

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

STREAM: Big Creek (U-126)
BASIN: Smith River
SURVEY TYPE: Post-Tx
DATE: July 8, 2003
SURVEY CREW: Jeremiah Bernier, Alex Higgins
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 19.7 km²
USGS MAPS: Twin Sisters
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Big Creek habitat survey extended 530 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.9 (range: 1.5-5.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 0.9 percent. Riffles (37%) and scour pools (35%) dominated stream habitat. Bedrock (65%) dominated stream substrate. Wood volume was very low at 6.9 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

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	3.9	VWI Range:	1.5 - 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 (m2)</u>	<u>Dry Units</u>
Primary	530	3,456	0
Secondary	10	16	1

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	6.2	Width	10.6	13.8	18.0
Depth	0.28	Height	0.6	1.3	2.4
		W:D ratio	17.1	Entrenchment	1.3

Stream Flow Type:	MF	Water temp (C):	-
Avg. Unit Gradient:	0.9%	Habitat Units/100m:	5.6

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D30	D15

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	3%	Reach avg: 67%
Undercut Banks:	2%	Range: 47 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	52	9.8
Volume (m ³):	37	6.9
Key pieces (>=10m x 0.60m):	1	0.2

OREGON DEPARTMENT OF FISH AND WILDLIFE

BIG CREEK POST-TX (U-126)

HABITAT INVENTORY

Report Date: 12/17/03

Survey Date:

7/8/03

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 ²)	Large Boulders (#>0.5m)	Substrate					
							Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
DRY CHANNEL	1	10	1.6	0.00	16	0	0	0	50	50	0	0
GLIDE	3	68	7.2	0.17	492	13	0	3	3	12	7	75
POOL-DAMMED	1	29	6.8	0.50	197	9	0	0	5	5	10	80
POOL-LATERAL SCOUR	10	173	6.9	0.61	1,214	49	0	18	8	5	13	56
RIFFLE	7	183	5.8	0.10	1,122	32	0	2	6	6	7	79
RIFFLE W/ POCKETS	1	35	4.7	0.13	163	11	0	5	15	0	20	60
STEP/BEDROCK	6	35	6.1	0.09	224	13	0	2	2	0	23	74
STEP/COBBLE	1	7	6.1	0.15	43	1	0	30	30	0	20	20
Total:	30	540	6.2	0.28	3,472	128	Avg 0	8	8	6	13	65

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					Wetted Area (m ²)	Percent	Number	(# / 100m ²)
Dammed & BW Pools	1	29	6.8	0.50	197	5.68%	9	4.6
Scour Pools	10	173	6.9	0.61	1,214	34.95%	49	4.0
Glides	3	68	7.2	0.17	492	14.18%	13	2.6
Riffles	8	218	5.6	0.10	1,285	37.02%	43	3.3
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	7	42	6.1	0.09	268	7.71%	14	5.2
Dry	1	10	1.6	0.00	16	0.46%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	# / Km
All Pools:	11	20.4
Pools >=1m deep:	0	0.0
Complex pools (LWD pieces>=3):	3	5.6
Pool frequency (channel widths/pool):	4.6	
Residual pool depth (avg):	0.52	

STREAM SUMMARY

BIG CREEK POST-TX (U-126)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate Percent Wetted Area						Large Boulders (#>0.5m)
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
30	540	6.2	0.28	3,472	0	8	8	6	13	65	128

Habitat Group	Wetted Area	
	(m ²)	Percent
Dammed & BW Pools	197	5.68%
Scour Pools	1,214	34.95%
Glides	492	14.18%
Riffles	1,285	37.02%
Rapids	0	0.00%
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Step/Falls	268	7.71%
Dry	16	0.46%
Culverts	0	0.00%

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1 **REACH 1**

Summary of Riparian Zone (0-30m) 3 transects

Total hardwoods/1000	1341
Total conifers/1000 ft	264
Total conifers >20" dbh/1000 ft	20
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	6.3	0.0	2.0	1.0	5.7	1.0	14.0
15-30cm	0.0	2.0	0.7	1.0	1.3	1.3	2.0	4.3
30-50cm	0.0	2.7	0.0	0.0	1.0	0.7	1.0	3.3
50-90cm	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
>90cm	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
Total/100m2	0.0	11.3	0.7	3.0	3.7	7.7	1.4	7.3

Canopy closure and ground cover

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Canopy closure	68	66	74
Shrub cover	20	9	18
Grass/forb cover	46	22	30

Predominant landform in each zone

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Hillslope	67	33	83
High terrace	33	17	17
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	50	0
Riprap	0	0	0
Surface slope (%)	12	2	16

Summary of Riparian Zone (0-30m) for all reaches**3 transects****Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	1341
Total conifers/1000 ft	264
Total conifers >20" dbh/1000 ft	20
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-m wide band

<u>Diameter class (cm)</u>	Zones 1-3	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	1.0	14.0
15-30cm	2.0	4.3
30-50cm	1.0	3.3
50-90cm	0.3	0.0
>90cm	0.0	0.3

RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

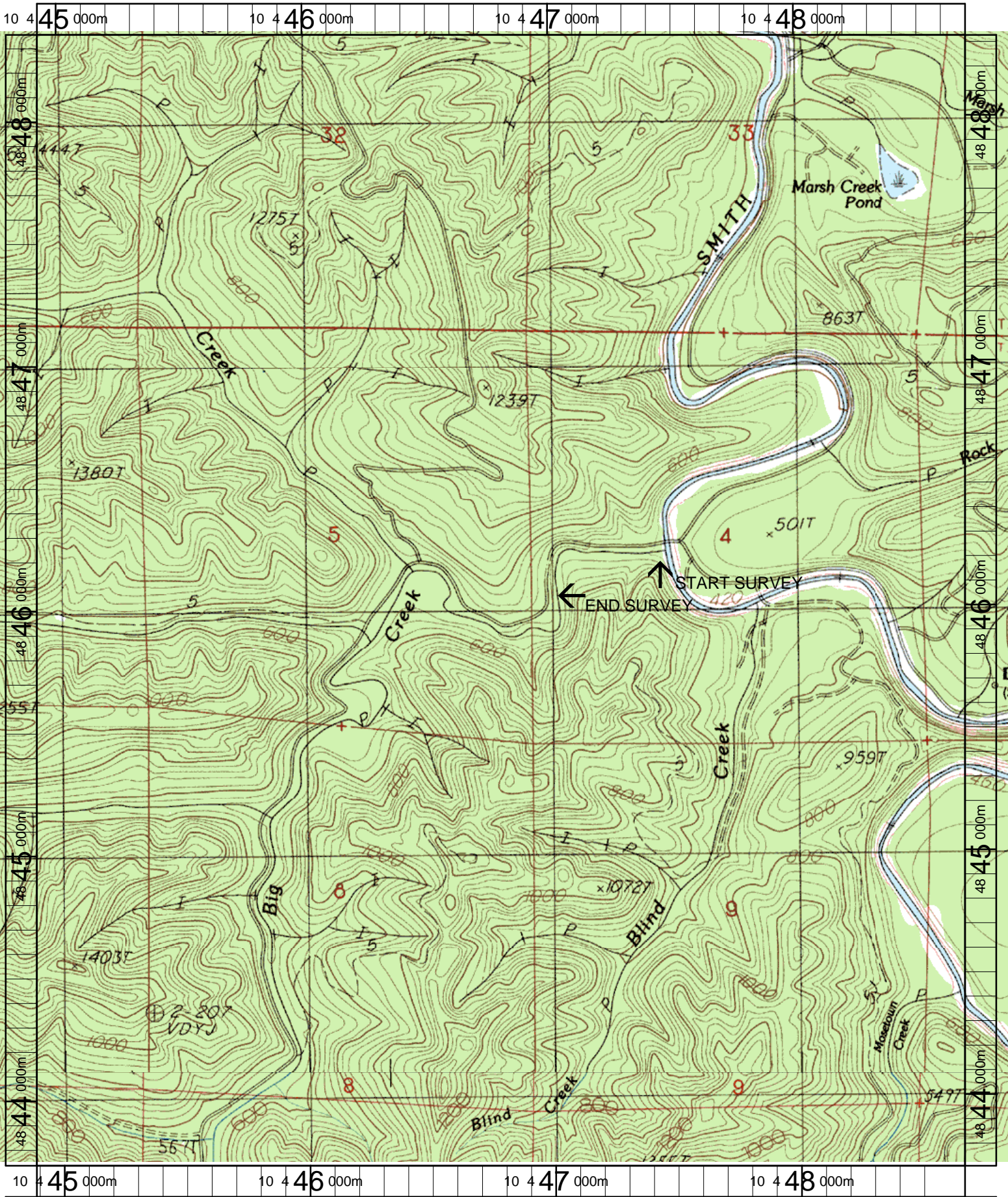
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
6	RT	1	HT	0	70	20	30	Conifer							
								Hardwood	1	1				1	
6	LF	2	HS	10	75	45	30	Conifer							
								Hardwood							
6	RT	3	HS	15	80	0	30	Conifer	1		1				
								Hardwood	4						
6	RT	2	RB	0	35	5	5	Conifer							
								Hardwood							
6	LF	3	HS	8	60	10	40	Conifer	1		1		1		
								Hardwood	1		1				
6	LF	1	HS	5	80	10	45	Conifer							
								Hardwood	8		1				
16	LF	2	HS	0	80	5	55	Conifer			1				
								Hardwood	3	3					
16	LF	1	HS	15	70	0	70	Conifer							
								Hardwood	8	1	1				
16	RT	3	HS	35	85	80	20	Conifer							
								Hardwood	8	3	1				
16	RT	2	RB	0	70	0	0	Conifer							
								Hardwood							
16	RT	1	HS	30	55	40	30	Conifer							
								Hardwood	2	1	3				
16	LF	3	HS	0	60	10	60	Conifer	1						
								Hardwood	3	1					
21	RT	2	RB	0	65	0	0	Conifer							
								Hardwood							
21	RT	1	HS	20	65	40	30	Conifer							
								Hardwood		1	3				
21	LF	3	HT	0	80	5	10	Conifer			1				
								Hardwood	1						
21	LF	2	HT	0	70	0	40	Conifer			1				
								Hardwood	3						
21	LF	1	HT	0	65	10	70	Conifer							
								Hardwood		2					
21	RT	3	HS	35	80	0	20	Conifer			3	1			
								Hardwood							

Comment Summary

Oregon Plan Monitoring Sites 2003

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

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
2	LP	00	15.9	DJ, LA/		
3	RP	00	50.6	HS		BOULDERS
5	RI	00	100.5	HS		BOULDERS; FLAGGING BC-
6	RI	01	131	HS TJ/	PINK PHOTO POINT 1	
7	DC	11	131		ACW=1.6	
10	LP	00	182.5	HS		
11	RI	00	195.4	HS		
12	GL	00	220.4	HS		
13	LP	00	230.2	HS		
15	LP	00	252	HS	PINK-BC-7 LOGJAM	
16	RI	00	281.2	DJ HS		
19	DP	00	341.7	HS	YELLOW-AQIUNIT#10RI O	
22	SR	00	385		H=.5	
23	LP	00	413.5	/CS		
24	SR	00	421.2	/CS		
25	LP	00	433	/CS		
26	SR	00	434.9	/CS		
28	RI	00	513.6	HS		
30	SR	00	530.1	HS	H=.2	



Name: TWIN SISTERS
 Date: 3/20/2003
 Scale: 1 inch equals 1666 feet

Location: 10 446789 E 4846036 N
 Caption: BIG CREEK RESTORATION SITE - SMITH BASIN