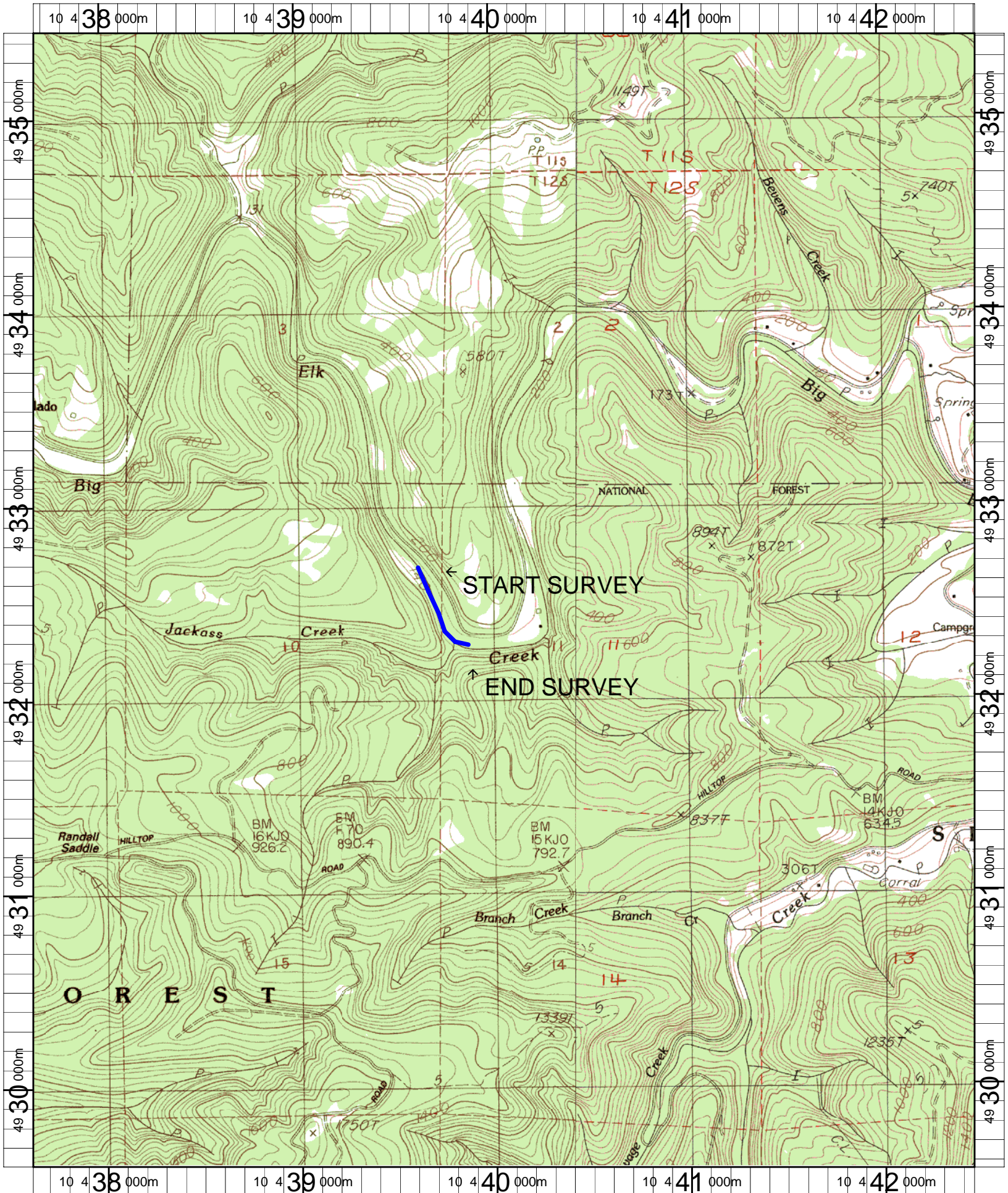
**POOL SUMMARY**

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	4	12.7	12.7
Pools >=1m deep:	4	12.7	12.7
Complex pools (LWD pieces>=3):	4	12.7	12.7
Pool frequency (channel widths/pool):	3.3		
Residual pool depth (avg):	1.11		

COMMENT SUMMARY

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

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	RI	00	34.7	/SS	
1	3	RP	00	66.7	HS	BOULDERS AND LOGS
1	4	LP	00	119.7	HS	2 CARCASSES
1	5	SP	00	167.2	HS	BOULDERS AND LOGS
1	6	LP	00	209.2	HS	UNKNOWN LIVE ADULT STEELHEAD/SALMON
1	7	SR	00	213.1	BV	
1	8	GL	00	260.6	BV	BEAVER TRAIL AND STICKS
1	9	LP	00	314.6	HS,/TJ	(2) CARCASSES AT MOUTH OF JACKASS CR



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



**Big Elk Creek Site 2 (MC-400) 2009 Winter Habitat Survey Photographs**



Downstream view of placed large wood and boulders.



Jackass Creek confluence on right bank upstream of large wood.



Upstream view of boulder and large wood placement.



Sediment accumulation around placed boulders.



Sediment accumulation.