

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

STREAM: Big Creek Tributary C (U-244)
BASIN: Smith River
SURVEY TYPE: Post-Tx
DATE: July 13, 2005
SURVEY CREW: Andy Livesay, Jennifer Jacobs
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 2.6 km²
USGS MAPS: Devils Graveyard
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Big Creek Tributary C habitat survey extended 922 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 6.5 (range: 2.0-20.0). Land use for the reach was timber harvest and second growth (15-30 cm dbh) trees. The average unit gradient was 1.8 percent. Riffles (46%) and scour pools (40%) dominated stream habitat. Gravel (40%) and sand (36%) dominated stream substrate. Wood volume was high at 35.8 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-S18NE

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:	2 - 20

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	922	2,269	0
Secondary Channel	0	0	0
Off-Channel Units	4	7	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 2.3	Width: 5.8	7.7 (6.3 - 9.7)	16.2 (14.1 - 21.3)
Depth: 0.21	Height: 0.5	1.0 (0.9 - 1)	2.2 (1.5 - 2.5)

W:D ratio: 12.1

Entrenchment (ACW:FPW ratio): 1.4

Stream Flow Type: MF

Habitat Units/100m (total channel length): 8.6

Average Unit Gradient: 1.8%

Habitat Units/100m (primary channel length): 8.7

Water temperature (°C): 12.0 - 12.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	ST
Riparian Vegetation:	M30	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	11%	Reach avg: 86%
Undercut Banks:	12%	Range: 64 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	334	36.2
Volume (m ³):	330	35.8
Key pieces (>=12m x 0.60m):	8	0.9

OREGON DEPT OF FISH AND WILDLIFE

BIG CREEK TRIB C POST-TX (4-UJP, 244)

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/13/2005

REACH 1		T21S-R08W-S18NE					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
CASCADE/BOULDERS	1	46	3.1	0.15	142	50	0	19	24	24	29	5
CULVERT CROSSING	1	17	2.5	0.05	41	5	0	30	50	10	10	0
GLIDE	2	25	2.2	0.10	52	2	0	53	18	3	3	25
POOL-BACKWATER	1	4	1.7	0.25	7	0	10	90	0	0	0	0
POOL-LATERAL SCOUR	27	290	2.6	0.40	772	88	1	47	36	4	7	6
POOL-PLUNGE	6	38	2.9	0.43	126	20	0	42	32	2	8	15
POOL-STRAIGHT SCOUR	1	7	2.3	0.28	17	2	67	29	0	5	0	0
RIFFLE	26	431	2.2	0.06	959	150	0	29	49	12	10	0
RIFFLE W/ POCKETS	1	34	2.5	0.10	85	15	0	25	25	25	25	0
STEP/BEDROCK	1	1	1.7	0.01	1	3	0	0	0	0	5	95
STEP/BOULDERS	1	2	2.5	0.05	5	10	0	0	10	25	65	0
STEP/COBBLE	6	28	2.1	0.04	68	9	0	26	45	23	5	1
STEP/LOG	6	5	0.6	0.02	3	2	0	28	56	2	1	13
Total:	80	926	2.3	0.21	2,275	356	Avg: 1	36	40	9	8	6

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	4	1.7	0.25	7	0.30%	0	0.0	
Scour Pools	34	335	2.7	0.40	914	40.18%	110	12.0	
Glides	2	25	2.2	0.10	52	2.27%	2	3.9	
Riffles	27	465	2.2	0.06	1,043	45.85%	165	15.8	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	1	46	3.1	0.15	142	6.23%	50	35.3	
Step/Falls	14	36	1.4	0.03	77	3.37%	24	31.3	
Dry	0	0			0	0.00%	0	0.0	
Culverts	1	17	2.5	0.05	41	1.81%	5	12.1	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	35	37.8	38.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	24	25.9	26.0
Pool frequency (channel widths/pool):	4.5		
Residual pool depth (avg):	0.33		

Survey Date 7/13/2005
Report Date: 4/26/2006

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	264
Total conifers/1000 ft	305
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	0.0	0.7	0.0	0.3	0.0	0.0	0.0	1.0
15-30cm	0.0	0.7	0.3	0.0	0.0	0.0	0.3	0.7
30-50cm	0.7	1.3	3.0	1.0	0.7	0.3	4.3	2.7
50-90cm	0.0	0.0	0.3	0.0	0.0	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	0.7	2.7	3.7	1.3	0.7	0.3	1.7	1.4

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	49		59		66	
Shrub cover	63		38		27	
Grass/forb cover	20		39		38	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		100		100	
High terrace	67		0		0	
Low terrace	0		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 (%)	14		44		146	

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	264
Total conifers/1000 ft	305
Total conifers >20" dbh/1000 ft	20
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	1.0
15-30cm	0.3	0.7
30-50cm	4.3	2.7
50-90cm	0.3	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	
19	LF	3	HS	650	75	35	40				1		
19	RT	3	HS	50	70	40	40				1		
19	RT	1	HT	0	50	85	5				1		
									2	2			
19	LF	1	HT	0	65	90	5						0445051, 4843297
											1		
19	RT	2	HS	35	75	50	40			1	1		
19	LF	2	HS	50	85	60	30				3		
38	LF	1	HS	35	20	20	30				1		0444815, 4843315
											2		
38	LF	2	HS	65	35	15	40				1		
38	LF	3	HS	50	65	30	35						CLEARCUT
38	RT	1	HT	0	75	70	20						
											1		
38	RT	2	HS	40	65	40	55				2	1	
											1		
38	RT	3	HS	45	85	20	60						
67	RT	1	HT	0	80	80	10						
67	RT	2	HS	25	85	60	30						
									1		2		
67	LF	3	HS	50	20	5	15						CLEARCUT
67	LF	2	HS	50	10	0	40				2		CLEARCUT
67	LF	1	HS	50	5	30	50						0444488, 4843226
67	RT	3	HS	30	80	30	40						
											1		

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **4-UMP** SITE ID: **244** **BIG CREEK TRIB C POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	20.3	HS	STILL IN BIG CR VALLEY	START 0445259, 4843318
2	CC	00	36.8	CC	CULV HAS A NATURAL B	CULV DIAM = 3 M, T = 12 C
3	RI	00	49.4			U 3 = CORRUGATED METAL
4	LP	00	55	HS		PLACED BOULDERS
5	RI	00	76.1	HS		PLACED BOULDERS
6	LP	00	85.3	HS		PLACED BOULDERS
7	LP	00	100.2	HS		PLACED BOULDERS
9	LP	00	121	HS		PLACED BOULDERS
10	RI	00	139.5	HS		PLACED BOULDERS
13	LP	00	169.4			SNORKEL SURVEY POOL 2
14	RI	00	201.9	HS		BROKEN UP THROUGH UNIT
18	LP	00	238.9			COHO FRY
19	SC	00	240.9			0445051, 4843297
21	SR	00	248.7		H = .3 M	
23	LP	00	290.4	HS		LP FORMED BY HS
24	RI	00	306.9	HS		
27	LP	00	346			FRY
29	LP	00	371.8	HS		FRY, HS CONTS INTO U 30
31	LP	00	403.1	HS		COHO FRY
33	PP	00	430.8			SNORKEL SURVEY POOL
34	SL	00	431.3		H = .5 M	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **4-UMP** SITE ID: **244** **BIG CREEK TRIB C POST-TX**

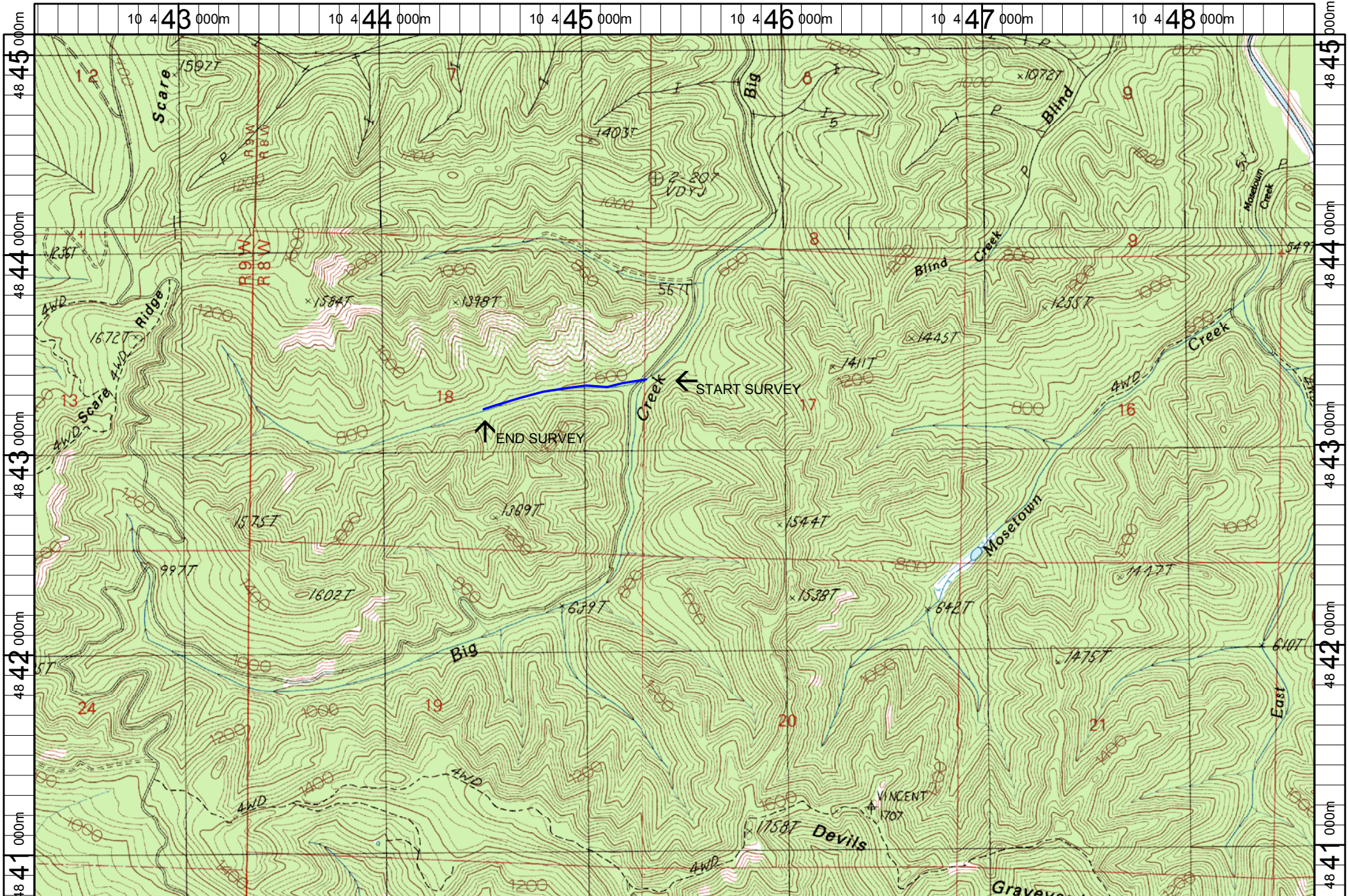
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
35	SP	00	438.5			FRY
36	RP	00	472.3	HS		
38	CB	00	525.2		SLOPE EST.	
39	LP	00	534.9	DJ	U 38 = 444815, 4843315	
41	LP	00	547.4	DJ		
42	RI	00	557	DJ		
44	SL	00	562.5		H = .75 M	
45	RI	00	591.7	DJ		
51	RI	00	661.4	DJ		
52	LP	00	668.6			CABLE IN STREAM
54	PP	00	690.9	DJ		
55	SL	00	691.9	DJ	H = .45 M	
57	SL	00	695.9		H = .25 M	
59	SL	00	708.3		H = .5 M	
61	PP	00	716.5			FRY
62	SL	00	717.4		H = .2 M	
66	LP	00	750.6			BEDROCK = HARDPAN
68	LP	00	763.8	DJ		0444620, 4843232
70	LP	00	772.6	DJ		
71	RI	01	791.3	DJ		
73	LP	00	806.8			FRY

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 4-UMP SITE ID: 244 BIG CREEK TRIB C POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
76	RI	00	855.7	DJ		
78	RI	00	895.9	DJ		
79	LP	00	910.1			POOR VISIBILITY
80	RI	00	922.1			END, 0444488, 4843226



Name: DEVILS GRAVEYARD
 Date: 6/13/2005
 Scale: 1 inch equals 2000 feet

Location: 10 445450 E 4842913 N
 Caption: BIG CREEK TRIBUTARY C RESTORATION SITE - SMITH BASIN