

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

STREAM: Big Creek Trib B (UMP-4)  
BASIN: Smith River  
SURVEY TYPE: Post-Tx  
DATE: 8/7/2006  
SURVEY CREW: Jennifer Jacobs, Andy Livesay  
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 Trib B habitat survey extended 1157 meters. The channel was constrained by alternating hillslopes and terraces within a broad valley floor. The average valley width index was 4.9 (range: 1-12.5). Land use for the reach was second growth timber (15-30 cm dbh). The average unit gradient was 1.6 percent. Scour pools (68%) dominated stream habitat. Gravel (48%) and fines (30%) dominated stream substrate. Wood volume was moderate at 28.3 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.

Coho fry were identified throughout the surveyed reach.

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	4.9	VWI Range:	1 - 12.5

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 Channel	1,157	2,453	4
Secondary Channel	23	50	1
Off-Channel Units	6	6	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 5
Width: 2.0	Width: 5.1	8.2 ( 5 - 12.2 )	11.6 ( 6.9 - 14.3 )
Depth: 0.22	Height: 0.4	0.8 ( 0.7 - 0.94 )	1.4 ( 1.1 - 1.65 )

W:D ratio: 12.4  
 Stream Flow Type: LF  
 Average Unit Gradient: 1.6%  
 Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 1.6  
 Habitat Units/100m (total channel length): 10.9  
 Habitat Units/100m (primary channel length): 11.2

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	17%	Reach avg: 97%
Undercut Banks:	9%	Range: 72 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	268	23.2
Volume (m <sup>3</sup> ):	327	28.3
Key pieces (>=12m x 0.60m):	1	0.1

OREGON DEPT OF FISH AND WILDLIFE

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

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

8/7/2006

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
CASCADE/BOULDERS	2	29	1.9	0.08	54	20	0	13	31	28	28	0
CULVERT CROSSING	1	15	1.4	0.06	20	0	0	10	60	30	0	0
DRY UNIT	5	50	3.7	0.00	173	0	9	28	52	10	0	0
POOL-LATERAL SCOUR	63	664	2.5	0.41	1,703	90	4	38	34	13	6	5
PUDDLED UNIT	1	7	1.2	0.30	9	0	10	60	30	0	0	0
RAPID/BEDROCK	1	7	0.6	0.02	4	0	0	10	80	10	0	0
RAPID/BOULDERS	12	133	1.4	0.02	181	11	0	16	60	21	3	0
RIFFLE	18	205	1.3	0.03	262	6	0	12	68	17	2	1
STEP/BOULDERS	1	5	1.9	0.15	9	10	0	10	25	30	35	0
STEP/COBBLE	25	71	1.2	0.03	93	3	1	18	66	15	1	0
<b>Total:</b>	129	1,185	2.0	0.22	2,508	140	<b>Avg:</b> 3	27	48	15	4	3

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	63	664	2.5	0.41	1,703	67.89%	90	5.3	
Glides	0	0			0	0.00%	0	0.0	
Riffles	18	205	1.3	0.03	262	10.44%	6	2.3	
Rapids	13	140	1.3	0.02	185	7.38%	11	5.9	
Cascades	2	29	1.9	0.08	54	2.17%	20	36.8	
Step/Falls	26	76	1.2	0.03	102	4.07%	13	12.7	
Dry	6	57	3.3	0.05	181	7.24%	0	0.0	
Culverts	1	15	1.4	0.06	20	0.81%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	
		<u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	63	53.2	54.5
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	23	19.4	19.9
Pool frequency (channel widths/pool):	3.7		
Residual pool depth (avg):	0.39		

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

BIG CREEK TRIB B POST-TX  
GCG: 4-UMP SITE ID: 243

Survey Date 8/7/2006

RIPARIAN ZONE

Report Date: 3/5/2007

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	671
Total conifers/1000 ft	198
Total conifers >20" dbh/1000 ft	15
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	1.5	0.3	1.5	0.0	0.0	0.3	3.0
15-30cm	0.0	2.0	1.3	1.5	0.8	1.8	2.0	5.3
30-50cm	0.0	1.3	0.3	0.8	0.5	0.5	0.8	2.5
50-90cm	0.0	0.3	0.0	0.0	0.3	0.0	0.3	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	5.0	1.8	3.8	1.5	2.3	1.1	3.7

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	87	79	79
Shrub cover	41	38	24
Grass/forb cover	43	42	58

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	50	75	100
High terrace	38	13	0
Low terrace	0	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	13	13	0
Riprap	0	0	0
Surface slope (%)	14	25	43

**Summary of Riparian Zone (0-30m) for all reaches**

**4 transects**

**Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	671
Total conifers/1000 ft	198
Total conifers >20" dbh/1000 ft	15
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	0.3	3.0
15-30cm	2.0	5.3
30-50cm	0.8	2.5
50-90cm	0.3	0.3
>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		
34	RT	3	HS	35	90	60	20	Conifer							RB/HS
								Hardwood		1	1				
34	RT	2	RB	5	80	50	20	Conifer							HT/RB
								Hardwood	1	1	2				
34	RT	1	HT	0	90	70	20	Conifer							FP/HT
								Hardwood			2				
34	LF	3	HS	45	85	60	30	Conifer							
								Hardwood		2	1				
34	LF	1	HS	40	90	30	50	Conifer							
								Hardwood		1					
34	LF	2	HS	40	80	70	20	Conifer	1	1					
								Hardwood							
59	LF	3	HS	35	70	20	60	Conifer				1			
								Hardwood		2					
59	RT	1	HT	0	85	60	30	Conifer							
								Hardwood		2	1				
59	RT	2	HS	25	70	60	30	Conifer							HS/HT
								Hardwood		2	1				
59	LF	1	HS	25	85	25	40	Conifer							HT/HS
								Hardwood	1	1		1			
59	LF	2	HS	30	75	40	40	Conifer							
								Hardwood	2						
59	RT	3	HS	50	75	20	60	Conifer			1				
								Hardwood							
87	RT	3	HS	50	75	5	80	Conifer			2		1		
								Hardwood							
87	LF	1	HS	25	85	5	60	Conifer							
								Hardwood	3						
87	LF	2	HS	25	85	5	70	Conifer							
								Hardwood	2						
87	LF	3	HS	25	80	0	85	Conifer				1			
								Hardwood							
87	RT	1	HS	20	90	60	35	Conifer							HS/RB
								Hardwood			3	2			
87	RT	2	HS	30	75	10	70	Conifer			1	1			RB/HS
								Hardwood							

115	RT	3	HS	45	90	0	65	Conifer				
								Hardwood				
115	RT	2	HS	45	90	0	60	Conifer		3		RB/HS
								Hardwood				
115	RT	1	RB	0	90	5	85	Conifer				HS/RB
								Hardwood	2	1		
115	LF	3	HS	60	65	25	60	Conifer				
								Hardwood		2		
115	LF	1	HT	0	80	70	25	Conifer				FP/HT
								Hardwood				
115	LF	2	HT	0	80	70	25	Conifer				HT/HS
								Hardwood	1	3		

# Comment Summary

## Restoration Monitoring Sites 2006

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>
1	CC	00	14.5	CC	PACIFIC GIANT SALAMANDE	T=13.0C DEBATABLE CUL
2	RI	00	26.3			CONCRETE DEFINES CHN
4	SC	00	32.8	HS		
6	RI	00	51.7		RSN TERRESTRIAL	
11	LP	00	82.2	HS		
15	LP	00	104.1	HS		
17	LP	00	126	HS		BOULDER STRUCTURE
19	LP	00	138.8	HS		
20	LP	00	146.5	HS		BOULDER STRUCTURE
22	LP	00	167.4	HS		
31	DU	00	250.6		NO GPS COVERAGE	
33	SC	00	263.5		VERY LOW FLOW	RIPARIAN #1, NO GPS CO
36	LP	00	288.7		COHO FRY	
38	LP	00	309.7		COHO FRY	
45	LP	00	386.6	HS		
47	LP	00	410.5	HS		
59	RB	00	512		2D-0445385-4845163	METRIC, RIPARIAN #2
66	LP	00	573.6	WL		PACIFIC GIANT SALAMAN
87	CB	00	763.8			RIPARIAN #3, METRIC
88	LP	00	770.1			3D-0445174-4845219
89	RB	01	780.3	/SS		



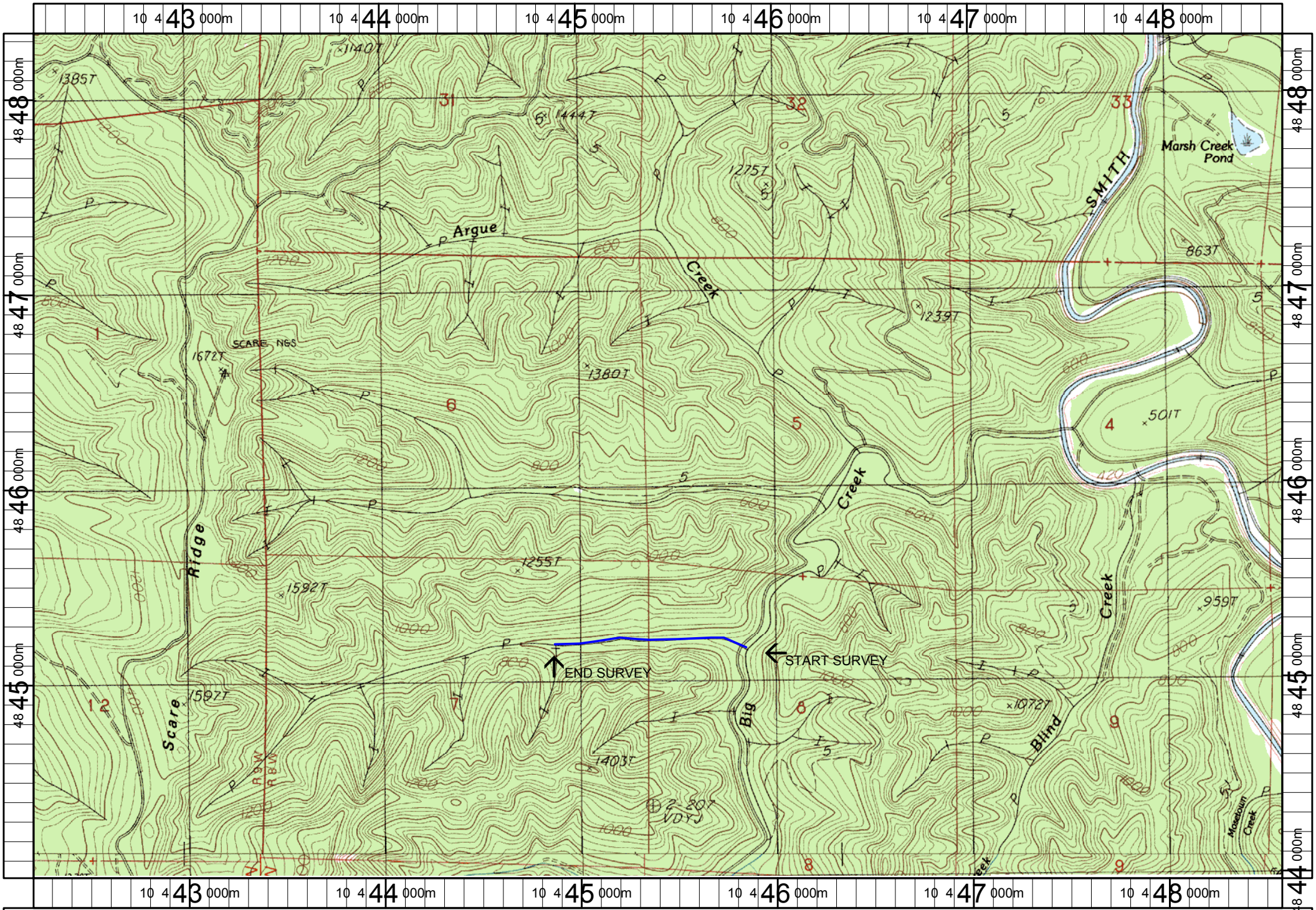
# Comment Summary

## Restoration Monitoring Sites 2006

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

<b>UNIT#</b>	<b>TYPE</b>	<b>CHAN</b>	<b>DIST. (m)</b>	<b>COMMENTS</b>	<b>NOTE ESTIMATOR</b>	<b>NOTE NUMERATOR</b>
93	LP	00	812.7			BR-HARDPAN
99	LP	00	872.6			BR=HARDPAN
107	LP	00	948.9		COASTAL GIANT SALAMAND	
115	RI	00	1032.8		2D-0445004-4845203	METRIC, RIPARIAN #4
116	LP	00	1042.3		COHO FRY	
118	LP	00	1050.3		TONS OF COHO FRY	
122	LP	00	1107.2		COHO	
124	LP	00	1128.3		COHO	
125	LP	00	1134.3		COHO	
128	RB	00	1149.2		COHO	
129	LP	00	1156.7			END SIGN /ALDER





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