

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

STREAM: Big Creek Tributary B (U-243)  
BASIN: Smith River  
SURVEY TYPE: Post-Tx  
DATE: July 14, 2005  
SURVEY CREW: Andy Livesay, Jennifer Jacobs  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 3.2 km<sup>2</sup>  
USGS MAPS: Twin Sisters  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Big Creek Tributary B habitat survey extended 1,199 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 6.5 (range: 3.5-8.0). Land use for the reach was second growth (15-30 cm dbh) and timber harvest. The average unit gradient was 1.4 percent. Scour pools (54%) and riffles (32%) dominated stream habitat. Gravel (66%) and sand (20%) dominated stream substrate. Wood volume was moderate at 20.1 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-S08NW

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	6.5	VWI Range:	3.5 - 8

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary Channel	1,199	2,935	0
Secondary Channel	0	0	0
Off-Channel Units	44	69	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 2.4	Width: 4.9	8.5 ( 5.5 - 12.3 )	13.1 ( 7.5 - 27 )
Depth: 0.24	Height: 0.5	0.9 ( 0.85 - 0.95 )	1.5 ( 1.2 - 1.8 )

W:D ratio: 10.8

Entrenchment (ACW:FPW ratio): 1.8

Stream Flow Type: MF

Habitat Units/100m (total channel length): 10.1

Average Unit Gradient: 1.4%

Habitat Units/100m (primary channel length): 10.5

Water temperature (°C): 12.7 - 12.7

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	D15	C30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	14%	Reach avg: 93%
Undercut Banks:	12%	Range: 72 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	266	22.2
Volume (m <sup>3</sup> ):	241	20.1
Key pieces (>=12m x 0.60m):	3	0.3

OREGON DEPT OF FISH AND WILDLIFE

BIG CREEK TRIB B POST-TX (4-UJP, 243)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/14/2005

REACH 1		T21S-R08W-S08NW					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
CULVERT CROSSING	1	13	1.6	0.10	21	4	0	5	95	0	0	0
DRY CHANNEL	1	10	0.5	0.00	5	0	0	10	70	20	0	0
POOL-BACKWATER	6	34	1.7	0.19	64	11	10	25	50	7	6	2
POOL-LATERAL SCOUR	52	528	2.8	0.42	1,503	67	2	32	54	4	3	6
POOL-PLUNGE	1	2	3.0	0.20	5	1	0	3	78	19	0	0
POOL-STRAIGHT SCOUR	5	41	2.7	0.40	115	7	2	28	49	4	3	14
RAPID/BOULDERS	4	42	2.2	0.11	90	36	0	12	65	9	14	0
RIFFLE	30	442	2.1	0.09	918	23	0	7	85	5	1	2
RIFFLE W/ POCKETS	1	26	2.0	0.15	52	20	0	10	70	10	10	0
STEP/BEDROCK	1	9	1.1	0.08	10	1	0	5	24	0	0	71
STEP/BOULDERS	1	2	1.9	0.15	3	13	0	0	5	5	90	0
STEP/COBBLE	22	96	2.2	0.05	219	13	0	13	78	6	3	0
STEP/LOG	1	0	0.8	0.02	0	0	0	3	78	19	0	0
<b>Total:</b>	126	1,242	2.4	0.24	3,004	196	<b>Avg:</b> 1	20	66	5	3	4

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	6	34	1.7	0.19	64	2.14%	11	17.1	
Scour Pools	58	570	2.8	0.42	1,622	54.01%	75	4.6	
Glides	0	0			0	0.00%	0	0.0	
Riffles	31	468	2.1	0.09	970	32.30%	43	4.4	
Rapids	4	42	2.2	0.11	90	2.98%	36	40.2	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	25	107	2.1	0.05	231	7.71%	27	11.7	
Dry	1	10	0.5	0.00	5	0.17%	0	0.0	
Culverts	1	13	1.6	0.10	21	0.69%	4	19.2	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	64	51.5	53.4
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	26	20.9	21.7
Pool frequency (channel widths/pool):	4.0		
Residual pool depth (avg):	0.37		

Survey Date 7/14/2005

**RIPARIAN ZONE**

Report Date: 4/26/2006

**VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	1463
Total conifers/1000 ft	142
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	3.3	0.0	7.0	0.0	1.0	0.0	11.3
15-30cm	0.3	2.3	0.0	2.7	1.7	2.3	2.0	7.3
30-50cm	0.0	2.0	0.0	2.0	0.3	1.3	0.3	5.3
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	7.7	0.0	11.7	2.0	4.7	0.8	8.0

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	78		76		77	
Shrub cover	48		32		18	
Grass/forb cover	41		57		66	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		50		67	
High terrace	67		50		17	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	13		20		27	

**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	1463
Total conifers/1000 ft	142
Total conifers >20" dbh/1000 ft	0
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	0.0	11.3
15-30cm	2.0	7.3
30-50cm	0.3	5.3
50-90cm	0.0	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		
29	LF	1	HS	50	80	40	50	Conifer							0445588, 4845233
								Hardwood	5	3					
29	LF	2	HS	50	75	10	70	Conifer							
								Hardwood	3	2					
29	LF	3	HS	50	75	15	70	Conifer			3				
								Hardwood	1	2					
29	RT	1	HT	0	65	70	25	Conifer							
								Hardwood	3						
29	RT	2	HT	0	70	60	35	Conifer							
								Hardwood	9	1					
29	RT	3	RB	0	75	5	55	Conifer							
								Hardwood		2	2				
57	LF	2	HS	50	75	25	70	Conifer							
								Hardwood	7	2					
57	RT	3	HT	0	70	55	40	Conifer							ALSO HS
								Hardwood			1				
57	RT	2	HT	0	80	70	10	Conifer							
								Hardwood	2	1	2				
57	LF	3	HS	50	80	10	80	Conifer			2				
								Hardwood	2	2	1				
57	LF	1	HT	0	75	60	30	Conifer							0445400, 4845154, ALSO HS
								Hardwood	1	2	3				
57	RT	1	HT	0	75	90	0	Conifer							
								Hardwood		1					
84	LF	1	HT	0	80	10	70	Conifer							0445152, 4845249
								Hardwood	1		1				
84	LF	2	HT	0	80	5	75	Conifer							
								Hardwood		2	2				
84	LF	3	HS	40	80	5	80	Conifer							
								Hardwood							
84	RT	1	HS	30	90	15	70	Conifer			1				ALSO ROAD BED
								Hardwood		1	2				
84	RT	2	HS	20	75	20	80	Conifer							
								Hardwood			2				
84	RT	3	HS	20	80	15	70	Conifer				1			
								Hardwood		1					

# Comment Summary

## Restoration Monitoring Sites 2005

MONITORING AREA: **4-UMP**    SITE ID: **243**    **BIG CREEK TRIB B POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SC	00	3.5		START AT MOUTH	
2	CC	00	16.5	CC	CONCRETE CULVERT, 3.	CONCRETE CULV W/ OPEN
3	SR	00	25.5			T = 12.7 C
4	SP	00	31.1		SNORKEL POOL, START	0445822, 4845137
5	RI	01	72.6	HS		PLACED LOGS, BOULDERS
8	RI	00	88.5	HS		PLACED LOGS
9	SP	00	94.5			POSSIBLY A PLACED LOG
11	LP	00	103.5	HS		PLACED LOGS
15	LP	00	131		FRY	COHO FRY
17	LP	00	145.3	HS	PLACED BOULDERS	PLACED LOGS, BOULDERS
18	LP	00	159.8	HS		
19	SC	00	163.8	HS		
20	LP	00	170.8		SNORKEL POOL 4	
22	LP	00	192.5	HS, DJ		PLACED LOGS, BOULDERS
23	RI	00	202	HS		BOULDERS
24	LP	00	219.5	HS	SNORKEL POOL 5	
30	LP	00	300		0445588, 4845233, SNKL	
33	SL	00	303.7		H = .2 M	PN TO FRY
36	RI	00	335.2		COHO FRY	
42	RI	00	387.2	WL		
44	RI	01	417.2	HS		

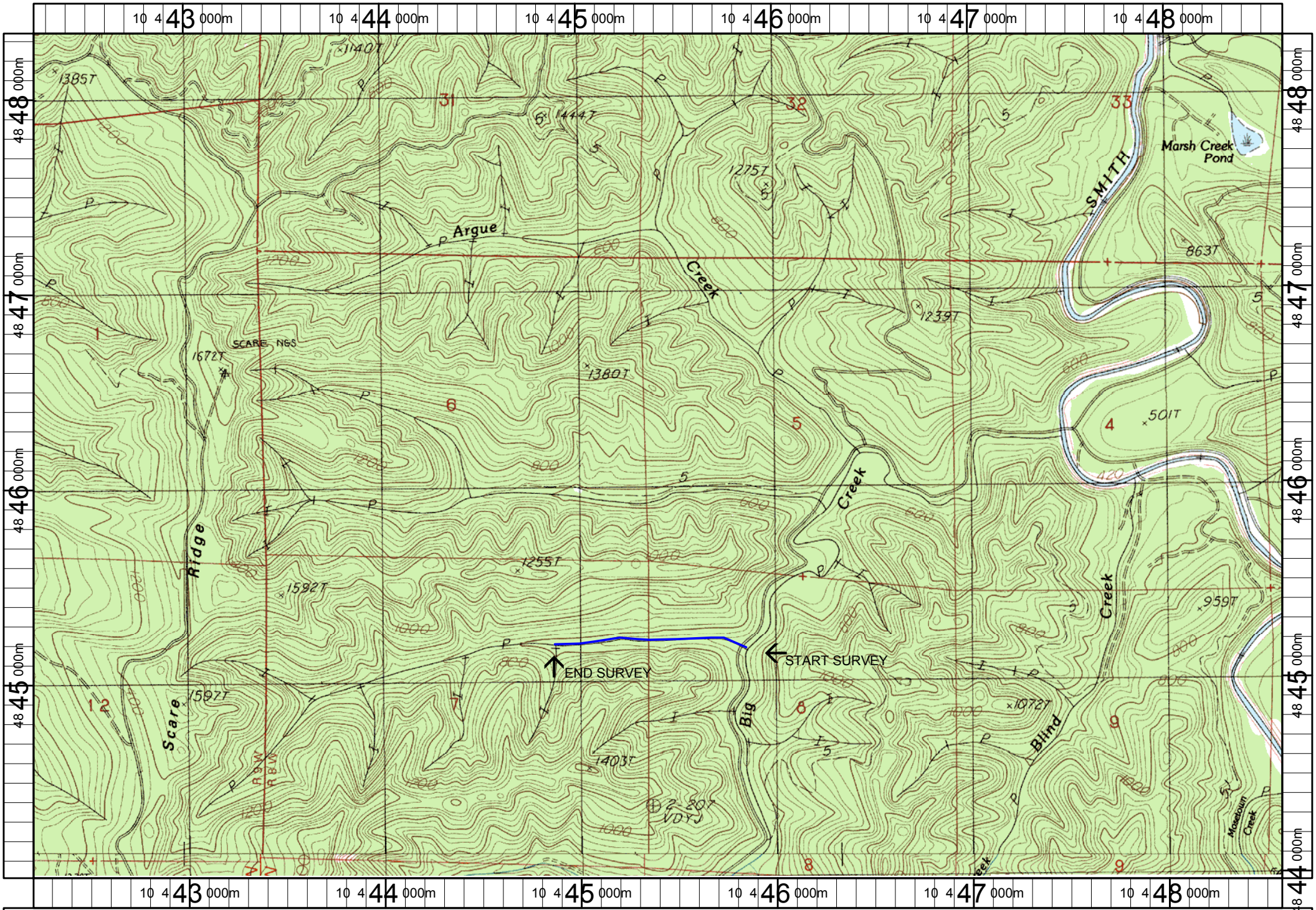
# Comment Summary

## Restoration Monitoring Sites 2005

MONITORING AREA: **4-UMP**    SITE ID: **243**    **BIG CREEK TRIB B 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>
45	BW	10	417.2	HS		
46	LP	00	430.7	HS	SNORKEL POOL 8	PLACED LOGS
58	SC	00	548.1		0445400, 4845154	
59	LP	00	554.6			COHO FRY
61	LP	00	577.6			COHO FRY
67	LP	00	643.6		SCULPIN	
71	LP	00	691.1	DJ		
78	LP	00	753.6	DJ		
84	RI	01	803.6	TJ/, /SS		
85	BW	10	803.6		0445152, 4845249	
89	LP	00	835.1			COHO FRY
90	RI	00	851.1			COHO FRY, BEDROCK = HA
91	LP	00	861.1			BEDROCK = HARDPAN
95	LP	00	897.1			BEDROCK = HARDPAN
107	LP	00	994.7			COHO FRY
109	LP	00	1016.7		COHO FRY	
115	LP	00	1079.2	DJ		
126	LP	00	1198.7		END SIGN ALDER RT	





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

Location: 10 445406 E 4846151 N  
 Caption: BIG CREEK TRIBUTARY B RESTORATION SITE - SMITH BASIN