

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

STREAM: Big Creek Trib C (UMP-244)
BASIN: Smith River
SURVEY TYPE: Post-Tx
DATE: 8/2/2006
SURVEY CREW: Jennifer Jacobs, Andy Livesay
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 2.6 km²
USGS MAPS: Devils Graveyard
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Big Creek Trib C habitat survey extended 925 meters. The channel was constrained by alternating hillslopes and terraces within a broad valley floor. The average valley width index was 6.4 (range: 2.15-20). Land uses for the reach were second growth timber (15-30 cm dbh) and timber harvest. The average unit gradient was 2.2 percent. Scour pools (47%), dry units (22%) and riffles (19%) dominated stream habitat. Gravel (49%) and fines (30%) dominated stream substrate. Wood volume was high at 51.8 m³/100m.

COMMENTS:

There was a step over log identified as a potential barrier to upstream fish migration at unit 70 (709.5 meters). This step had a height of 0.45 meters. Another potential barrier was identified at unit 92 (882.7 meters) as a step over log with a height of 0.35 meters.

The crew noted several habitat structures during the survey.

The crew observed an avalanche at unit 53 which brought a huge amount of debris from a recent timber harvest into the creek.

Coho were observed throughout the surveyed reach.

REACH 1

T21S-R08W-S18SE

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	6.4	VWI Range:	2.15 - 20

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	925	1,839	5
Secondary Channel	0	0	0
Off-Channel Units	18	35	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 2.0	Width: 5.3	8.8 (7.2 - 13.4)	11.5 (9 - 13.7)
Depth: 0.18	Height: 0.4	0.9 (0.7 - 0.98)	1.4 (1.1 - 1.75)

W:D ratio: 12.4

Entrenchment (ACW:FPW ratio): 1.7

Stream Flow Type: LF

Habitat Units/100m (total channel length): 10.5

Average Unit Gradient: 2.2%

Habitat Units/100m (primary channel length): 10.7

Water temperature (°C): 13.5 - 13.5

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	6%	Reach avg: 93%
Undercut Banks:	7%	Range: 67 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	680	73.5
Volume (m ³):	479	51.8
Key pieces (>=12m x 0.60m):	18	1.9

OREGON DEPT OF FISH AND WILDLIFE

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

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

8/2/2006

REACH 1		T21S-R08W-S18SE					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	2	43	1.1	0.06	50	12	2	28	28	19	14	9
CULVERT CROSSING	1	18	1.3	0.10	23	3	7	7	57	29	0	0
DRY UNIT	6	80	4.2	0.00	393	3	1	27	70	2	0	0
POOL-ISOLATED	1	2	1.4	0.20	2	0	5	35	35	25	0	0
POOL-LATERAL SCOUR	44	337	2.5	0.36	866	74	5	38	37	11	6	4
POOL-PLUNGE	1	3	3.1	0.46	9	7	5	30	35	5	25	0
PUDDLED UNIT	1	28	0.6	0.10	15	0	20	60	20	0	0	0
RAPID/BEDROCK	1	10	0.7	0.01	7	0	0	10	10	10	0	70
RAPID/BOULDERS	7	112	0.9	0.04	106	13	1	18	61	16	2	1
RIFFLE	22	273	1.5	0.03	361	34	3	20	52	13	5	7
STEP/COBBLE	11	37	1.0	0.02	41	2	0	8	78	11	1	1
STEP/LOG	2	1	0.7	0.01	1	0	0	5	90	0	5	0
Total:	99	942	2.0	0.18	1,875	148	Avg: 3	27	49	11	5	4

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	2	1.4	0.20	2	0.11%	0	0.0	
Scour Pools	45	340	2.5	0.37	875	46.69%	81	9.3	
Glides	0	0			0	0.00%	0	0.0	
Riffles	22	273	1.5	0.03	361	19.27%	34	9.4	
Rapids	8	122	0.9	0.04	113	6.05%	13	11.5	
Cascades	2	43	1.1	0.06	50	2.69%	12	23.8	
Step/Falls	13	38	0.9	0.02	41	2.20%	2	4.9	
Dry	7	108	3.7	0.01	408	21.78%	3	0.7	
Culverts	1	18	1.3	0.10	23	1.21%	3	13.2	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	46	48.8	49.7
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	19	20.2	20.5
Pool frequency (channel widths/pool):	3.9		
Residual pool depth (avg):	0.36		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

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

Survey Date 8/2/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	325
Total conifers/1000 ft	122
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	0.7	0.0	0.0	0.0	0.0	0.0	0.7
15-30cm	0.3	2.3	0.3	1.3	1.0	0.7	1.7	4.3
30-50cm	0.3	0.0	0.0	0.3	0.0	0.0	0.3	0.3
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	0.7	3.0	0.3	1.7	1.0	0.7	0.7	1.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	74		63		49	
Shrub cover	38		19		23	
Grass/forb cover	53		62		48	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		67		100	
High terrace	33		0		0	
Low terrace	0		0		0	
Floodplain	17		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		33		0	
Riprap	0		0		0	
Surface slope (%)	16		38		68	

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	325
Total conifers/1000 ft	122
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	0.0	0.7
15-30cm	1.7	4.3
30-50cm	0.3	0.3
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		
32	RT	3	HS	20	80	50	45	Conifer		1					
								Hardwood							
32	LF	3	HS	65	40	60	40	Conifer							
								Hardwood							
32	LF	2	HS	65	65	20	75	Conifer		1					
								Hardwood							
32	RT	1	HS	15	85	20	75	Conifer							
								Hardwood	2						
32	RT	2	HS	15	70	40	60	Conifer							
								Hardwood							
32	LF	1	HT	0	85	50	45	Conifer							HT/HS
								Hardwood		2					
56	LF	2	HS	90	30	10	60	Conifer							CLEARCUT
								Hardwood		1					
56	LF	3	HS	95	0	0	40	Conifer							CLEARCUT
								Hardwood							
56	RT	1	FP	0	70	100	0	Conifer							FP/RB
								Hardwood		1					
56	RT	2	RB	0	80	20	75	Conifer							RB/HS
								Hardwood		1					
56	RT	3	HS	90	85	5	80	Conifer			2				
								Hardwood							
56	LF	1	HS	25	60	35	60	Conifer			1				
								Hardwood			2				
79	LF	3	HS	70	0	0	10	Conifer							
								Hardwood							
79	RT	3	HS	70	90	20	75	Conifer							
								Hardwood			2				
79	RT	1	HT	0	85	15	85	Conifer							
								Hardwood			1				
79	LF	2	HS	55	40	0	25	Conifer							FEW STANDING TREES
								Hardwood							CLEARCUT DOWN TO STREAM
79	LF	1	HS	55	60	10	55	Conifer				1			
								Hardwood			1				
79	RT	2	RB	0	90	25	75	Conifer							RB/HS
								Hardwood			2	1			

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **4-UMP** SITE ID: **244** **BIG CREEK TRIB C 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	SC	00	3.5		START SIGN ALDER RIGHT	START SIGN ALDER RIGH
2	LP	00	9	HS		LOGS
3	RB	00	15.5		HIGH VWI DUE TO VALLEY C	
4	LP	00	24			CLAY
6	CC	00	44.1	CC		DEISGNEED FOR FISH PAS
7	RI	00	54.1			METAL STEPS INSIDE CUL
8	LP	00	60.1	HS		
9	RI	00	67.6	HS		PLACED LOGS & BOULDE
11	RI	00	82.6	HS		PLACED BOULDERS
12	LP	00	87.6	HS		PLACED LOGS & BOULDE
13	LP	00	93.6	HS		PLACED LOGS & BOULDE
14	RI	00	99.1	HS		PLACED LOGS & BOULDE
15	LP	00	106.1	HS		PLACED LOGS & BOULDE
16	RI	00	114.6	HS		PLACED LOGS & BOULDE
19	LP	00	129.3	HS		PLACED LOGS & BOULDE
20	RI	00	135.3	HS		PLACED LOGS & BOULDE
21	LP	00	145.3	HS		PLACED LOGS & BOULDE
25	LP	00	184.8	DJ		
29	LP	00	217.8	HS		
32	CB	00	290.3	DJ	3D-0445071-4843326	
34	LP	00	302.8	HS		COHO FRY, PLACED LOG

Comment Summary

Restoration Monitoring Sites 2006

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

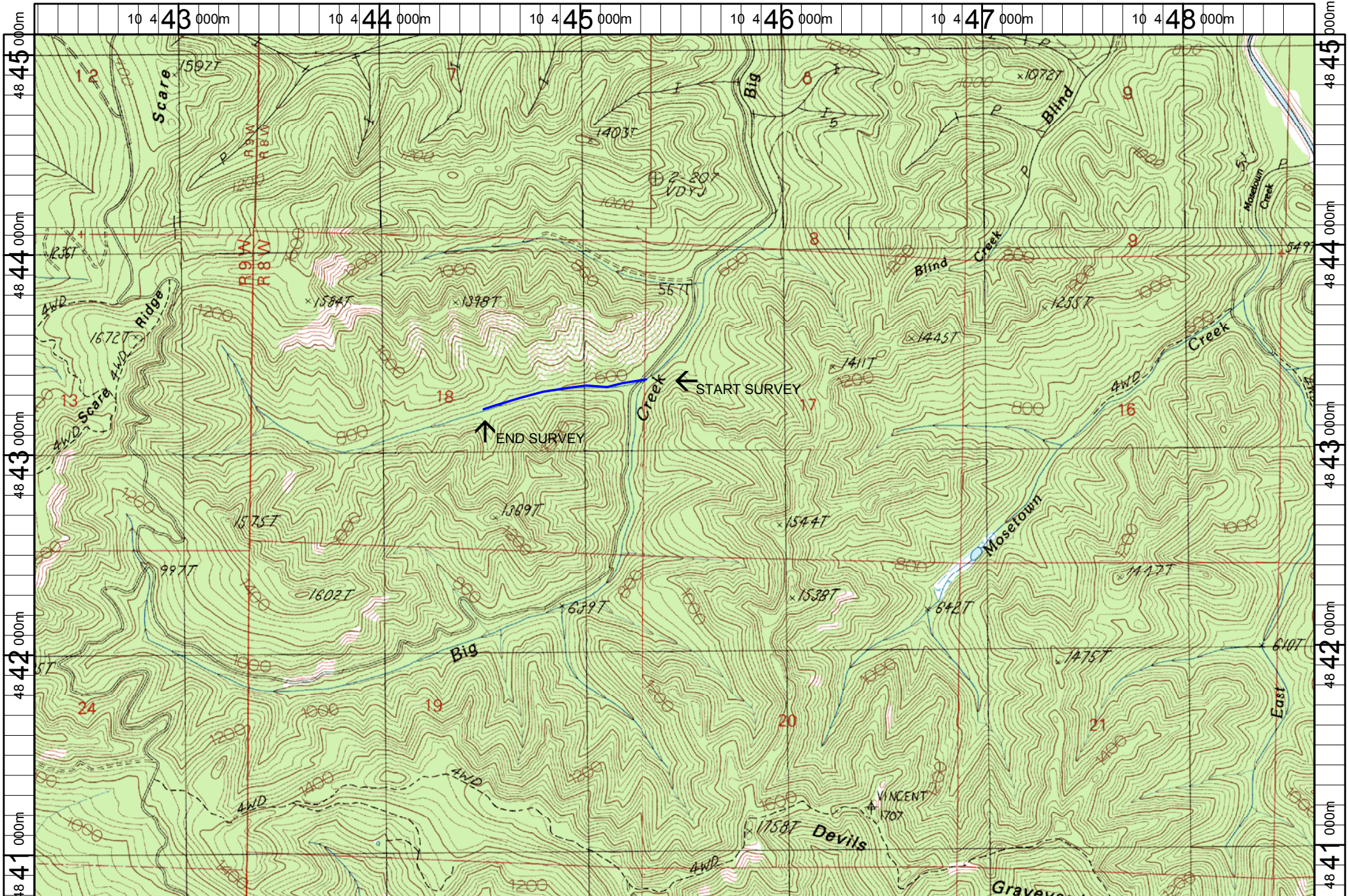
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
37	RB	00	329.3	HS		PLACED LOGS
42	LP	00	375.8			COHO FRY
44	LP	00	399.8	HS		PLACED LOGS
45	RB	00	428.8	HS		PLACED LOGS
46	LP	00	436.8	HS		PLACED LOGS
47	SC	00	440	HS		PLACED LOGS
50	LP	00	482	HS		LOGS
51	RB	00	499		START OF ENORMOUS DJ -E	
52	LP	00	502.5	DJ	HS IN CREEK -ESTIMATED E	HUGE JAM
53	RR	00	512.5	DJ, AI		MASSIVE SLIDE -ALL CLE
54	DU	00	552.5	DJ, AI		SLASH IN CREEK
56	RI	00	600		2D-0444773-4843308	
59	LP	00	641.5			COHO FRY
63	LP	01	675	/TJ		
66	LP	00	683	WL		PACIFIC GIANT SALAMAN
70	SL	00	709.5	PN	H=0.45M	PN TO FRY
72	LP	00	722.5		COHO IN POOL	
75	LP	00	743.5			COHO FRY
77	LP	00	768.5		PACIFIC GIANT SALAMANDE	
78	LP	00	777			COHO FRY
79	CB	00	789		3D-0444600-4843228	

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 4-UMP SITE ID: 244 BIG CREEK TRIB C 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>
81	IP	10	810.5			FISH IN POOL
82	LP	00	818.5			COHO FRY
91	LP	00	882.3		T=14.0C	
92	SL	00	882.7	PN	H=0.35M	PN TO FRY
95	LP	00	902.7		RSN	
97	LP	00	914.7		END SIGN ALDER LEFT	
98	DU	01	924.8	DJ, TJ/		END AT TRIB, SIGN LEFT



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