

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: September 14, 2005
SURVEY CREW: Andy Livesay, Jennifer Jacobs
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 513 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.5 (range: 2.2-4.7). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 0.8 percent. Scour pools (67%) and riffles (28%) dominated stream habitat. Bedrock (51%) dominated stream substrate. Wood volume was very low at 7.7 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

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	3.5	VWI Range:	2.2 - 4.7

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 Channel	513	3,106	0
Secondary Channel	0	0	0
Off-Channel Units	13	10	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 5.2	Width: 8.8	9.8 (8.1 - 11.7)	15.9 (13.4 - 21.5)
Depth: 0.26	Height: 0.4	0.8 (0.72 - 0.86)	2.3 (1.75 - 3)

W:D ratio: 22.3
 Stream Flow Type: LF
 Average Unit Gradient: 0.8%
 Water temperature (°C): -

Entrenchment (ACW:FPW ratio): 1.1
 Habitat Units/100m (total channel length): 6.9
 Habitat Units/100m (primary channel length): 7.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	
Riparian Vegetation:	D15	C15

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	31%	Reach avg: 99%
Undercut Banks:	5%	Range: 89 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	67	13.1
Volume (m ³):	40	7.7
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPT OF FISH AND WILDLIFE

BIG CREEK PHASE 1 POST-TX (4-UJP, 126)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

9/14/2005

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	0.8	0.00	8	0	10	30	60	0	0	0
POOL-ISOLATED	1	3	0.9	0.20	2	0	5	70	10	5	0	10
POOL-LATERAL SCOUR	14	272	6.8	0.54	1,819	107	1	14	14	8	11	52
POOL-STRAIGHT SCOUR	2	40	6.7	0.45	262	5	0	20	28	15	5	33
RIFFLE	7	156	5.2	0.04	863	26	0	13	24	9	4	50
STEP/BEDROCK	9	39	3.9	0.04	147	20	0	6	7	3	7	77
STEP/COBBLE	2	6	3.3	0.02	14	0	0	33	56	8	0	3
Total:	36	525	5.2	0.26	3,116	158	Avg: 1	15	19	7	7	51

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	3	0.9	0.20	2	0.08%	0	0.0	
Scour Pools	16	312	6.8	0.53	2,082	66.79%	112	5.4	
Glides	0	0			0	0.00%	0	0.0	
Riffles	7	156	5.2	0.04	863	27.71%	26	3.0	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	11	46	3.8	0.03	161	5.16%	20	12.4	
Dry	1	10	0.8	0.00	8	0.26%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	17	32.4	33.2
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	7	13.3	13.7
Pool frequency (channel widths/pool):	3.5		
Residual pool depth (avg):	0.47		

Survey Date 9/14/2005
Report Date: 4/26/2006

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	569
Total conifers/1000 ft	386
Total conifers >20" dbh/1000 ft	41
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	2.3	1.0	0.3	0.3	1.3	1.3	4.0
15-30cm	0.3	2.0	1.3	1.7	1.3	0.0	3.0	3.7
30-50cm	0.0	1.7	0.7	0.0	0.7	0.0	1.3	1.7
50-90cm	0.3	0.0	0.0	0.0	0.3	0.0	0.7	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.7	6.0	3.0	2.0	2.7	1.3	2.1	3.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	69		61		68	
Shrub cover	35		19		27	
Grass/forb cover	37		28		42	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		17		100	
High terrace	50		33		0	
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 (%)	11		2		22	

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	569
Total conifers/1000 ft	386
Total conifers >20" dbh/1000 ft	41
Total conifers >35" dbh/1000 ft	0

Average number of trees in a 5-m wide band

Diameter class (cm)	Zones 1-3	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	1.3	4.0
15-30cm	3.0	3.7
30-50cm	1.3	1.7
50-90cm	0.7	0.0
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

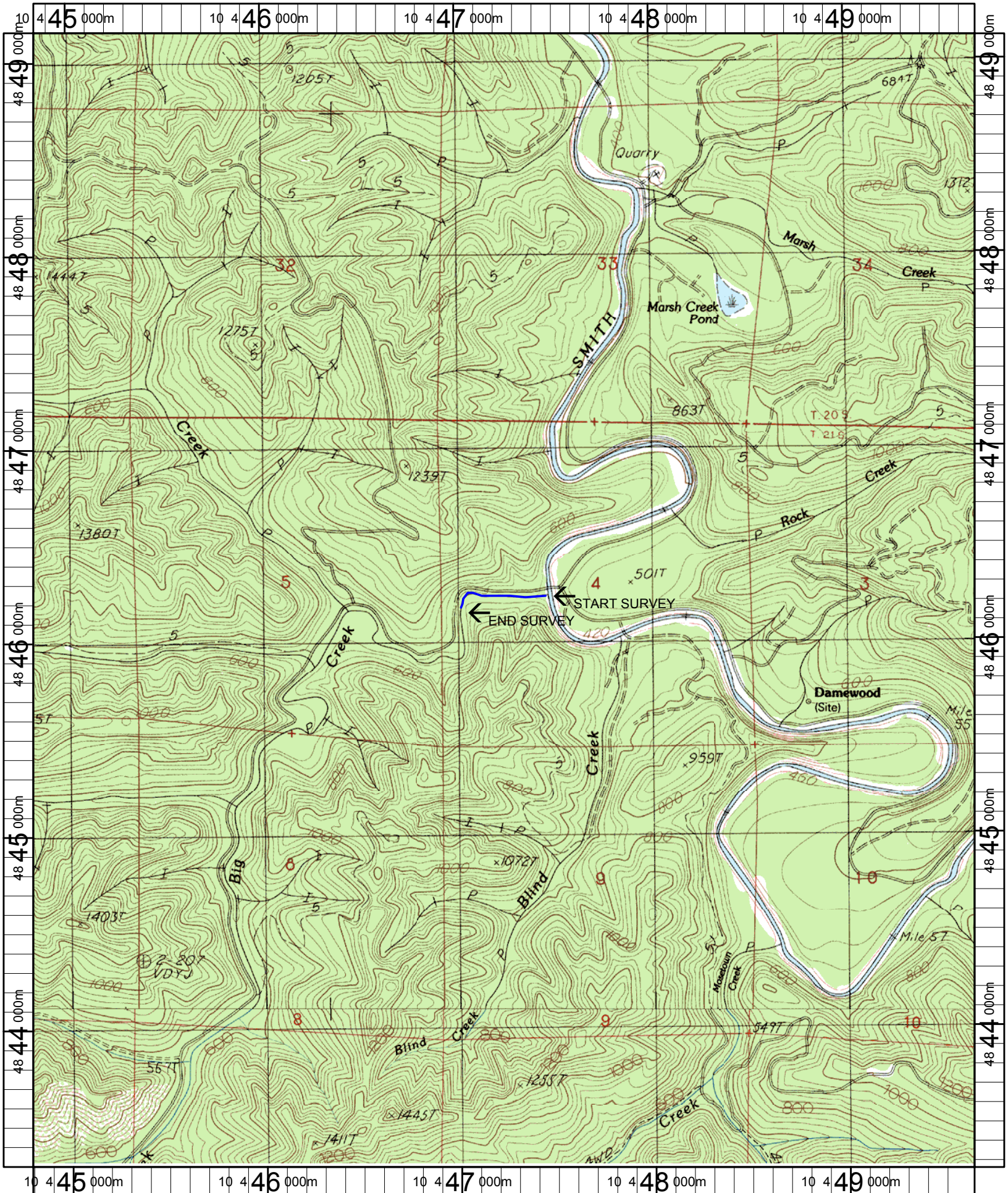
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
9	LF	1	HS	15	75	20	50	Conifer							0447324, 4846241
								Hardwood	3	2					
9	LF	3	HS	10	65	50	40	Conifer		1	1				
								Hardwood							
9	RT	1	HT	0	60	60	30	Conifer							
								Hardwood	1		2				
9	RT	2	RB	0	40	5	10	Conifer							ALSO HS
								Hardwood							
9	RT	3	HS	20	70	10	30	Conifer		1	1				
								Hardwood							
9	LF	2	HS	10	70	30	30	Conifer	1						
								Hardwood							
16	LF	1	HT	0	80	5	50	Conifer							0447196, 4846227
								Hardwood	3	3					
16	RT	3	HS	35	75	10	30	Conifer				1			
								Hardwood							
16	RT	2	RB	0	55	5	10	Conifer	1						ALSO HS
								Hardwood							
16	RT	1	HS	15	70	50	20	Conifer							
								Hardwood			2				
16	LF	3	HS	30	70	35	45	Conifer	1						ALSO HT
								Hardwood	1						
16	LF	2	HT	0	80	70	60	Conifer	1	3	2				
								Hardwood		1					
26	LF	1	HT	0	75	5	50	Conifer		1		1			NO GPS COVERAGE
								Hardwood							
26	RT	3	HS	20	60	30	55	Conifer							
								Hardwood	3						
26	RT	1	HS	35	55	70	20	Conifer							
								Hardwood		1	1				
26	RT	2	RB	0	40	0	10	Conifer							ALSO HS
								Hardwood							
26	LF	2	HT	0	80	5	50	Conifer			1				
								Hardwood	1	4					
26	LF	3	HS	15	70	25	50	Conifer			2				
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2005

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

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	SR	00	6.8		0447426, 4846242	START SIGN ON ALDER LT
2	LP	00	13.3	DJ, HS		
5	SR	00	46.8	HS		
7	RI	00	98	HS		PLACED BOULDERS
9	LP	01	125.8	TJ/		0447324, 4846241
11	RI	00	159	HS		
12	LP	00	177.9	HS		
14	LP	00	226.5	HS		PLACED BOULDERS
16	LP	00	248.2	HS, DJ	0447196, 4846227	
20	LP	00	317.5	HS		PLACED BOULDERS
24	LP	01	372.7	HS		
26	SR	00	380.3	HS		
27	LP	00	408.8	HS, /CS		
34	RI	00	494			END = 0447013, 4846177
35	LP	00	506.5	HS		PLACED BOULDERS
36	SR	00	512.6		END, NO GPS COVERAG	END SIGN ALDER LT



Name: TWIN SISTERS
 Date: 6/13/2005
 Scale: 1 inch equals 2000 feet

Location: 10 447237 E 4846210 N
 Caption: BIG CREEK PHASE 1 RESTORATION SITE - SMITH BASIN