

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

STREAM: Smith River (U-248)  
BASIN: Smith River  
SURVEY TYPE: Reference  
DATE: June 30, 2004  
SURVEY CREW: Peter Baki, Jeremiah Bernier  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: km<sup>2</sup>  
USGS MAPS: Beaver Creek  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Smith River habitat survey extended 521 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 5.5 (range: 1.9-9.9). Land use for the reach was timber harvest and young (3-15 cm dbh) trees. The average unit gradient was 0.4 percent. Scour pools (73%) and riffles (23%) dominated stream habitat. There was no dominant substrate type. Wood volume was moderate at 29.2 m<sup>3</sup>/100m.

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

REACH 1

T20S-R06W-S32SW

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	5.5	VWI Range:	1.9 - 9.9

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	521	3,527	0
Secondary	39	125	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 5.6	Width: 9.1	11.4 ( 8.2 - 13.5 )	12.1 ( 8.8 - 15.6 )
Depth: 0.40	Height: 0.7	1.3 ( 1.2 - 1.4 )	1.9 ( 1.6 - 2.1 )

W:D ratio: 14.0  
Stream Flow Type: MF  
Average Unit Gradient: 0.4%  
Water temperature (°C): 5.3 - 5.3

Entrenchment (ACW:FPW ratio): 1.3  
Habitat Units/100m (total channel length): 5.5  
Habitat Units/100m (primary channel length): 6.0

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	YT
Riparian Vegetation:	C90	D30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	6%	Reach avg: 59%
Undercut Banks:	4%	Range: 44 - 67

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	76	14.6
Volume (m <sup>3</sup> ):	152	29.2
Key pieces (>=12m x 0.60m):	10	1.9

OREGON DEPARTMENT OF FISH AND WILDLIFE

SMITH RIVER REFERENCE (U-248)

HABITAT INVENTORY

Report Date: 10/27/2004

Survey Date:

6/30/2004

REACH 1		T20S-R06W-S32SW					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	
DRY CHANNEL	1	4	2.1	0.00	9	0	0	0	10	80	10	0	
POOL-LATERAL SCOUR	15	363	7.0	0.64	2,619	11	7	30	15	10	6	32	
POOL-PLUNGE	1	8	4.2	0.50	35	0	5	80	10	5	0	0	
RAPID/BOULDERS	1	7	1.1	0.10	7	0	0	0	20	80	0	0	
RIFFLE	7	148	5.5	0.20	858	55	0	4	29	21	6	39	
STEP/COBBLE	6	30	3.7	0.10	125	2	0	12	39	43	7	0	
<b>Total:</b>	<b>31</b>	<b>560</b>	<b>5.6</b>	<b>0.40</b>	<b>3,653</b>	<b>68</b>	<b>Avg: 3</b>	<b>20</b>	<b>23</b>	<b>23</b>	<b>6</b>	<b>25</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	16	372	6.9	0.63	2,654	72.65%	11	0.4	
Glides	0	0			0	0.00%	0	0.0	
Riffles	7	148	5.5	0.20	858	23.49%	55	6.4	
Rapids	1	7	1.1	0.10	7	0.20%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	6	30	3.7	0.10	125	3.42%	2	1.6	
Dry	1	4	2.1	0.00	9	0.24%	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:	16	28.6	30.7
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	4	7.1	7.7
Pool frequency (channel widths/pool):	3.8		
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	467
Total conifers/1000 ft	142
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	0.3	1.0	0.0	1.7	0.3	2.7	0.7	5.3
15-30cm	0.7	0.7	0.0	0.7	0.3	1.0	1.0	2.3
30-50cm	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
50-90cm	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.0	1.7	0.0	2.3	1.3	3.7	0.8	2.6

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	40		39		33	
Shrub cover	52		68		72	
Grass/forb cover	48		27		38	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	17		67		83	
High terrace	67		33		17	
Low terrace	17		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	5		11		22	

**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		
5	LF	1	LT	0	40	0	100	Conifer							
								Hardwood							
5	LF	2	HT	0	0	30	70	Conifer							
								Hardwood							
5	LF	3	HT	0	0	90	100	Conifer					1		
								Hardwood							
5	RT	1	HT	0	80	50	50	Conifer			2				
								Hardwood							
5	RT	2	HS	15	75	50	50	Conifer							
								Hardwood	1	1					
5	RT	3	HS	20	70	50	50	Conifer					1		
								Hardwood	3						
11	LF	3	HS	10	0	70	0	Conifer							
								Hardwood							
11	LF	1	HT	0	40	50	50	Conifer							
								Hardwood	1						
11	RT	1	HT	0	0	60	40	Conifer			1				
								Hardwood							
11	RT	2	HT	0	30	100	0	Conifer							
								Hardwood			1				
11	RT	3	HS	50	40	50	50	Conifer							
								Hardwood	2	1					
11	LF	2	HS	10	0	70	0	Conifer							
								Hardwood							
26	LF	1	HT	0	0	80	20	Conifer							
								Hardwood							
26	LF	2	HS	10	70	90	10	Conifer							
								Hardwood							
26	LF	3	HS	10	30	100	0	Conifer			1		1		
								Hardwood					1		
26	RT	1	HS	30	80	70	30	Conifer							
								Hardwood	2	2					
26	RT	2	HS	30	60	70	30	Conifer							
								Hardwood	4						
26	RT	3	HS	40	60	70	30	Conifer							
								Hardwood	3	1					

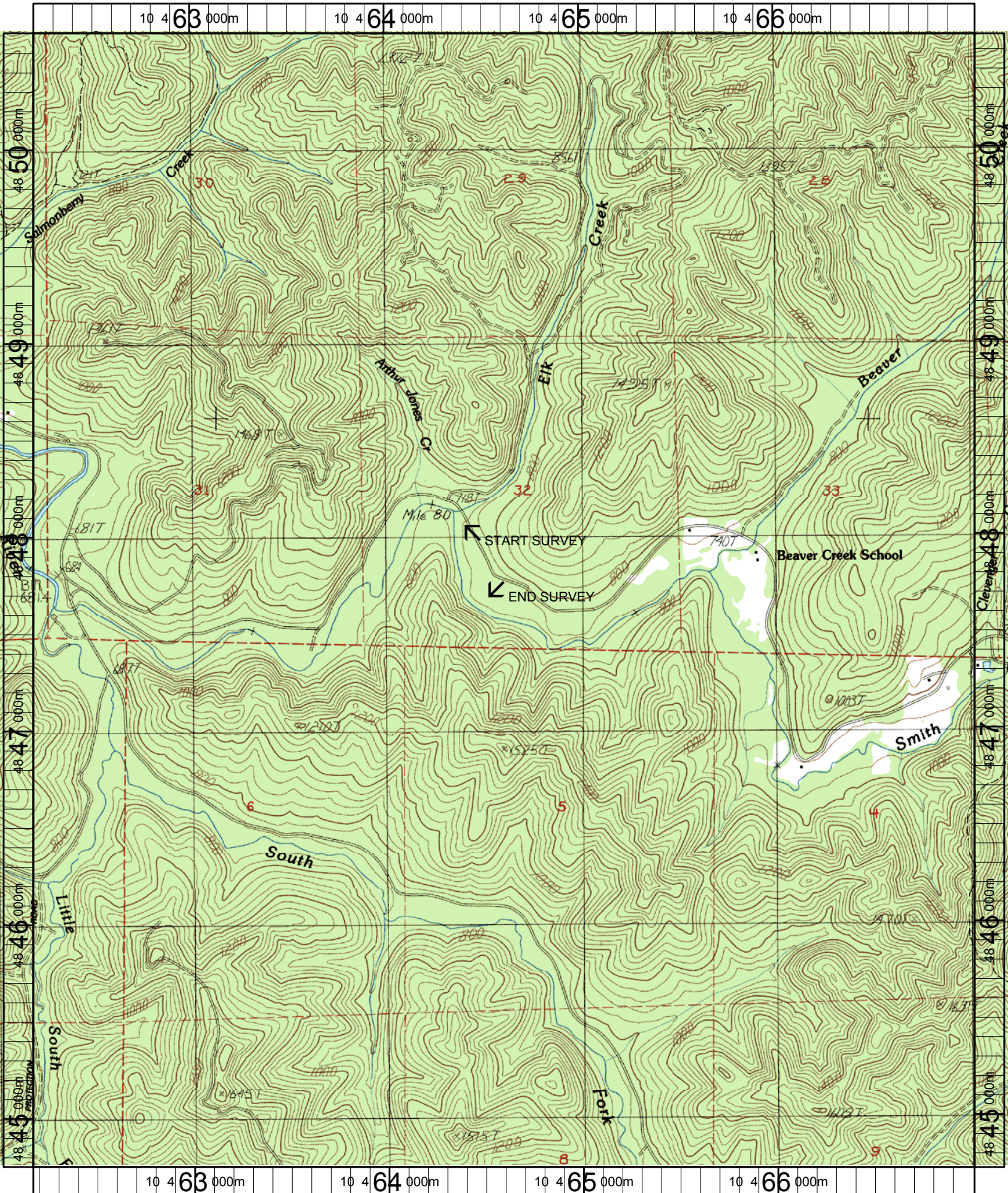
# Comment Summary

## Oregon Plan Monitoring Sites 2002

MONITORING AREA: 4-UMP    SITE ID: 248    SMITH RIVER REFERENCE (U-248)

<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	LP	00	25.2			6 IN CTT START SIGN ALDR
11	RI	01	234.4		RIP 2	
14	LP	00	291.9	DJ		
26	SC	00	397.4		RIP 3	
31	LP	00	521		END OF SURVEY	END SIGN ALDER RT





Name: BEAVER CREEK  
 Date: 6/14/2004  
 Scale: 1 inch equals 2000 feet

Location: 10 464600 E 4847669 N  
 Caption: SMITH RIVER REFERENCE SITE - SMITH BASIN