

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

STREAM: Big Creek Phase 2 (U-241)
BASIN: Smith River
SURVEY TYPE: Post-Tx
DATE: March 1, 2005
SURVEY CREW: Neil Jensen, Jennifer Schmitt
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 19.7 km²
USGS MAPS: Devils Graveyard
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Big Creek Phase 2 habitat survey extended 2,263 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 7.5 (range: 1.1-16.0). Land use for the reach was timber harvest and large (30-50 cm dbh) trees. The average unit gradient was 1.9 percent. Scour pools (43%) dominated stream habitat. Gravel (51%) and bedrock (22%) dominated stream substrate. Wood volume was high at 40.4 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-S17NW

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	7.5	VWI Range:	1.1 - 16

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	2,263	8,337	0
Secondary Channel	14	40	0
Off-Channel Units	57	73	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 10	<u>First Terrace</u> n = 9
Width: 3.5	Width: 7.7	11.9 (6.7 - 25.9)	14.7 (8.8 - 27.8)
Depth: 0.31	Height: 0.5	0.9 (0.84 - 1.02)	1.5 (1.05 - 2.4)

W:D ratio: 16.6

Entrenchment (ACW:FPW ratio): 1.6

Stream Flow Type: LF

Habitat Units/100m (total channel length): 7.3

Average Unit Gradient: 1.9%

Habitat Units/100m (primary channel length): 7.5

Water temperature (°C): 7.0 - 7.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	LT
Riparian Vegetation:	D30	S

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	546	24.1
Volume (m ³):	914	40.4
Key pieces (>=12m x 0.60m):	37	1.6

OREGON DEPT OF FISH AND WILDLIFE

BIG CREEK PHASE 2 POST-TX (4-UJP, 241)

HABITAT INVENTORY

Report Date: 11/29/2005

Survey Date:

3/1/2005

REACH 1		T21S-R08W-S17NW					REACH 1					
HABITAT DETAIL												
Habitat Type	Number	Total	Avg	Avg	Total	Large	Substrate					
	Units	Length	Width	Depth	Area	Boulders	Percent Wetted Area					
		(m)	(m)	(m)	(m ²)	(>0.5m)	S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BEDROCK	10	200	4.2	0.18	828	0	3	8	18	2	4	65
CASCADE/BOULDERS	13	217	3.0	0.15	716	0	4	12	68	6	6	4
POOL-BACKWATER	4	11	2.5	0.34	27	0	34	60	3	0	0	4
POOL-DAMMED	6	83	3.4	0.39	266	0	9	42	21	2	4	23
POOL-LATERAL SCOUR	55	743	4.1	0.57	3,195	0	10	22	43	1	2	22
POOL-PLUNGE	6	49	4.7	0.53	230	0	7	17	18	0	4	53
POOL-STRAIGHT SCOUR	6	62	3.6	0.56	236	0	8	14	56	1	2	19
RAPID/BEDROCK	3	69	2.8	0.13	215	0	3	15	20	3	3	56
RAPID/BOULDERS	29	473	2.9	0.10	1,411	0	3	6	76	5	6	4
RIFFLE	15	260	3.4	0.10	866	0	3	9	74	2	1	11
RIFFLE W/ POCKETS	5	90	2.4	0.14	209	0	5	14	75	3	0	4
STEP/BEDROCK	8	30	4.1	0.11	119	0	2	3	6	0	1	88
STEP/COBBLE	9	46	2.7	0.09	130	0	3	5	85	3	4	0
STEP/LOG	1	0	1.7	0.01	0	0	0	0	90	0	0	10
Total:	170	2,333	3.5	0.31	8,450	0	Avg: 7	16	51	2	3	22

HABITAT SUMMARY									
Habitat Group	Number	Total	Avg	Avg	Wetted Area		Large Boulders		
	Units	Length	Width	Depth	(m ²)	Percent	Number	(# / 100m ²)	
		(m)	(m)	(m)					
Dammed & BW Pools	10	94	3.0	0.37	293	3.46%	0	0.0	
Scour Pools	67	854	4.1	0.57	3,661	43.32%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	20	350	3.1	0.11	1,076	12.73%	0	0.0	
Rapids	32	542	2.9	0.10	1,626	19.25%	0	0.0	
Cascades	23	416	3.5	0.16	1,544	18.28%	0	0.0	
Step/Falls	18	76	3.2	0.10	250	2.96%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	77	33.0	34.0
Pools >=1m deep:	1	0.4	0.4
Complex pools (LWD pieces>=3):	29	12.4	12.8
Pool frequency (channel widths/pool):	4.0		
Residual pool depth (avg):	0.42		

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 4-UMP SITE ID: 241 BIG CREEK PHASE 2 POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	01	11.4	TJ#1, WL	REDD IN PTC,(CA,CT,D30,ST,LT)	
2	SC	11	11.4		STEP FOLLOWED BY IMBEDDED CC	
4	LP	00	36.6	HS,WL	PLACED LOGS, REDD	
6	LP	00	67.5	HS, WL	PLACED LOGS, REDD, STW SMOLT.	
7	RI	00	83	HS	PLACED LOGS AND CHRISTMAS TREE	
8	LP	00	100.1	HS	PLACED LOGS, FLAG HP:7	
10	LP	00	120.6	WL, HS	REDD, STW SMOLT, PLACED LOGS	
11	CB	01	138.4	HS	PLACED LOGS	
13	LP	00	145.8	HS,DJ	PLACED LOGS	
16	LP	00	200	HS, WL	SM. STEP BTWN POOLS,FRY,PLACED	
17	SC	00	205.7	WL	REDD	
18	LP	00	224.5	WL	FISH CARCASS	
20	LP	00	255.8	WL	STW SMOLT	
21	RI	00	268.3		CT,CT,D30,ST,LT	
22	LP	00	287.5	HS	PLACED BOULDERS	
23	DP	00	313.1	HS, WL	PLACED BLDRS,ROCK WEIR,STW SMO	
24	SR	00	317	HS	PLACED LOGS	
25	LP	00	331.8	HS	PLACED BLDRS	
27	CB	00	352.9	HS	PLACED LOGS	
28	LP	00	368	WL	STW SMOLT	
29	RB	00	390.6	WL, BV	REDD	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 4-UMP SITE ID: 241 BIG CREEK PHASE 2 POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
30	LP	00	419.5	WL,BV	SALMONID FRY,HAB.SIGN SITE 242	
31	SR	00	425		FLAG - PHOTO PT. 3 AND 4	
32	LP	00	437.2	HS,SS/,WL	SALMONID FRY, PLACED LOGS	
33	CR	01	451.8	TJ#2/		
34	CB	11	451.8		ACH=0.2, ACW= 1.5	
35	PP	00	459.4	WL	ADULT STW.	
37	LP	00	471.7	SS/		
38	LP	00	479.5	HS,WL,SS/	SM.STEP BTWN POOLS,PLACED LOGS	
39	CR	00	492.5	HS, SS/	PLACED WOOD	
40	PP	00	501	HS, SS/	PLACED WOOD,(CT,CT,D30,S,ST,LT	
41	SR	00	503.5	HS		
42	RI	00	518.4	HS, SS/		
43	LP	00	527.7		FLAG"HS 14 3/5/03"	
44	CR	01	569.7	WL	E.O.S. FOR SITE 242, REDD	
45	BW	10	569.7	WL	SALMONID FRY	
46	LP	00	602.7	HS, WL	PLACED BLDRS, FLAG HP 15 ,FRY	
47	CR	00	629.4	HS	PLACED BLDRS	
48	RR	00	664.2	HS	PLACED BLDRS,LOGS, X-MAS TREE	
49	PP	00	671.3	HS	PLACED BLDRS	
50	CR	00	684.6	HS	PLACED BLDRS	
51	RI	00	697.4	HS	PLACED BLDRS	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 4-UMP SITE ID: 241 BIG CREEK PHASE 2 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>
52	CR	00	724.2	HS	PLACED BLDRS	
54	RB	01	756	/TJ#3, HS	PLACED WOOD	
55	RB	11	756	HS	SITE 244 STRT SIGN PLACED LOG	
56	RB	00	775.8	HS	CA,CT,D30,S,ST,LT, PLACED LOGS	
57	CR	00	806.8	HS	PLACED LOGS AND BLDRS	
59	SR	00	815.4		H= 0.6M	
60	LP	00	830.4	WL,HS	FRY,PLCD LOGS, BLDRS, FLG HS18	
61	DP	00	845.6	HS	SM.STEP BTWN, PLACED LOG,BLDRS	
62	RB	00	875.2	WL,HS	REDD, CT, PLACED WEIR	
63	DP	00	888.8	HS.WL	ROCK WEIR	
65	LP	00	917.7	HS	PLACED LOGS	
66	RB	00	949.9	HS	ROCK WEIR	
67	CB	01	999.4	HS	ROCK WEIR, PLACED LOGS	
68	BW	10	999.4	WL	SALMONID FRY	
69	PP	00	1011.9		CH,MV,D30,S,TH,ST. ACTIVE TH	
71	LP	00	1049	WL	SALMONID FRY	
72	CR	00	1058	HS	PLACED WOOD	
73	DP	00	1064.2	HS	PLACED WOOD	
74	RB	00	1107.6		FLAG PP7 DOWNSTREAM	
75	LP	00	1123.3	WL	SALMONID FRY	
76	RR	00	1140.8	WL	RACCOON TRACKS	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 4-UMP SITE ID: 241 BIG CREEK PHASE 2 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>
77	LP	00	1150.8	HS	PLACED BLDERS AND LOGS	
78	CR	00	1159.8	HS	PLACED LOGS AND BLDERS	
79	DP	00	1168.5	HS	PLACED LOGS, BLDERS, ROCK WEIR	
80	CB	00	1183.5	SS/, HS	OLACED LOGS AND ROCK WEIR	
81	RI	00	1213.9	WL	REDD	
83	LP	01	1249.2	WL,HS,DJ	PLACED LOGS,CH,MV,D30,S,TH,ST,	
84	CB	01	1259.8	HS, DJ		
86	LP	02	1259.8	HS, DJ	PLACED WOOD	
88	LP	00	1301.4		SALMONID FRY	
89	RB	00	1310.6	/CE		
90	LP	00	1321.4		ACTIVE TH U-69-119.	
94	RP	00	1372.1	SS/		
95	LP	00	1381.9	SS/, HS	PLACED WOOD	
102	LP	00	1461.4		SM. STEP BTWN POOLS	
103	RI	00	1484.3	HS	CA,CT,D30,ST,TH,LT,PLACED LOGS	
104	CB	00	1510.3	HS	PLACED WOOD	
105	LP	00	1522.5	HS	FLAG - HP SITE 28	
108	RB	00	1537.3	/SS		
109	DP	00	1551	BV,/SS		
110	SC	00	1554.5	BV		
111	LP	00	1562.1	BV,WL	BEAVER SCAT, SALMONID FRY	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 4-UMP SITE ID: 241 BIG CREEK PHASE 2 POST-TX

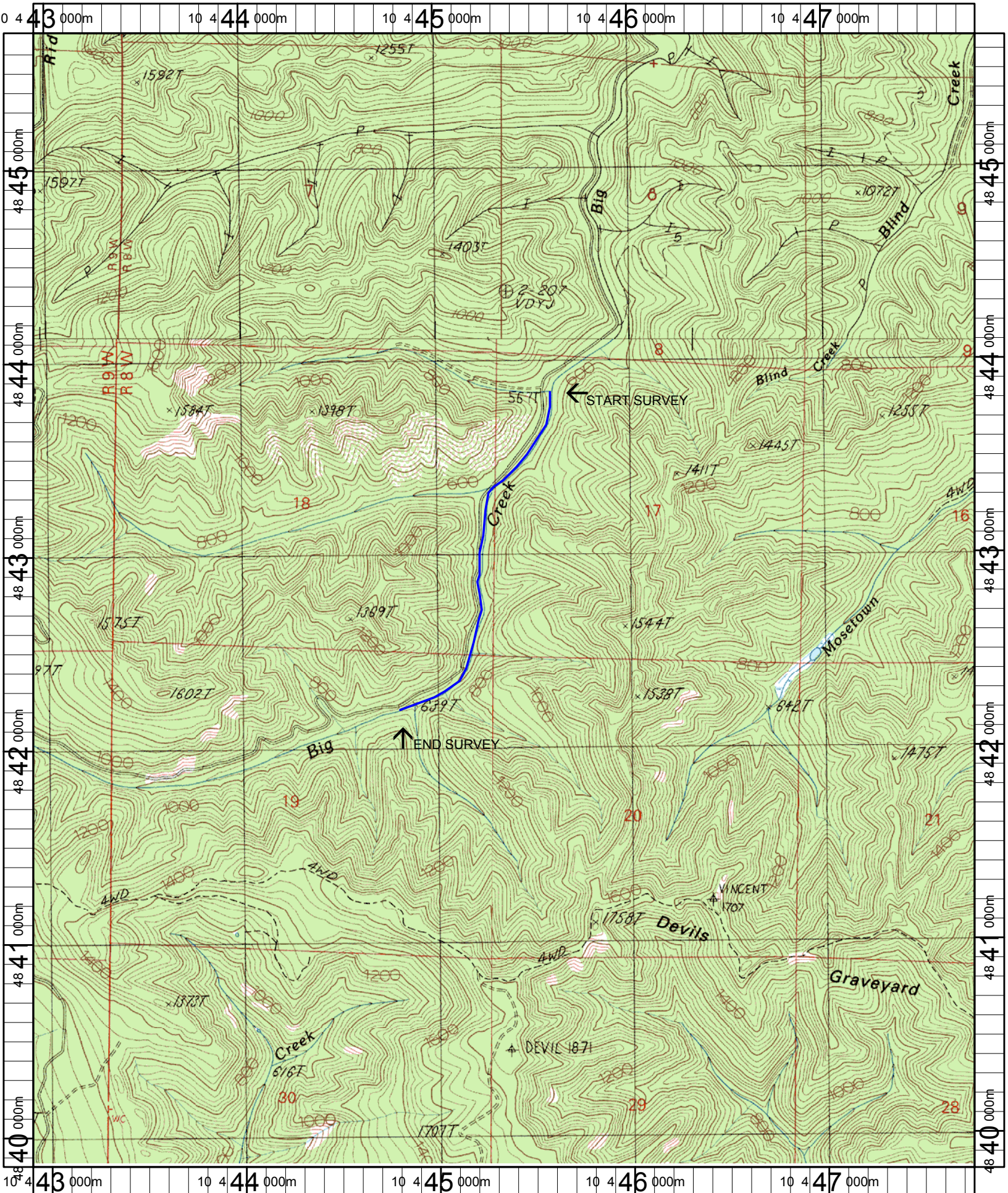
<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
112	RI	00	1575.1	HS	PLACED BLDRS	
113	PP	00	1581.4	BV, DJ		
114	SL	00	1581.6	DJ	H= 0.3	
115	CB	00	1597.8	HS, BV	PLACED LOGS	
116	SP	00	1602.7	BV, LA/	4M x 4M	
121	SP	01	1649.4	TJ#4/		
122	CB	11	1649.4		ACH=0.25, ACW=1.1	
124	SP	00	1672.6	WL	SALMONID FRY, REDD	
127	RB	00	1704.6	HS	CA,CT,D30,S,TH,LT, PLACED LOGS	
128	RI	01	1717	WL	REDD	
129	BW	10	1717	WL	RSN, GREEN ALGAE	
130	SP	00	1728.3	WL	SALMONID FRY, BDRCK=HARDPAN	
132	LP	00	1755.3	DJ,WL	SALMONID FRY	
134	LP	00	1790.9	WL,DJ	REDD	
135	CB	00	1805.5	DJ		
136	LP	00	1835.2	WL	SALMONID FRY, FLAG HP SITE 33	
138	SP	00	1851	HS. /CE	PLACED LOGS, BDRCK=HARDPAN	
139	LP	00	1861	HS	SM.STEP BTWN POOL, PLACED LOGS	
140	RI	00	1891	HS	PLACED LOGS, CULVERT DEBRIS	
141	LP	00	1907.2	WL	SALMONID FRY, BDRCK=HARDPAN	
145	LP	00	1942.5		CA,CT,D30,S,LT,ST	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: 4-UMP SITE ID: 241 BIG CREEK PHASE 2 POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
146	RB	01	1957.3	TJ#5/		
147	RB	11	1957.3		ACH=.32 ACW=2.1	
154	LP	00	2064.9	WL	SALMONID FRY, BDRCK = HARDPAN	
157	RI	00	2099.1	WL	REDD	
160	LP	00	2126.7	WL	SALMONID FRY	
162	LP	01	2143.5	TJ#6/		
163	CB	11	2143.5		ACH=.31, ACW=2.6	
165	LP	00	2168.7		BDRCK = HARDPAN	
170	RB	00	2262.5		E.O.S. CA,CT,D30,S,LT,ST	



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

Location: 10 445348 E 4842762 N
 Caption: BIG CREEK PHASE 2 RESTORATION SITE - SMITH BASIN