

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

STREAM: Deer Creek (MC-23)
BASIN: Yaquina River
SURVEY TYPE: Post-Tx
DATE: February 27, 2006
SURVEY CREW: Brian Cannon, Jon Nott
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 10.2 km³
USGS MAPS: Elk City
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Deer Creek habitat survey extended 487 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 3.7 (range: 1.0-10.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 0.5 percent. Riffles (43%) and scour pools (35%) dominated stream habitat. Gravel (36%) and sand (36%) dominated stream substrate. Wood volume was high at 32.0 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.

Stream Deer Creek (MC-23)

Basin Yaquina River

Treatment Large Wood

	ODFW Benchmark		Pre 1/15/99	Post 1/19/00	Post 2/7/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	29.3	41.4	49.2		
Number of Pools			4	8	9		
Deep Pools/km (>1.0 m)			2.8	13.2	6.0		
% Off-Channel			2	0.3	2.4		
LWD – Pieces/100m	>20	<10	4.4	11.4	13.8		
LWD – Volume/100m	>30	<20	3.4	36.2	32.0		
LWD – Key Pieces/100m	>3	<1	0	0	1		
Large Wood Jams/km			0	13.4	10.3		
% Riffle Fines	<10	>20	38	25	30		
% Riffle Gravel	>35	<15	38	38	38		
% Bedrock			0	6	0		

Bold is noticeable change

Comments: Since the treatment was large wood assembled in complex jams, it is no surprise that there was an increase in those variables. What is important is that the large wood is being retained in the treated reach and is accumulating additional wood pieces. Pool area increased, as did the number of pools. Deep pools are higher than pre-treatment conditions, but are lower than immediately after treatment. Riffle fines and gravel remained virtually unchanged.

REACH 1

T11S-R09W-S34SW

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	3.7	VWI Range:	1 - 10

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 Channel	487	2,850	0
Secondary Channel	0	0	0
Off-Channel Units	16	69	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 2
Width: 5.8	Width: 8.6	11.5 (8.8 - 14)	13.0 (12.5 - 13.5)
Depth: 0.66	Height: 0.8	1.7 (1.5 - 1.9)	1.9 (1.75 - 1.95)

W:D ratio: 10.4
 Stream Flow Type: MF
 Average Unit Gradient: 0.5%
 Water temperature (°C): 7.5 - 7.5

Entrenchment (ACW:FPW ratio): 1.4
 Habitat Units/100m (total channel length): 3.8
 Habitat Units/100m (primary channel length): 3.9

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
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):	67	13.8
Volume (m ³):	156	32.0
Key pieces (>=12m x 0.60m):	5	1.0

OREGON DEPT OF FISH AND WILDLIFE

DEER CREEK POST-TX (2-MC, 23)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/7/2006

REACH 1		T11S-R09W-S34SW					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/BOULDERS	2	16	5.6	0.15	69	0	0	15	50	23	10	3
GLIDE	1	30	5.3	0.40	161	0	5	40	50	5	0	0
POOL-DAMMED	1	50	8.6	0.70	426	0	15	55	30	0	0	0
POOL-LATERAL SCOUR	8	178	5.7	0.98	1,011	0	3	46	30	15	6	0
RIFFLE	7	230	5.6	0.46	1,253	0	1	29	38	21	11	0
Total:	19	503	5.8	0.66	2,919	0	Avg: 3	36	36	17	8	0

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	50	8.6	0.70	426	14.59%	0	0.0	
Scour Pools	8	178	5.7	0.98	1,011	34.63%	0	0.0	
Glides	1	30	5.3	0.40	161	5.50%	0	0.0	
Riffles	7	230	5.6	0.46	1,253	42.94%	0	0.0	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	2	16	5.6	0.15	69	2.35%	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	

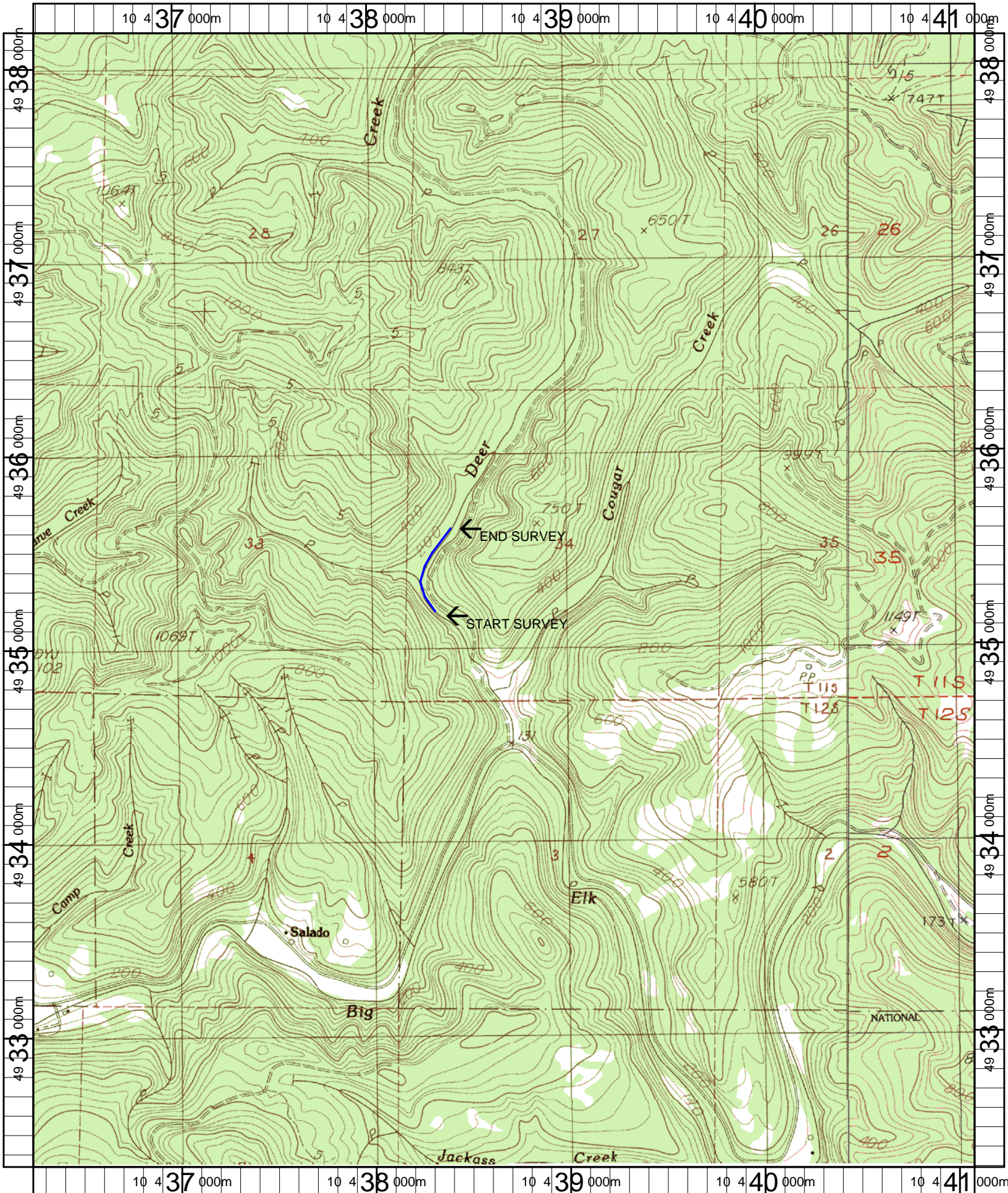
POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	
		<u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	9	17.9	18.5
Pools >=1m deep:	3	6.0	6.2
Complex pools (LWD pieces>=3):	3	6.0	6.2
Pool frequency (channel widths/pool):	6.5		
Residual pool depth (avg):	0.48		

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **23** DEER CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
2	LP	00	65.1	HS		REDD IN TAILOUT
3	RI	00	88.4	HS		
4	DP	00	137.9	BD, BV		BD IS PARTIALLY BLOWNOUT
5	RI	01	153.9	TJ/		
6	CB	11	153.9		T = 6.0	
7	LP	01	186.1	HS, TJ/	T = 7.5	
9	LP	00	198.5	SS/SS		
10	LP	00	225.2	HS		
15	RI	00	401	SS/, BV		
16	LP	00	413.8	SS/		
19	RI	00	487	SS/		1998 SIGN SAYS 1579 MC



Name: ELK CITY
Date: 1/25/2007
Scale: 1 inch equals 2000 feet

Location: 10 438681 E 4935240 N
Caption: DEER CREEK UPPER RESTORATION SITE - YAQUINA BASIN