

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

STREAM: BIG ELK CREEK SITE 3  
 GCG: 2-MC  
 SITE ID: 401  
 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-S02SE

**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 15-30cm dbh

Primary channel length (meters) and area (m<sup>2</sup>): 167 : 2,792

Secondary channel length (meters) and area (m<sup>2</sup>) 9 : 8

VWI average: 3.0 VWI Range: 2.5 - 3.5 Average Gradient: 0.5%

Pieces LWD per 100m: 21.6 Wood Volume (m<sup>3</sup>) per 100m: 183.7

Percent pools: 47% Complex pools (LWD pieces>=3): 2 Pools >=1m deep:2

<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	32	7	6	4	7	44
Pool units	33	13	11	11	11	22
Fast water units	0	8	8	0	10	75

**SURVEY COMMENTS:**

Big Elk Creek Site 3 is a post-treatment, restoration site. The crew noted habitat structures throughout consisting of placed boulder wings and logs. They also noted a beaver den and chewed sticks. A coho salmon carcass was observed. There were no potential barriers to upstream fish migration observed within the survey.

Survey Date: 1/26/2009

Report Date: 2/16/2010

T12S-R09W-S02SE

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	3.0	VWI Range:	2.5 - 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	167	2,792	0
Secondary	9	8	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 2	<u>First Terrace</u> n = 2
Width: 12.2	Width: 16.9	20.9 ( 20.8 - 21 )	25.8 ( 25.1 - 26.5 )
Depth: 0.82	Height: 0.8	1.5 ( 1.5 - 1.5 )	2.7 ( 2.5 - 2.8 )

W:D ratio: 22.5

Stream Flow Type: LF

Average Unit Gradient: 0.5%

Water temperature (°C): 6.0 - 6.0

Entrenchment (ACW:FPW ratio): 1.2

Habitat Units/100m (total channel length): 4.0

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

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D15	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):	36	21.6
Volume (m <sup>3</sup> ):	306	183.7
Key pieces (>=12m x 0.60m):	22	13.2

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	46	16.0	0.60	736	0	10	10	5	5	5	67
POOL-ISOLATED	2	9	1.1	0.25	8	0	75	0	0	0	0	25
POOL-STRAIGHT SCOUR	2	72	18.6	2.05	1,319	0	33	13	11	11	11	22
RIFFLE	2	49	15.2	0.28	737	0	0	8	8	0	10	75
<b>Total:</b>	7	175	12.2	0.82	2,800	0	<b>Avg:</b> 32	7	6	4	7	44

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	2	9	1.1	0.25	8	0.29%	0	0.0
Scour Pools	2	72	18.6	2.05	1,319	47.10%	0	0.0
Glides	1	46	16.0	0.60	736	26.28%	0	0.0
Riffles	2	49	15.2	0.28	737	26.32%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	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 3  
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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	22.9	24.0
Pools >=1m deep:	2	11.4	12.0
Complex pools (LWD pieces>=3):	2	11.4	12.0
Pool frequency (channel widths/pool):	2.6		
Residual pool depth (avg):	1.60		

**COMMENT SUMMARY**

MONITORING AREA: 2-MC      SITE ID: 401      STREAM: BIG ELK CREEK SITE 3

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	RI	01	30	BV,HS,SS	STICK, BOULDERS/LOGS
1	4	SP	00	65	HS,BV	LOGS/BOULDERS, DEN/STICKS
1	5	GL	00	111	HS	BOULDERS, DEEP POCKETS IN GLIDE
1	6	SP	00	147.5	HS	LOGS/BOULDERS, COHO CARCASS



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

Location: 10 0440945 E 4933443 N NAD 27  
 Caption: BIG ELK CREEK SITE 3 RESTORATION SITE - YAQUINA BASIN

**Big Elk Creek Site 3 (MC-401) 2009 Winter Habitat Survey Photographs**



Unit 1 - Downstream view of placed large wood and boulders.



Unit 1 - Large wood placement with debris accumulation.



Unit 2 - Upstream view of reach.



Unit 2 - Large wood placement.



Sediment accumulation.



Sediment accumulation.