ODFW AQUATIC INVENTORY PROJECT

OREGON PLAN FOR SALMON & WATERSHEDS

STREAM RESTORATION HABITAT REPORT

STREAM:	Smith River (U-247)
BASIN:	Smith River
SURVEY TYPE:	Pre-Tx
DATE:	June 30, 2004
SURVEY CREW:	Peter Baki, Jeremiah Bernier
REPORT PREPARED BY:	Paul Jacobsen
BASIN AREA:	km^2
USGS MAPS:	Beaver Creek
ECOREGION:	Coast Range Sedimentary

GENERAL DESCRIPTION:

The Smith River habitat survey extended 2,570 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 7.1 (range: 1.8-15.1). Land use for the reach was timber harvest and large (30-50 cm dbh) trees. The average unit gradient was 0.5 percent. Scour pools (77%) dominated stream habitat. Bedrock (45%) dominated stream substrate. Wood volume was low at 5.4 m^3/100m.

COMMENTS:

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

OREGON DEPARTMENT OF FISH AND WILDLIFE **SMITH RIVER PRE-TX (U-247)**

HABITAT INVENTORY Report Date: 10/27/2004 Survey Date: 6/30/2004

REACH 1 **T21S-R06W-S06NW** **REACH 1**

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%

Valley Width Index 7.1 VWI Range: 1.8 - 15.1

Channel Morphology (Percent Reach Length)

Constrained		Unconstrained	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	100%		
Landuse	0%		

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	2,570	22,744	0
Secondary	64	118	1

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 6	First Terrace *n* = 6
Width:	7.8	Width:	10.9	13.1 (11.4 - 14.9)	14.6 (11.8 - 17.4)
Depth:	0.51	Height:	0.7	1.4 (1.2 - 1.5)	1.7 (1.3 - 1.8)

W:D ratio: 16.3
Entrenchment (ACW:FPW ratio): 1.2
Stream Flow Type: MF
Habitat Units/100m (total channel length): 3.1
Average Unit Gradient: 0.5%
Habitat Units/100m (primary channel length): 3.2
Water temperature (°C): 15.5 - 15.5

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	TH	LT
Riparian Vegetation:	D30	C30

Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	7%	Reach avg: 70%
Undercut Banks:	9%	Range: 17 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	102	4.0
Volume (m^3):	138	5.4
Key pieces (>=12m x 0.60m):	5	0.2

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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/BEDROCK	1	19	10.1	0.05	191	0		0	0	0	0	0	100
CASCADE/BOULDERS	1	10	0.5	0.03	5	0		50	50	0	0	0	0
DRY CHANNEL	1	34	3.0	0.00	103	0		0	80	20	0	0	0
POOL-LATERAL SCOUR	40	1,885	8.7	0.88	17,030	115		0	12	11	12	15	50
POOL-PLUNGE	1	11	9.4	0.45	104	2		0	0	11	22	44	22
POOL-STRAIGHT SCOUR	1	61	8.7	0.50	533	0		0	10	45	30	15	0
RAPID/BEDROCK	3	85	10.4	0.12	937	7		0	0	0	2	2	97
RAPID/BOULDERS	5	54	4.0	0.14	238	22		0	0	22	40	26	12
RIFFLE	14	384	7.3	0.17	3,042	52		0	1	26	20	16	38
STEP/BEDROCK	7	47	7.1	0.11	355	3		0	0	1	2	2	95
STEP/BOULDERS	5	23	6.6	0.11	159	24		0	0	4	30	60	6
STEP/COBBLE	2	21	7.8	0.23	163	11		0	5	55	30	10	0
STEP/LOG	1	0	6.7	0.05	3	0		0	0	70	30	0	0
Total:	82	2,635	7.8	0.51	22,862	236	**Avg:**	1	8	14	16	16	45

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Percent	Large Boulders Number	(# / 100m^2)
Dammed & BW Pools	0	0			0	0.00%	0	0.0
Scour Pools	42	1,957	8.7	0.86	17,667	77.28%	117	0.7
Glides	0	0			0	0.00%	0	0.0
Riffles	14	384	7.3	0.17	3,042	13.30%	52	1.7
Rapids	8	140	6.4	0.13	1,175	5.14%	29	2.5
Cascades	2	29	5.3	0.04	196	0.86%	0	0.0
Step/Falls	15	91	7.0	0.12	680	2.97%	38	5.6
Dry	1	34	3.0	0.00	103	0.45%	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:	42	15.9	16.3
Pools >=1m deep:	11	4.2	4.3
Complex pools (LWD pieces>=3):	13	4.9	5.1
Pool frequency (channel widths/pool):	5.8		
Residual pool depth (avg):	0.68		

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RIPARIAN ZONE VEGETATION SUMMARY

REACH 1 **REACH 1**

Summary of Riparian Zone (0-30m) **4 transects**

Total hardwoods/1000	884
Total conifers/1000 ft	366
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	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters		Zones 1-3 0-30 meters	
class (cm)	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.3	4.0	1.0	2.0	1.3	3.5	2.5	9.5
15-30cm	0.0	4.0	0.3	0.3	1.8	0.5	2.0	4.8
30-50cm	0.0	0.3	0.8	0.0	0.8	0.0	1.5	0.3
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	8.3	2.0	2.3	3.8	4.0	2.0	4.8

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	76	69	49
Shrub cover	47	48	49
Grass/forb cover	49	49	36

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	38	50	38
High terrace	63	50	50
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	13
Riprap	0	0	0
Surface slope (%)	14	18	11

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RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent) Canopy	Shrub	Grass		Diameter class (cm) 3-15	15-30	30-50	50-90	>90	Notes
26	LF	2	HS	20	45	80	20	**Conifer**						
								Hardwood	2					
26	LF	3	HS	20	30	90	10	**Conifer**						PARTIAL RB
								Hardwood	4					
26	RT	1	HT	0	80	50	50	**Conifer**						
								Hardwood		3				
26	RT	2	HT	0	90	30	50	**Conifer**			1			
								Hardwood						
26	RT	3	HT	0	90	30	50	**Conifer**	1	1	1			
								Hardwood						
26	LF	1	HS	35	60	80	20	**Conifer**						
								Hardwood	6	5				
41	RT	2	HS	60	80	5	90	**Conifer**	1					
								Hardwood		1				
41	RT	1	HS	50	90	5	90	**Conifer**						
								Hardwood	1	2				
41	RT	3	HS	60	50	30	70	**Conifer**	2	1				
								Hardwood						
41	LF	1	HT	0	90	40	40	**Conifer**						
								Hardwood		4				
41	LF	2	HS	12	40	30	70	**Conifer**						
								Hardwood						
41	LF	3	HS	6	60	30	70	**Conifer**		1				
								Hardwood		2				
58	LF	2	HS	50	90	70	30	**Conifer**						
								Hardwood						
58	LF	3	RB	0	0	0	0	**Conifer**						SMITH R RD
								Hardwood						
58	RT	1	HT	0	40	90	10	**Conifer**						
								Hardwood	6					
58	RT	2	HT	0	80	80	20	**Conifer**	2	1				
								Hardwood	5					
58	RT	3	HT	0	80	80	20	**Conifer**		1	1			
								Hardwood	8					
58	LF	1	HS	25	80	50	50	**Conifer**	1					
								Hardwood		1	1			
70	LF	3	HT	0	50	40	60	**Conifer**						
								Hardwood	2					

70	RT	3	HT	0	30	90	10	**Conifer**	2	3	1	EDGE OF CLEARCUT
								Hardwood				
70	RT	1	HT	0	90	10	90	**Conifer**				
								Hardwood		1		
70	LF	2	HT	0	75	40	60	**Conifer**			1	
								Hardwood	1			
70	LF	1	HT	0	75	50	40	**Conifer**				
								Hardwood	3			
70	RT	2	HT	0	50	50	50	**Conifer**	1		1	
								Hardwood				

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: 4-UMP SITE ID: 247 SMITH RIVER PRE-TX (U-247)

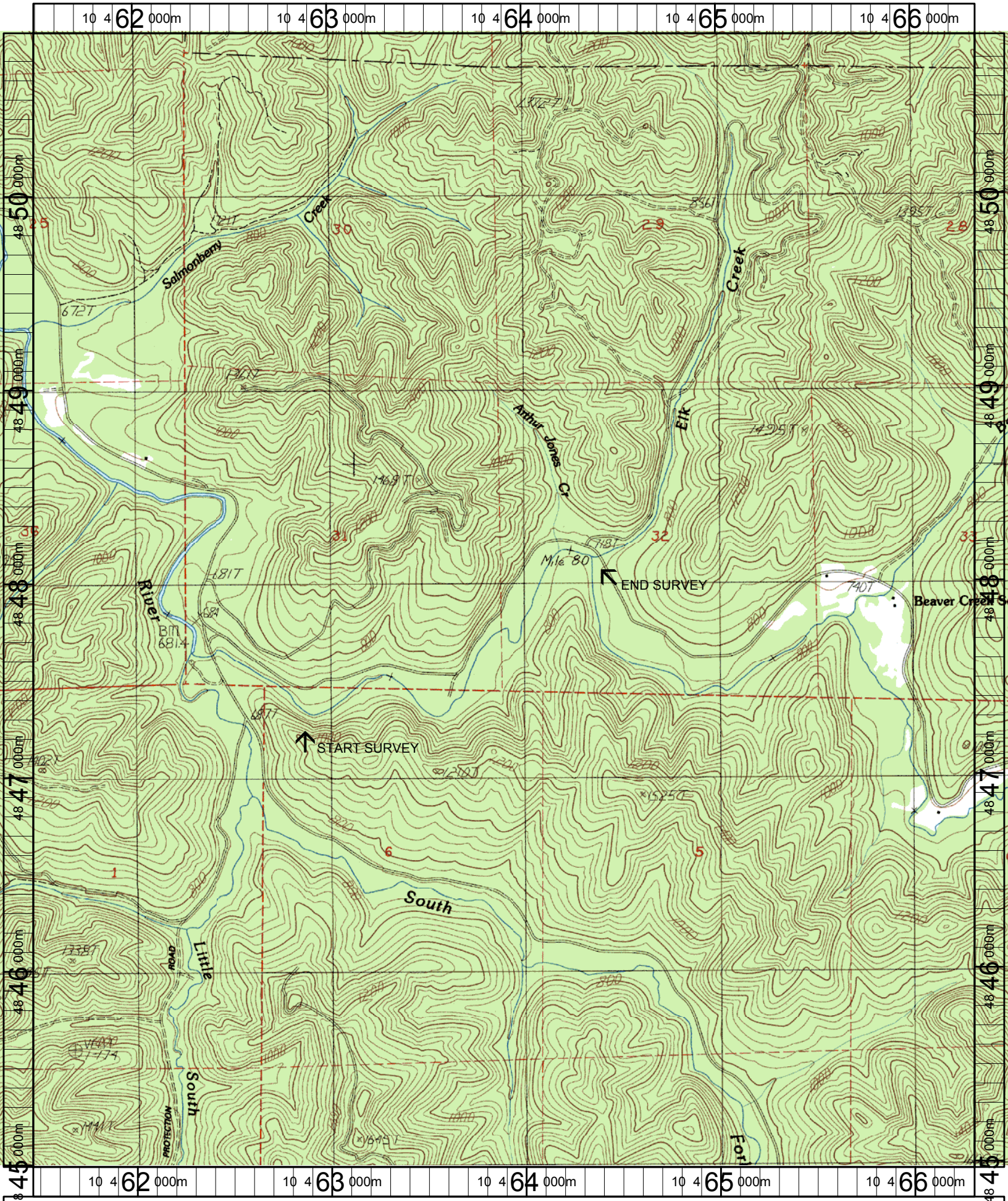
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SP	00	61.3		PH 7, START SIGN ON LE	T=15.5-840 SG=32
3	LP	00	98.3			SG=8
10	RI	00	242.2			SG=16
11	RI	00	269			SG=16
20	LP	01	444.9	TJ/		NOT ON MAP
21	CB	11	444.9		ACW=1.6	T=12C-0915
26	RI	00	553.9		PH 8 AND 9	
27	LP	01	646.6	TJ/		NOT ON MAP
28	RB	11	646.6		ACW=1.6	T=12C-0930
34	LP	00	845.8			5 IN CT
35	RI	00	881.4			SG=8
41	RI	00	1018.2		RIP 2	
45	SR	00	1080.7	RF		
46	LP	00	1144.4		ROAD CROSSING	
48	LP	00	1271.3	BV		
50	SL	00	1327.6		H=.15	
58	RI	00	1515.5		RIP 3	
62	RR	00	1611.8		OLD RD XING	
70	RI	00	2054.6		RIP 4	
78	RR	00	2345.2	RF	OLD RD XING	
81	LP	01	2570.4	TJ/		ELK CREEK

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: **4-UMP** **SITE ID:** **247** **SMITH RIVER PRE-TX (U-247)**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
82	RB	11	2570.4		ACW=.9 END SIGN	T=14C AT 1245



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

Location: 10 463894 E 4847909 N
Caption: SMITH RIVER RESTORATION SITE - SMITH BASIN