

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

STREAM: Bear Creek Middle (MC-299)
BASIN: Salmon River
SURVEY TYPE: Post-Tx
DATE: February 23, 2006
SURVEY CREW: Brian Cannon, Jon Nott
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 14.0 km²
USGS MAPS: Devils Lake
ECOREGION: Coast Range Volcanic

GENERAL DESCRIPTION:

The Bear Creek habitat survey extended 650 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 3.3 (range: 1.8-5.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 1.6 percent. Riffles (43%) and scour pools (27%) dominated stream habitat. Gravel (44%) and cobble (33%) dominated stream substrate. Wood volume was high at 46.7 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.

REACH 1

T07S-R10W-S10NE

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	3.3	VWI Range:	1.8 - 5

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	650	3,191	0
Secondary Channel	82	116	1
Off-Channel Units	48	95	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 3
Width: 4.2	Width: 9.3	17.4 (11.9 - 32.2)	14.6 (12.2 - 18)
Depth: 0.37	Height: 0.7	1.3 (1.2 - 1.4)	1.6 (1.5 - 1.8)

W:D ratio: 14.2

Entrenchment (ACW:FPW ratio): 1.9

Stream Flow Type: MF

Habitat Units/100m (total channel length): 6.5

Average Unit Gradient: 1.6%

Habitat Units/100m (primary channel length): 7.8

Water temperature (°C): 7.0 - 7.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	D3

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):	211	32.4
Volume (m ³):	304	46.7
Key pieces (>=12m x 0.60m):	40	6.2

OREGON DEPT OF FISH AND WILDLIFE

BEAR CREEK MIDDLE POST-TX (2-MC, 299)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/23/2006

REACH 1		T07S-R10W-S10NE					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	19	1.1	0.10	21	0	5	2	53	29	2	9
DRY CHANNEL	1	11	0.7	0.00	7	0	5	80	15	0	0	0
GLIDE	1	17	4.0	0.30	66	0	0	11	33	54	2	0
POOL-BACKWATER	1	5	2.0	0.50	10	0	0	90	0	10	0	0
POOL-ISOLATED	5	24	2.9	0.44	64	0	7	21	47	25	0	0
POOL-LATERAL SCOUR	13	181	4.6	0.77	892	0	0	18	47	29	1	5
POOL-PLUNGE	1	13	2.8	0.90	36	0	0	50	40	10	0	0
RAPID/BOULDERS	9	187	3.8	0.19	694	0	7	8	37	43	2	3
RIFFLE	8	197	5.2	0.19	1,054	0	1	11	51	35	1	1
RIFFLE W/ POCKETS	4	103	4.3	0.21	415	0	0	11	54	34	1	0
STEP/BEDROCK	1	4	4.5	0.10	19	0	0	0	0	0	0	100
STEP/COBBLE	4	21	5.6	0.13	120	0	0	5	40	55	0	0
STEP/LOG	1	0	6.0	0.10	2	0	0	20	70	10	0	0
Total:	51	780	4.2	0.37	3,401	0	Avg: 2	16	44	33	1	4

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	6	29	2.8	0.45	74	2.17%	0	0.0	
Scour Pools	14	194	4.5	0.78	927	27.27%	0	0.0	
Glides	1	17	4.0	0.30	66	1.95%	0	0.0	
Riffles	12	300	4.9	0.20	1,470	43.22%	0	0.0	
Rapids	9	187	3.8	0.19	694	20.42%	0	0.0	
Cascades	2	19	1.1	0.10	21	0.61%	0	0.0	
Step/Falls	6	25	5.5	0.12	141	4.14%	0	0.0	
Dry	1	11	0.7	0.00	7	0.22%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

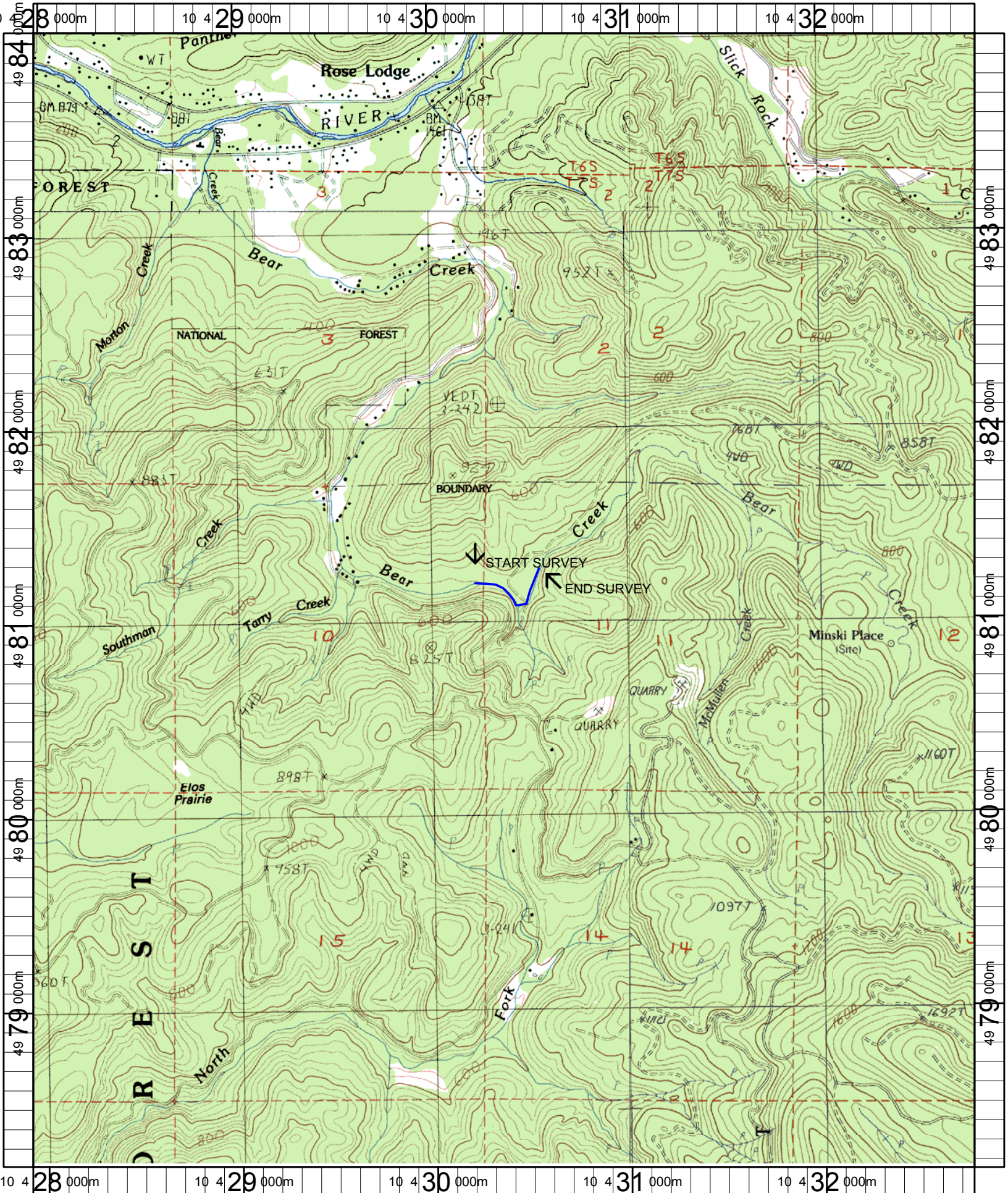
POOL SUMMARY			
	Total	Total of all Channel Lengths	Primary Channel Length
		# / Km	# / Km
All Pools:	20	25.6	30.8
Pools >=1m deep:	4	5.1	6.2
Complex pools (LWD pieces>=3):	12	15.4	18.5
Pool frequency (channel widths/pool):	4.2		
Residual pool depth (avg):	0.57		

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **299** BEAR CREEK MIDDLE POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	22	/SS		
4	LP	00	65	/SS		
8	PP	01	110	HS	SIX LOGS	
10	DC	02	110		SUBSURFACE FLOW	
12	SL	00	110.3		H = 0.5	
14	LP	00	170.8	HS	5 LOGS, 4 ADULT STLHD AN REDDS	
18	LP	00	268.1	HS	ONE LOG	
20	RB	00	306.6	BV		
27	LP	00	359.5	HS	SIX LOGS	
29	LP	01	409.9	HS	TEN LOGS	
31	RB	00	422.1	BC, CS	RAIL CAR BRIDGE ACROSS RIPRAP	
33	RB	01	451	/TJ x 2		
34	CB	11	451		ACW = 2.2 m, T = 10	
35	CB	11	451		ACW = 1.0 m., T = 10	
41	LP	01	549.2	HS	TEN LOGS	
43	SR	00	553.4		BEDROCK = CLAY	
46	RB	01	584.8		BLOWN OUT BV DAM	
49	RI	00	606		STEELHEAD CARCASS	
51	RB	00	650.3		END AT TJ LEFT	



Name: DEVILS LAKE
 Date: 1/21/2005
 Scale: 1 inch equals 2000 feet

Location: 10 430369 E 4981106 N
 Caption: BEAR CREEK MIDDLE RESTORATION SITE - SALMON RIVER BASIN