

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

STREAM: Big Creek Phase 1 (U-126)  
BASIN: Smith River  
SURVEY TYPE: Post-Tx  
DATE: July 13, 2004  
SURVEY CREW: Peter Baki, Jeremiah Bernier  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 19.7 km<sup>2</sup>  
USGS MAPS: Twin Sisters  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Big Creek habitat survey extended 510 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 4.5 (range: 1.1-8.1). Land use for the reach was young (3-15 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 0.8 percent. Scour pools (66%) and riffles (25%) dominated stream habitat. Bedrock (65%) dominated stream substrate. Wood volume was low at 9.7 m<sup>3</sup>/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

T21S-R08W-S04SW

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	4.5	VWI Range:	1.1 - 8.1

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 (m2)</u>	<u>Dry Units</u>
Primary	510	3,095	0
Secondary	0	0	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 5.5	Width: 7.6	11.2 ( 7.8 - 13.6 )	17.0 ( 12.6 - 20.9 )
Depth: 0.31	Height: 0.7	1.4 ( 1.2 - 1.7 )	2.2 ( 2 - 2.4 )

W:D ratio: 10.9

Stream Flow Type: MF

Average Unit Gradient: 0.8%

Water temperature (°C): 17.0 - 17.0

Entrenchment (ACW:FPW ratio): 1.5

Habitat Units/100m (total channel length): 7.5

Habitat Units/100m (primary channel length): 7.5

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	LT
Riparian Vegetation:	D15	C30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	3%	Reach avg: 84%
Undercut Banks:	2%	Range: 78 - 92

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	52	10.2
Volume (m <sup>3</sup> ):	49	9.7
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPARTMENT OF FISH AND WILDLIFE

BIG CREEK PHASE 1 POST-TX (U-126)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

7/13/2004

REACH 1

T21S-R08W-S04SW

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-LATERAL SCOUR	15	288	6.6	0.57	1,893	96	0	13	11	5	10	60
POOL-PLUNGE	3	22	7.0	0.38	153	3	0	3	5	3	5	84
RAPID/BEDROCK	1	10	4.6	0.05	44	3	0	0	0	0	0	100
RIFFLE	5	135	5.4	0.09	783	23	0	0	11	3	5	81
STEP/BEDROCK	6	17	4.4	0.15	77	5	0	0	1	0	1	98
STEP/COBBLE	3	20	4.8	0.09	96	14	0	3	60	23	7	7
STEP/STRUCTURE	5	19	3.6	0.08	48	31	0	2	7	3	51	37
<b>Total:</b>	<b>38</b>	<b>510</b>	<b>5.5</b>	<b>0.31</b>	<b>3,095</b>	<b>175</b>	<b>Avg: 0</b>	<b>6</b>	<b>12</b>	<b>5</b>	<b>13</b>	<b>65</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	18	310	6.7	0.54	2,046	66.11%	99	4.8
Glides	0	0			0	0.00%	0	0.0
Riffles	5	135	5.4	0.09	783	25.32%	23	2.9
Rapids	1	10	4.6	0.05	44	1.43%	3	6.8
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	14	55	4.2	0.11	221	7.14%	50	22.6
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:	18	35.3	35.3
Pools >=1m deep:	1	2.0	2.0
Complex pools (LWD pieces>=3):	3	5.9	5.9
Pool frequency (channel widths/pool):	3.7		
Residual pool depth (avg):	0.48		

**RIPARIAN ZONE VEGETATION SUMMARY**

REACH 1

REACH 1

**Summary of Riparian Zone (0-30m)**

3 transects

Total hardwoods/1000	914
Total conifers/1000 ft	264
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	3.0	0.3	4.3	0.3	3.0	0.7	10.3
15-30cm	0.3	1.3	0.7	0.7	2.7	0.7	3.7	2.7
30-50cm	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.3	6.3	1.0	5.0	3.0	3.7	1.4	5.0

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	70		62		69	
Shrub cover	21		24		24	
Grass/forb cover	58		48		50	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		50		83	
High terrace	50		33		17	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	17		17		0	
Riprap	0		0		0	
Surface slope (%)	10		16		26	

**RIPARIAN ZONE VEGETATION**

Reach 1

Reach 1

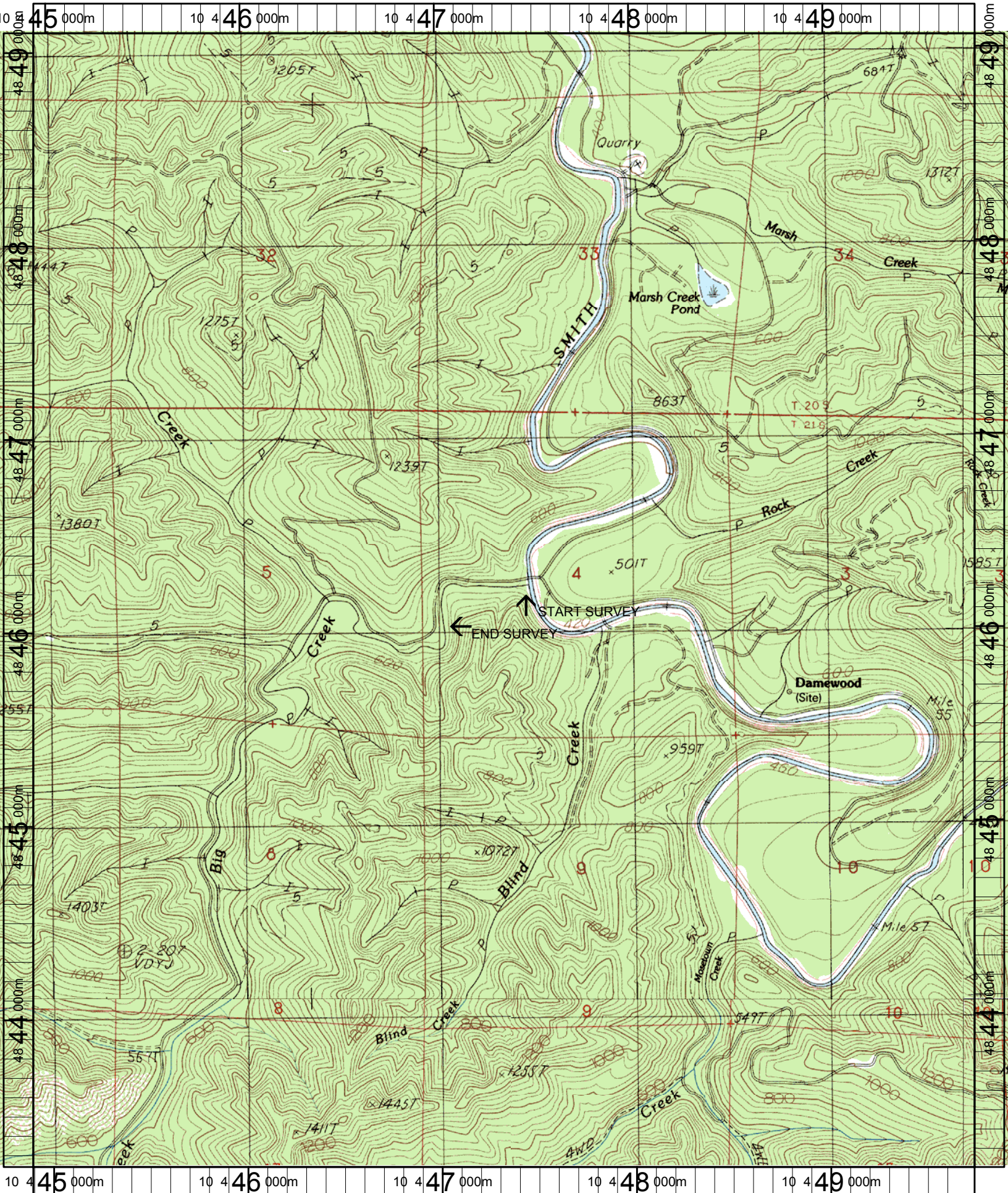
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
10	LF	3	HS	25	80	10	90	Conifer		1					
								Hardwood	4						
10	LF	2	HT	0	90	10	90	Conifer		1					
								Hardwood	3						
10	RT	3	HS	0	20	0	0	Conifer							
								Hardwood							
10	LF	1	HT	0	90	10	90	Conifer							
								Hardwood	4	1					
10	RT	1	HT	0	85	50	50	Conifer							
								Hardwood		1	1				
10	RT	2	HS	15	70	70	30	Conifer							
								Hardwood							
16	RT	3	HS	50	94	10	40	Conifer			4				
								Hardwood		1					
16	RT	2	RB	0	40	0	0	Conifer							
								Hardwood							
16	RT	1	HS	30	80	10	90	Conifer							
								Hardwood		1	4				
16	LF	3	HT	0	80	5	90	Conifer		1					
								Hardwood	2						
16	LF	2	HT	0	80	5	90	Conifer			1				
								Hardwood	2	1					
16	LF	1	HT	0	80	5	30	Conifer							
								Hardwood	2	1	1				
27	RT	3	HS	50	80	100	0	Conifer							
								Hardwood	2						
27	RT	2	HS	50	30	40	0	Conifer							
								Hardwood	6						
27	LF	3	HS	30	60	20	80	Conifer	1	2					
								Hardwood	1	1					
27	LF	1	HS	30	75	10	90	Conifer		1					
								Hardwood	3						
27	LF	2	HS	30	60	20	80	Conifer	1						
								Hardwood	2	1					
27	RT	1	RB	0	10	40	0	Conifer							
								Hardwood							

# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: **4-UMP**    SITE ID: **126**    **BIG CREEK PHASE 1 POST-TX (U-12)**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SR	00	3.5			T=17 DEG C AT14:45
3	SS	00	18.7	HS		2 BOULDERS AND 7 LOGS
5	SS	00	45.6	HS		9 BOULDERS
6	LP	00	71.2	HS		3 LOGS
7	RI	00	116.3	HS		11 BOULDERS
9	SS	00	125.6	HS		7 BOULDERS
10	RI	00	159.3		RIP 1	
12	RI	00	186.4	HS	BC-5	9 BOULDERS
13	LP	00	218.6	HS	207 BC-6 RANDOM	22 BOULDERS
14	SC	00	220.8		BOULDER CLUSTER	
15	LP	00	240.4	HS		2 LOGS, 1 BOULDER
16	RI	00	270.6	HS	RIP 2, PHOTO 22	6 LOGS
20	SS	00	303.2	HS		9 BOULDERS
25	LP	00	368.1	/CS, HS		15 BOULDERS, 2 LOGS
27	LP	00	405.3	HS	RIP 3	1 LOG
29	LP	00	420.3	HS		6 BOULDERS
31	LP	00	444.8	HS		5 BOULDERS
36	SC	00	494.3	HS		10 BOULDERS
38	SS	00	509.6	HS		9 BOULDERS



Name: TWIN SISTERS  
 Date: 8/4/2004  
 Scale: 1 inch equals 2000 feet

Location: 10 447334 E 4846157 N  
 Caption: BIG CREEK PHASE 1 RESTORATION SITE - SMITH BASIN