

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

STREAM: Big Creek Tributary A (U-242)
BASIN: Smith River
SURVEY TYPE: Post-Tx
DATE: August 17, 2005
SURVEY CREW: Jennifer Jacobs, Andy Livesay
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 3.1 km²
USGS MAPS: Twin Sisters
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Big Creek Tributary A habitat survey extended 1,691 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 9.0 (range: 4.0-30.0). Land use for the reach was second growth (15-30 cm dbh) and timber harvest. The average unit gradient was 1.8 percent. Riffles (42%) and scour pools (33%) dominated stream habitat. Gravel (43%) and bedrock (29%) dominated stream substrate. Wood volume was moderate at 26.4 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-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	9.0	VWI Range:	4 - 30

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	1,691	3,659	9
Secondary Channel	60	164	5
Off-Channel Units	22	28	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 8	<u>First Terrace</u> n = 8
Width: 2.1	Width: 4.6	6.3 (4.1 - 9.9)	7.6 (5.6 - 10.1)
Depth: 0.16	Height: 0.3	0.7 (0.6 - 0.84)	1.1 (0.71 - 1.3)

W:D ratio: 13.3
 Stream Flow Type: LF
 Average Unit Gradient: 1.8%
 Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.4
 Habitat Units/100m (total channel length): 9.2
 Habitat Units/100m (primary channel length): 9.6

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	TH
Riparian Vegetation:	C15	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	8%	Reach avg: 89%
Undercut Banks:	3%	Range: 47 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	529	31.3
Volume (m ³):	446	26.4
Key pieces (>=12m x 0.60m):	6	0.4

OREGON DEPT OF FISH AND WILDLIFE

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

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

8/17/2005

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 ²)	Large Boulders (#>0.5m)	Substrate					
							Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BEDROCK	2	14	0.7	0.02	9	0	0	3	5	0	0	92
CASCADE/BOULDERS	3	49	1.7	0.09	91	128	1	6	49	15	29	0
CULVERT CROSSING	1	16	2.2	0.30	35	0	0	30	60	10	0	0
DRY CHANNEL	2	25	2.3	0.00	50	0	58	28	15	0	0	0
DRY UNIT	6	97	3.2	0.00	381	20	8	17	55	17	3	0
POOL-BACKWATER	4	13	1.2	0.09	15	0	29	34	8	0	0	30
POOL-ISOLATED	3	9	1.5	0.16	13	2	40	47	12	0	2	0
POOL-LATERAL SCOUR	56	419	2.5	0.31	1,048	52	4	20	41	7	1	26
POOL-PLUNGE	7	42	3.3	0.34	145	5	0	18	46	7	1	29
POOL-STRAIGHT SCOUR	3	17	3.6	0.46	60	2	1	42	33	12	3	10
PUDDLED UNIT	6	84	1.2	0.09	94	45	2	11	60	15	12	0
RAPID/BEDROCK	5	65	3.5	0.03	192	3	0	4	12	1	0	83
RAPID/BOULDERS	2	17	1.4	0.05	24	8	0	5	63	18	13	3
RIFFLE	41	858	1.7	0.06	1,616	82	0	8	58	9	1	25
STEP/BEDROCK	14	30	1.5	0.02	54	1	0	1	1	1	0	97
STEP/BOULDERS	1	5	1.7	0.10	8	15	0	5	35	10	50	0
STEP/COBBLE	7	16	1.2	0.02	17	1	0	4	88	7	1	0
Total:	163	1,773	2.1	0.16	3,851	364	Avg: 4	14	43	7	2	29

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	7	22	1.3	0.12	28	0.73%	2	7.2
Scour Pools	66	478	2.6	0.32	1,253	32.54%	59	4.7
Glides	0	0			0	0.00%	0	0.0
Riffles	41	858	1.7	0.06	1,616	41.96%	82	5.1
Rapids	7	82	2.9	0.03	215	5.59%	11	5.1
Cascades	5	63	1.3	0.06	100	2.58%	128	128.6
Step/Falls	22	50	1.4	0.02	79	2.05%	17	21.5
Dry	14	206	2.2	0.04	525	13.64%	65	12.4
Culverts	1	16	2.2	0.30	35	0.91%	0	0.0

REACH 1

T21S-R08W-S05SE

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	73	41.2	43.2
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	34	19.2	20.1
Pool frequency (channel widths/pool):	5.3		
Residual pool depth (avg):	0.29		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

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

Survey Date 8/17/2005
Report Date: 4/26/2006

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	579
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 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	2.7	0.2	1.0	0.8	1.2	1.0	4.8
15-30cm	0.3	1.8	1.8	1.2	2.0	0.3	4.2	3.3
30-50cm	0.0	1.2	0.3	0.2	0.5	0.0	0.8	1.3
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	5.7	2.3	2.3	3.3	1.5	2.0	3.2

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	66		58		46	
Shrub cover	36		22		13	
Grass/forb cover	53		66		65	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		42		75	
High terrace	58		25		8	
Low terrace	0		0		0	
Floodplain	8		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		33		17	
Riprap	0		0		0	
Surface slope (%)	7		13		31	

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	579
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-m wide band

Diameter class (cm)	Zones 1-3	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	1.0	4.8
15-30cm	4.2	3.3
30-50cm	0.8	1.3
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		
25	LF	1	HT	0	85	0	90	Conifer		1					0446136, 485932, H3'S ARE DEAD ALSO HS
								Hardwood	3						
25	LF	2	HT	0	85	0	90	Conifer	1	3					
								Hardwood	1						
25	LF	3	HT	30	80	0	90	Conifer	4	2					
								Hardwood							
25	RT	1	HS	25	85	30	65	Conifer							ALSO HT
								Hardwood	1	2	1				
25	RT	2	RB	0	80	15	80	Conifer							ALSO HS
								Hardwood		1					
25	RT	3	HS	40	75	30	30	Conifer		3	1				
								Hardwood							
51	LF	2	HS	40	70	10	85	Conifer		2					
								Hardwood	1						
51	RT	3	HS	45	80	5	90	Conifer		1					MANY FERNS
								Hardwood		2					
51	RT	2	RB	0	75	5	50	Conifer							WAS CLEARED, ALSO HT
								Hardwood	1	2					0445919, 4845955
51	LF	1	HT	0	65	45	30	Conifer							
								Hardwood		2					
51	LF	3	HS	40	75	0	90	Conifer		3					
								Hardwood	2						
51	RT	1	HT	0	80	5	50	Conifer							RESTORATIO N SITE, RIP VEG
								Hardwood	3	1	1				0445713, 4845977
71	LF	1	HS	15	65	40	55	Conifer							
								Hardwood							
71	LF	2	HS	15	70	15	80	Conifer							
								Hardwood							
71	LF	3	HS	40	70	5	90	Conifer							
								Hardwood							
71	RT	1	HT	0	65	40	55	Conifer							
								Hardwood				1			
71	RT	2	HT	0	60	40	55	Conifer			1	1			
								Hardwood				1			
71	RT	3	RB	0	40	35	60	Conifer	1						ALSO HS
								Hardwood	1						

102	LF	2	HS	40	65	0	95	Conifer	2			FERNS
								Hardwood	3			
102	RT	3	RB	0	70	25	70	Conifer	1	1		FERNS, ALSO HS
								Hardwood				
102	RT	2	HT	0	80	60	35	Conifer	1			SALMONBERRY
								Hardwood				Y
102	LF	3	HS	40	60	5	90	Conifer	2	1		FERNS
								Hardwood	4			
102	LF	1	HS	25	65	2	95	Conifer	1			NO GPS COVERAGE
								Hardwood	1	1	1	
102	RT	1	HT	0	75	10	80	Conifer				SMALL GROUND VEGETATION
								Hardwood	6			
130	LF	1	HS	20	55	50	45	Conifer				0445288, 4845922, ALDERS
								Hardwood	2	1	2	ALDERS
130	LF	2	HS	20	20	30	55	Conifer				
								Hardwood	2			
130	LF	3	HS	40	0	10	30	Conifer				CLEARCUT
								Hardwood				
130	RT	1	HT	0	60	55	40	Conifer				ALSO ROAD BED
								Hardwood	1			
130	RT	2	RB	0	40	30	50	Conifer	1	1		ALSO HS
								Hardwood				
130	RT	3	HS	30	0	15	35	Conifer				CLEARCUT
								Hardwood				
153	RT	1	FP	0	45	75	20	Conifer				ALSO HT
								Hardwood	1			
153	RT	2	RB	0	15	30	60	Conifer				CLEARCUT
								Hardwood				
153	LF	2	HS	40	30	30	55	Conifer	1			
								Hardwood	2			
153	LF	1	HT	0	50	85	10	Conifer				0445067, 4845921
								Hardwood	2	1		
153	RT	3	HS	30	0	15	40	Conifer				CLEARCUT
								Hardwood				
153	LF	3	HS	40	0	10	65	Conifer				CLEARCUT
								Hardwood				

Comment Summary

Restoration Monitoring Sites 2005

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

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	25	HS		START 0446275, 4845942
2	LP	00	32	HS		
3	RI	00	37	HS		
4	LP	00	46	HS		
6	LP	00	72.5	HS		PLACED BOULDERS, LOGS
8	CR	00	85	DJ		PN TO FRY
10	RI	00	109	HS		
11	LP	00	120	HS, DJ	FRY	
12	RI	00	128	HS		
14	CC	00	147.5	CC	WEATHERLY CREEK RD	CULV = NAT. BOTTOM, DIAM
15	RI	00	223.5	HS		U 14 = METAL HALF PIPE, FR
16	LP	00	227			U 15 = PLACED BOULDERS
18	LP	00	236	DJ		
23	RI	00	286.5		FRY	
24	LP	00	291	HS		
25	RI	00	310.5		0446136, 4845932	
26	LP	00	316.5		SNORKEL SURVEY POOL	
27	RI	00	354	HS		
29	LP	00	364.5	HS	T = 14 C	
31	LP	00	396		SNORKEL POOL 4	SNORKEL POOL 4
36	RI	00	441	HS		

Comment Summary

Restoration Monitoring Sites 2005

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>
37	SR	00	441.5		H = .3 M	
38	RI	01	474.5	HS		PLACED BOULDERS, LOGS
40	LP	00	484	HS	SNORKEL POOL 5	PLACED LOGS
42	LP	00	498	HS		
43	RI	00	539.5	HS		
45	SR	00	540		H = .2 M	PN TO FRY
47	SR	00	548			PN TO FRY
48	PP	00	556		SNORKEL POOL 6	
49	SR	00	556.5		H = .15 M	
50	LP	00	561.5		FRY	PTC IS INFLUENCED BY DEB
51	SR	00	564.5		0445919, 4845955	
52	LP	00	578.5	HS		PTC IS INFLUENCED BY DEB
54	LP	00	606.5	HS		
56	LP	00	624.5	HS, DJ		
57	RI	00	644.5	HS		BOULDERS, COHO FRY
58	LP	00	650	HS, DJ		
60	SR	00	673.5		H = .35 M	
62	SR	00	683		H = .45 M	PN TO FRY
63	RI	01	722	HS, HS	SLOPE ESTIMATED	
66	SR	00	724		H = .29 M	PN TO FRY
68	LP	00	748.5		SNORKEL POOL 8	SNORKEL POOL 8

Comment Summary

Restoration Monitoring Sites 2005

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

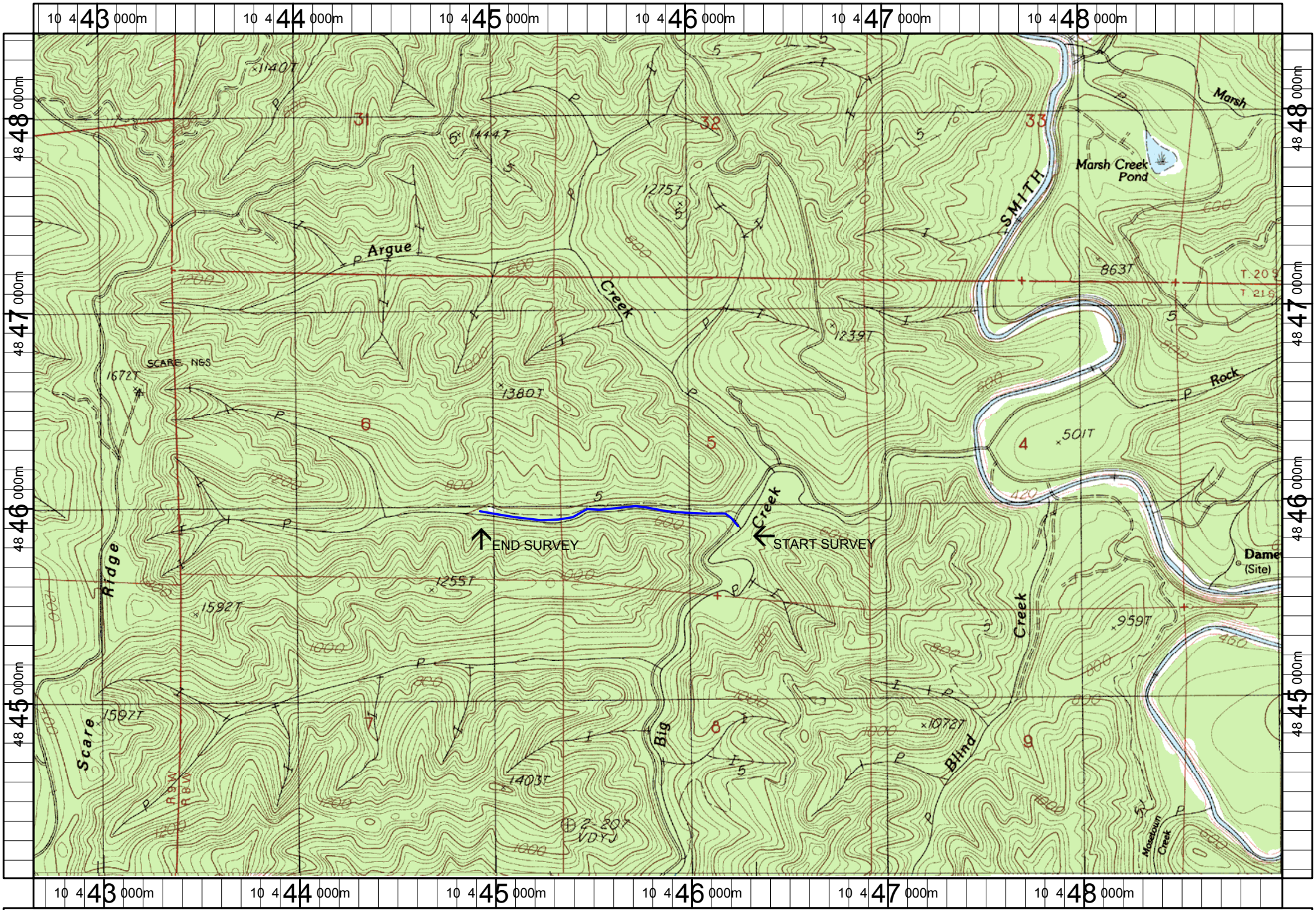
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
69	CR	00	757.5	DJ		
70	LP	00	760.5	DJ		
71	RI	00	810.5		0445713, 4845977	
73	RI	00	831	DJ		
74	LP	00	837.5			COHO FRY
76	LP	01	855.5		SNORKEL POOL 9	SNORKEL POOL 9
78	LP	02	855.5	DJ		
80	LP	00	881.5			THERMOMETER W/ FLAGGI
85	RB	01	925.5	DJ		
87	LP	01	935.5		SNORKEL POOL	
93	LP	00	982.5		FRY	
94	SR	00	984.5	DJ		
96	SP	01	1007			COHO FRY
98	RR	00	1025			BRAIDED CHANNEL
100	SR	00	1034		H = .12 M	
108	LP	00	1096.5			PTC IS INFLUENCED BY DEB
110	SP	00	1105.8			HOBO TEMP GAUGE NEAR S
111	CB	00	1111.8		HOBO TEMP GAUGE IN S	
113	LP	01	1136.8			PTC IS INFLUENCED BY DEB
123	LP	00	1219.8	DJ		
125	LP	01	1237.8		HOBO IN STREAM	HOBO IN STREAM

Comment Summary

Restoration Monitoring Sites 2005

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>
128	RI	00	1252.8			SOME CLAY PRESENT
129	LP	00	1261.8			COHO FRY
130	RI	00	1296.8		0445284, 4845922	
131	LP	00	1305.8			PTC IS INFLUENCED BY DEB
132	RI	00	1337.3	DJ		
133	LP	00	1343.8	DJ		
134	RI	00	1350.8		ENTERING CLEARCUT	
139	LP	00	1376.3	DJ		
141	LP	00	1383.3	DJ		
146	RI	00	1454.8		HOBO IN STREAM	HOBO IN STREAM
148	CB	01	1492.8	DJ		
151	PD	01	1552.8		0445067, 4845921	
156	PD	00	1608.8	DJ		
160	LP	00	1652.8	DJ		
162	DU	00	1676.3			HOBO IN STREAM
163	PD	00	1691.3		END SIGN ALDER RT.	END SIGN ON RT,0444964,48



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