

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

STREAM: Big Creek Trib A (UMP-242)  
BASIN: Smith River  
SURVEY TYPE: Post -Tx  
DATE: 8/16/2006  
SURVEY CREW: Jennifer Jacobs, Andy Livesay  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 3.1 km<sup>2</sup>  
USGS MAPS: Twin Sisters  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Big Creek Trib A habitat survey extended 1679 meters. The channel was constrained by alternating hillslopes and terraces within a broad valley floor. The average valley width index was 5.5 (range: 3-17). Land uses for the reach were second growth timber (15-30 cm dbh) and forest fire. The average unit gradient was 2.6 percent. Scour pools (39%) and dry units (34%) dominated stream habitat. Gravel (30%) and fines (28%) dominated stream substrate. Wood volume was high at 38.7 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.

Two avalanches were noted within the surveyed reach, each of them bringing high amounts of debris into the channel.

REACH 1

T21S-R08W-S05SE

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:	3 - 17

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	1,679	3,846	11
Secondary Channel	7	15	1
Off-Channel Units	19	17	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 8	<u>First Terrace</u> n = 7
Width: 2.0	Width: 5.3	7.9 ( 5 - 14.7 )	9.2 ( 5.2 - 15.1 )
Depth: 0.18	Height: 0.4	0.8 ( 0.64 - 0.94 )	1.2 ( 1 - 1.5 )

W:D ratio: 13.6  
 Stream Flow Type: LF  
 Average Unit Gradient: 2.6%  
 Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.6  
 Habitat Units/100m (total channel length): 10.1  
 Habitat Units/100m (primary channel length): 10.2

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	9%	Reach avg: 94%
Undercut Banks:	3%	Range: 54 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	601	35.8
Volume (m <sup>3</sup> ):	650	38.7
Key pieces (>=12m x 0.60m):	22	1.3

OREGON DEPT OF FISH AND WILDLIFE

BIG CREEK TRIB A POST-TX (4-UJP, 242)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

8/16/2006

REACH 1		T21S-R08W-S05SE					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/BEDROCK	1	5	2.4	0.05	12	0	0	10	10	0	0	80
CASCADE/BOULDERS	2	13	1.8	0.04	22	16	0	8	28	23	41	0
CULVERT CROSSING	1	14	2.3	0.20	32	0	5	50	20	25	0	0
DRY UNIT	13	246	4.9	0.00	1,299	18	0	24	49	22	5	0
POOL-LATERAL SCOUR	80	655	2.3	0.35	1,455	68	4	36	22	12	4	22
POOL-PLUNGE	3	18	2.2	0.32	39	4	2	20	13	13	8	45
PUDDLED UNIT	1	4	3.0	0.02	12	0	10	20	60	10	0	0
RAPID/BEDROCK	8	140	1.7	0.02	242	11	0	9	15	11	4	61
RAPID/BOULDERS	14	123	1.1	0.02	133	24	0	14	43	32	8	3
RIFFLE	20	418	1.3	0.03	544	51	0	16	44	21	6	13
STEP/BEDROCK	10	28	1.3	0.02	42	0	0	3	8	5	0	85
STEP/BOULDERS	1	1	0.8	0.02	0	3	0	5	5	0	90	0
STEP/COBBLE	18	40	1.1	0.02	45	1	0	29	52	18	0	0
<b>Total:</b>	<b>172</b>	<b>1,704</b>	<b>2.0</b>	<b>0.18</b>	<b>3,878</b>	<b>196</b>	<b>Avg: 2</b>	<b>26</b>	<b>30</b>	<b>16</b>	<b>5</b>	<b>21</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	83	674	2.3	0.35	1,494	38.53%	72	4.8
Glides	0	0			0	0.00%	0	0.0
Riffles	20	418	1.3	0.03	544	14.02%	51	9.4
Rapids	22	262	1.3	0.02	375	9.66%	35	9.3
Cascades	3	18	2.0	0.04	35	0.89%	16	46.1
Step/Falls	29	68	1.1	0.02	88	2.26%	4	4.6
Dry	14	250	4.8	0.00	1,311	33.79%	18	1.4
Culverts	1	14	2.3	0.20	32	0.83%	0	0.0

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	83	48.7	49.4
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	36	21.1	21.4
Pool frequency (channel widths/pool):	3.9		
Residual pool depth (avg):	0.32		

OREGON DEPARTMENT OF FISH AND WILDLIFE  
HABITAT INVENTORY

BIG CREEK TRIB A POST-TX  
GCG: 4-UMP SITE ID: 242

Survey Date 8/16/2006  
Report Date: 3/5/2007

RIPARIAN ZONE  
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 6 transects

Total hardwoods/1000	386
Total conifers/1000 ft	315
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	0.2	0.3	0.7	0.3	0.3	0.7	1.2	1.3
15-30cm	0.7	1.8	1.2	1.0	0.8	0.2	2.7	3.0
30-50cm	0.2	1.8	0.8	0.2	0.3	0.0	1.3	2.0
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	1.0	4.0	2.7	1.5	1.5	0.8	1.7	2.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	71		60		47	
Shrub cover	53		25		19	
Grass/forb cover	30		48		50	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	42		58		83	
High terrace	50		17		0	
Low terrace	0		0		0	
Floodplain	8		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		25		17	
Riprap	0		0		0	
Surface slope (%)	14		32		42	

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

**6 transects**

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

Total hardwoods/1000	386
Total conifers/1000 ft	315
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	1.2	1.3
15-30cm	2.7	3.0
30-50cm	1.3	2.0
50-90cm	0.0	0.0
>90cm	0.0	0.0



107	LF	1	HS	50	80	40	30	Conifer			
								Hardwood	1		
107	LF	2	HS	50	80	10	60	Conifer		1	HS/RB
								Hardwood	1		
107	LF	3	HS	55	85	20	70	Conifer		1	
								Hardwood			
107	RT	1	HT	0	90	45	35	Conifer			
								Hardwood		2	
107	RT	2	HT	50	85	25	60	Conifer	1		HT/HS
								Hardwood			
107	RT	3	RB	0	60	25	65	Conifer		1	RB/HS
								Hardwood			
139	RT	1	HS	30	85	75	10	Conifer			HT/HS
								Hardwood		2	
139	LF	1	HT	0	50	90	5	Conifer			HT/HS
								Hardwood		2	
139	LF	3	HS	55	0	15	35	Conifer			CLEARCUT
								Hardwood			
139	RT	2	RB	0	60	60	20	Conifer		2	RB/HS
								Hardwood	1		
139	RT	3	HS	30	0	10	55	Conifer			NO TREES
								Hardwood			
139	LF	2	HS	45	40	10	70	Conifer	1		CLEARCUT
								Hardwood			
160	RT	3	HS	45	0	25	30	Conifer			NO TREES
								Hardwood			
160	LF	1	FP	0	55	80	10	Conifer			FP/HS
								Hardwood	2		
160	LF	2	HS	60	30	30	50	Conifer		1	
								Hardwood	2		
160	LF	3	HS	60	0	40	30	Conifer			NO TREES
								Hardwood			
160	RT	1	HS	25	25	90	5	Conifer			NO TREES, HS/RB
								Hardwood			
160	RT	2	RB	0	0	35	30	Conifer			NO TREES, RB/HS
								Hardwood			

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **4-UMP**    SITE ID: **242**    **BIG CREEK TRIB A POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
2	LP	00	21.1	HS		
4	LP	00	32.9	HS		
7	SC	00	72.3	HS	PARTIAL UNDERGROUND FL	
14	LP	00	105.8	HS		
16	LP	00	119.1	HS		
19	CC	00	143.8	CC	OPEN BOTTOM CULVERT, DI	
26	DU	00	191.8		COHO FRY	
30	RR	00	257.1	HS		
32	RR	00	278.2	HS, DJ		UTM 0446127-484543
34	LP	00	308.7	HS		
36	LP	00	322	DJ		
42	LP	00	374.3	HS		
43	RI	00	420.6	HS		
46	SR	00	437.7	HS		
47	LP	00	450.7	HS		
50	SR	00	509.3		3D-0445937-4845959	
52	SR	00	516.7	HS		
58	LP	00	572.8	HS		
62	LP	00	603.8	DJ		
65	RR	00	642.3	HS		
69	LP	00	673.5	HS, DJ		



# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **4-UMP**    SITE ID: **242**    **BIG CREEK TRIB A POST-TX**

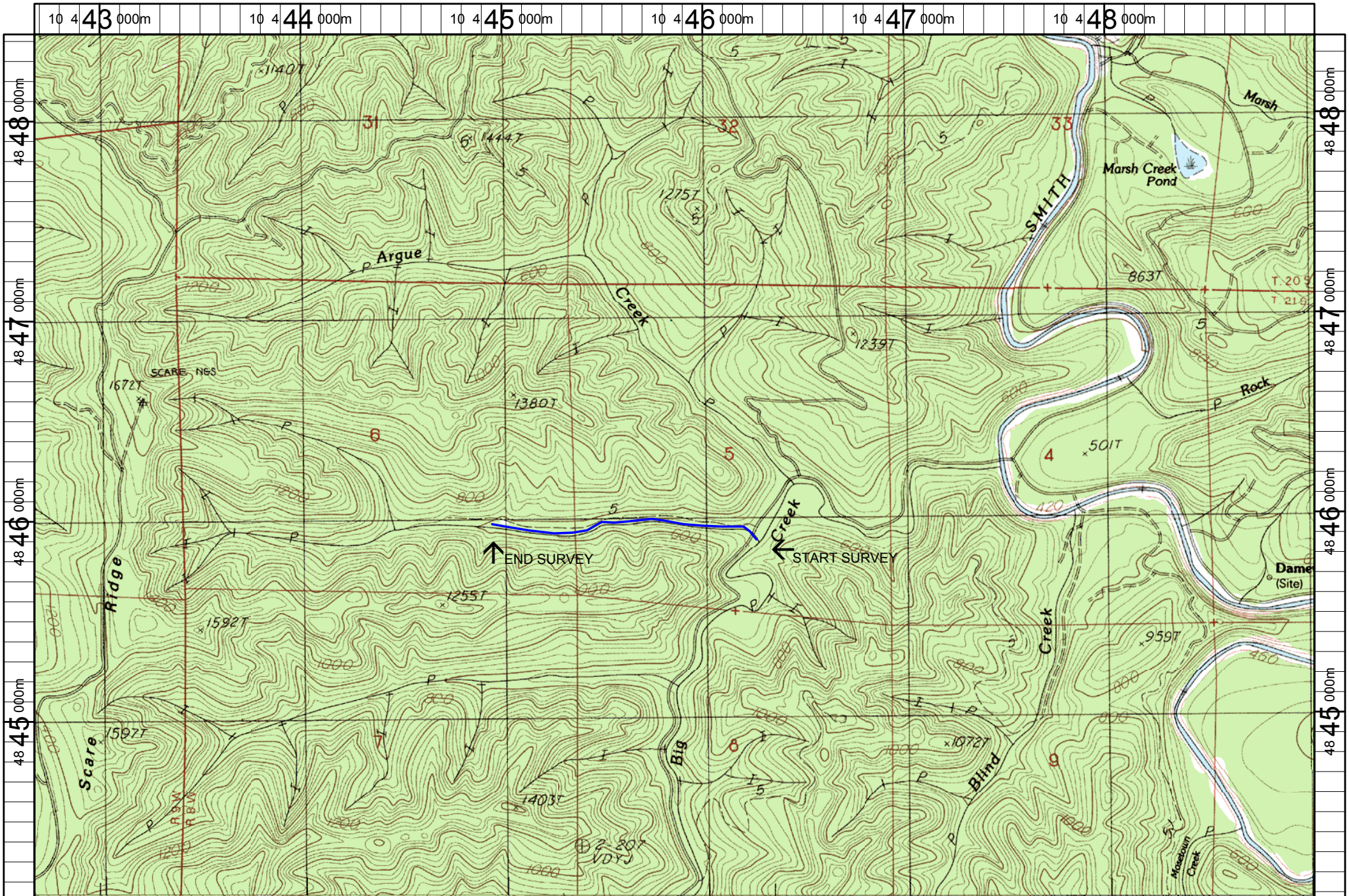
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
74	SC	00	720.5	DJ		
78	RI	00	766.2		3D-0445692-4845968	
91	RI	00	886.3		HOBO TEMP SENSOR	
92	LP	00	891	DJ		
93	RI	00	919.1	HS		BOULDERS
106	LP	00	1020.4		3D-0445483-4845966	
108	LP	00	1037.7		HOBO HANGING OUT OF WA	
109	RB	00	1052.7	WL		DUNN'S SALAMANDER, P
123	LP	00	1153.7	DJ		
124	LP	00	1158.7		ESTIMATED- YELLOW JACK	
128	LP	00	1188	DJ		
134	LP	00	1219.1	DJ		
137	SC	00	1236.5	SS/		
139	RI	00	1262.7		2D-0445297-4845916	
140	LP	00	1272.7	DJ		
151	RB	00	1405.3		HANGING HOBO	
155	SB	00	1431.7		H=0.35M	
158	LP	00	1448.3	DJ		
159	DU	00	1498.3	AI/	HUGE JAM, BARBED UP SED	
160	DU	00	1531.3			UTM 0445078-4845434
171	DU	01	1678.5	TJ/, AI		END SIGN ALDER/

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: 4-UMP    SITE ID: 242    BIG CREEK TRIB A 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>
172	DU	11	1678.5		TRIB HAS SLID OUT	



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

Location: 10 445843 E 4846246 N  
 Caption: BIG CREEK TRIBUTARY A RESTORATION SITE - SMITH BASIN