

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

STREAM: South Sister Creek (U-250)
BASIN: Smith River
SURVEY TYPE: Pre-Tx
DATE: July 27, 2006
SURVEY CREW: Jennifer Jacobs, Andy Livesay
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 30.6 km²
USGS MAPS: Gunter
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The South Sister Creek habitat survey extended 2,713 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 6.5 (range: 3.6-9.8). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 1.1 percent. Scour pools (55%) and riffles (34%) dominated stream habitat. Bedrock (57%) dominated stream substrate. Wood volume was low at 10.4 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

T20S-R08W-S14SE

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:	3.6 - 9.8

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	2,713	11,336	0
Secondary Channel	49	88	4
Off-Channel Units	107	104	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 11	<u>First Terrace</u> n = 11
Width: 3.7	Width: 9.2	12.3 (8 - 18.1)	17.3 (8.8 - 23.9)
Depth: 0.19	Height: 0.5	1.0 (0.62 - 1.24)	1.6 (0.95 - 2.3)

W:D ratio: 19.7

Entrenchment (ACW:FPW ratio): 1.3

Stream Flow Type: LF

Habitat Units/100m (total channel length): 6.3

Average Unit Gradient: 1.1%

Habitat Units/100m (primary channel length): 6.7

Water temperature (°C): 13.5 - 13.5

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	M15	C15

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	4%	Reach avg: 98%
Undercut Banks:	5%	Range: 58 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	354	13.0
Volume (m ³):	282	10.4
Key pieces (>=12m x 0.60m):	1	0.0

OREGON DEPT OF FISH AND WILDLIFE

SOUTH SISTER CREEK PRE-TX (4-UJP, 250)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/27/2006

REACH 1		T20S-R08W-S14SE					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	1	8	0.1	0.01	1	0	0	5	10	0	0	86
CASCADE/BOULDERS	2	16	0.4	0.02	6	0	15	40	35	11	0	0
CULVERT CROSSING	1	20	1.0	0.08	20	0	0	57	38	5	0	0
DRY UNIT	4	31	1.7	0.00	52	0	19	38	32	11	0	0
POOL-ISOLATED	1	4	0.9	0.15	3	0	0	5	0	0	0	95
POOL-LATERAL SCOUR	83	1,343	4.5	0.38	6,286	209	1	15	11	7	6	60
PUDDLED UNIT	1	18	1.4	0.10	26	0	0	52	19	5	0	24
RAPID/BEDROCK	5	85	3.0	0.02	257	11	0	3	2	5	6	85
RAPID/BOULDERS	10	117	2.5	0.03	333	61	1	21	30	27	15	6
RIFFLE	39	1,048	3.6	0.03	3,960	185	0	8	9	11	6	67
STEP/BEDROCK	22	129	3.2	0.03	431	28	0	3	3	3	4	86
STEP/COBBLE	12	51	2.6	0.03	152	13	2	18	43	28	5	4
Total:	181	2,869	3.7	0.19	11,527	507	Avg: 1	13	13	10	6	57

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	0.9	0.15	3	0.03%	0	0.0	
Scour Pools	83	1,343	4.5	0.38	6,286	54.53%	209	3.3	
Glides	0	0			0	0.00%	0	0.0	
Riffles	39	1,048	3.6	0.03	3,960	34.35%	185	4.7	
Rapids	15	202	2.6	0.03	590	5.11%	72	12.2	
Cascades	3	24	0.3	0.02	7	0.06%	0	0.0	
Step/Falls	34	180	3.0	0.03	583	5.06%	41	7.0	
Dry	5	49	1.7	0.02	78	0.68%	0	0.0	
Culverts	1	20	1.0	0.08	20	0.17%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	84	29.3	31.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	27	9.4	10.0
Pool frequency (channel widths/pool):	3.7		
Residual pool depth (avg):	0.33		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

SOUTH SISTER CREEK PRE-TX
GCG: 4-UMP SITE ID: 250

Survey Date 7/27/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 9 transects

Total hardwoods/1000	386
Total conifers/1000 ft	494
Total conifers >20" dbh/1000 ft	7
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	0.4	0.2	0.0	0.2	0.0	1.1	0.4	1.6
15-30cm	1.2	2.7	1.9	0.7	2.2	0.6	5.3	3.9
30-50cm	0.3	0.7	0.9	0.1	1.0	0.1	2.2	0.9
50-90cm	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	2.0	3.6	2.9	1.0	3.2	1.8	2.7	2.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	78		76		70	
Shrub cover	42		25		19	
Grass/forb cover	50		58		52	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		39		44	
High terrace	39		61		39	
Low terrace	0		0		0	
Floodplain	28		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	15		17		19	

Summary of Riparian Zone (0-30m) for all reaches**9 transects****Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	386
Total conifers/1000 ft	494
Total conifers >20" dbh/1000 ft	7
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	0.4	1.6
15-30cm	5.3	3.9
30-50cm	2.2	0.9
50-90cm	0.1	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		
15	RT	3	HS	50	60	30	60	Conifer		3					
								Hardwood							
15	RT	2	HS	60	60	20	65	Conifer		1					
								Hardwood							
15	RT	1	HS	50	75	10	70	Conifer		1					
								Hardwood		3					
15	LF	3	HT	0	90	5	70	Conifer		4	2				
								Hardwood							
15	LF	1	FP	10	80	50	50	Conifer							FP/HS
								Hardwood		2	1				
15	LF	2	HT	0	80	10	75	Conifer			1				
								Hardwood							
30	RT	1	FP	0	85	30	30	Conifer							FP/HS
								Hardwood			1				
30	RT	2	HS	50	90	5	45	Conifer				1			
								Hardwood	1	1	1				
30	RT	3	HS	70	90	5	40	Conifer							
								Hardwood	8						
30	LF	2	HT	0	80	5	65	Conifer			2				LOTS OF DEAD STANDING FP/HT
								Hardwood							
30	LF	1	FP	15	85	60	30	Conifer							
								Hardwood		4					
30	LF	3	HT	0	75	5	80	Conifer				1			CONIFERS 15 DBH
								Hardwood							
45	RT	3	HS	50	90	5	90	Conifer		2	1				
								Hardwood							
45	LF	1	HT	10	90	50	50	Conifer		1	1				HT/FP
								Hardwood		1	1				
45	LF	2	HT	0	80	20	60	Conifer		2	3				
								Hardwood							
45	LF	3	HT	0	80	10	30	Conifer		1	2				
								Hardwood							
45	RT	1	HS	60	70	10	70	Conifer		1					
								Hardwood			2				
45	RT	2	HS	60	90	5	80	Conifer		1	1				
								Hardwood							

65	LF	2	HT	0	75	5	90	Conifer		1	2	
								Hardwood				
65	LF	3	HT	0	85	5	90	Conifer		3	2	
								Hardwood				
65	RT	1	HS	30	85	25	60	Conifer		1		
								Hardwood	1	2		
65	RT	2	HS	30	80	0	55	Conifer		2		
								Hardwood				
65	RT	3	HS	25	80	0	55	Conifer		2		
								Hardwood				
65	LF	1	HT	0	80	10	90	Conifer		2	1	
								Hardwood				
81	LF	3	RB	0	50	30	10	Conifer				RB/HT
								Hardwood				
81	LF	1	HT	0	80	10	70	Conifer	1	3		
								Hardwood				
81	LF	2	HT	0	90	5	80	Conifer		2		
								Hardwood				
81	RT	2	HT	0	80	5	90	Conifer		3		
								Hardwood				
81	RT	3	HT	0	75	10	80	Conifer		1	1	
								Hardwood				
81	RT	1	HT	10	80	30	60	Conifer			1	HT/FP
								Hardwood		2		
97	RT	1	HT	0	80	80	20	Conifer				
								Hardwood		3		
97	LF	1	HT	0	85	60	40	Conifer				
								Hardwood		2		
97	RT	2	HT	0	75	70	30	Conifer				HT/HS
								Hardwood		2		
97	RT	3	HS	45	85	50	30	Conifer		2		
								Hardwood	1			
97	LF	2	HT	0	65	80	20	Conifer				
								Hardwood				
97	LF	3	RB	0	5	20	10	Conifer				
								Hardwood				
119	LF	1	FP	5	75	90	5	Conifer				
								Hardwood		2		
119	LF	2	HT	0	55	80	10	Conifer				
								Hardwood				
119	LF	3	RB	0	25	25	10	Conifer				
								Hardwood				
119	RT	1	HS	35	80	50	50	Conifer				HT/HS
								Hardwood		1		
119	RT	2	HS	35	70	40	50	Conifer				1
								Hardwood				

119	RT	3	HS	30	60	30	50	Conifer	1			
								Hardwood				
139	RT	2	HS	40	65	10	60	Conifer				
								Hardwood		1		
139	RT	3	HS	40	75	10	70	Conifer				
								Hardwood		2		
139	RT	1	HS	20	65	35	65	Conifer				
								Hardwood				
139	LF	3	HT	0	90	25	75	Conifer				
								Hardwood	1	1	1	
139	LF	2	HT	0	90	20	80	Conifer		1		
								Hardwood	1	1		
139	LF	1	FP	7	90	60	40	Conifer	1	1		FP/HT
								Hardwood		1	1	
157	RT	1	HS	25	50	25	65	Conifer	2	1		
								Hardwood				
157	LF	1	HT	0	60	70	30	Conifer				
								Hardwood	1	1		
157	RT	2	HS	30	70	5	55	Conifer		2		
								Hardwood				
157	LF	3	HT	0	70	70	30	Conifer				
								Hardwood		2		
157	LF	2	HT	0	80	65	25	Conifer				
								Hardwood		1		
157	RT	3	HS	30	75	5	55	Conifer		1		
								Hardwood				

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **4-UMP** SITE ID: **250** **SOUTH SISTER CREEK PRE-TX**

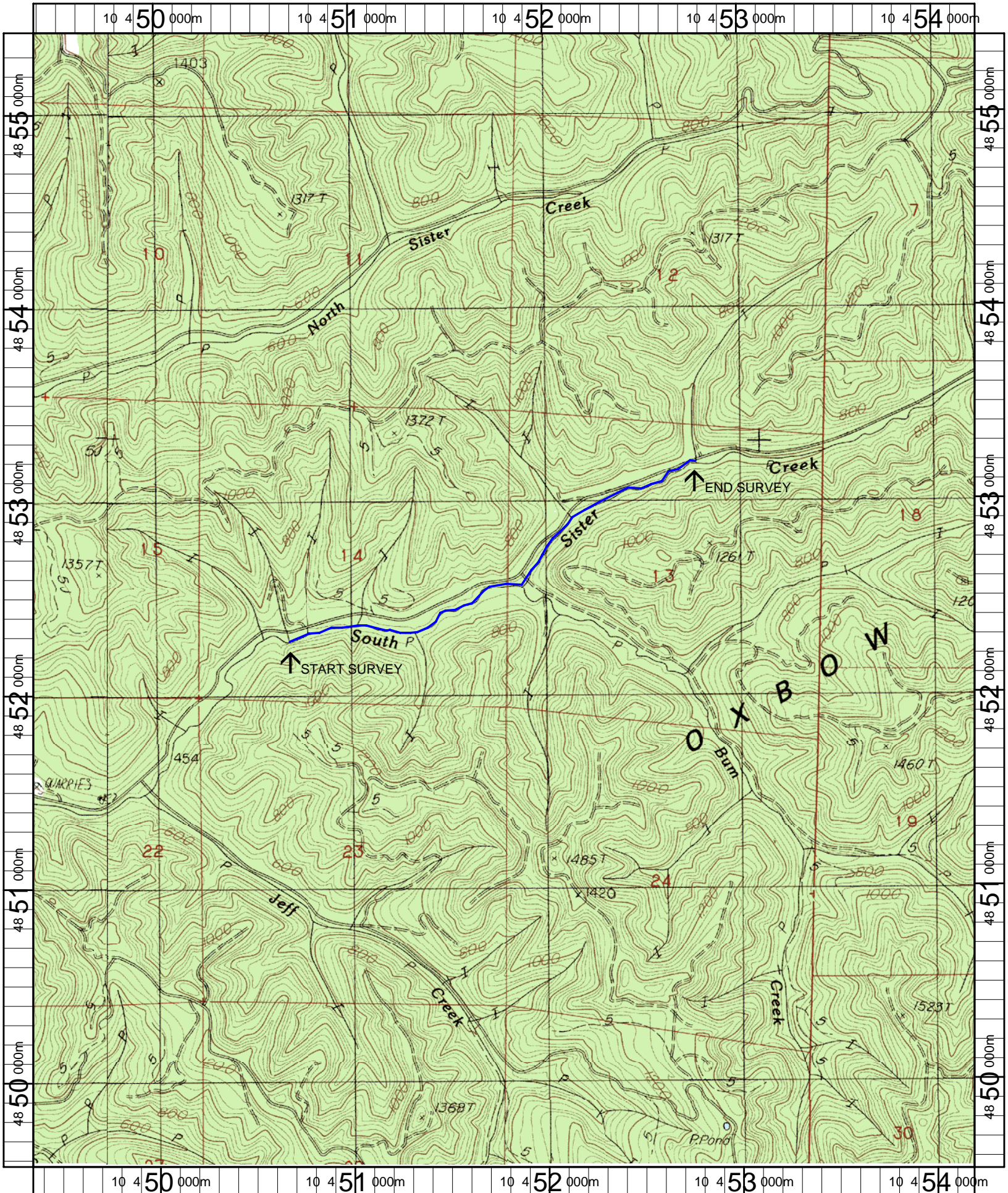
<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	RI	01	22.1	TJ/		START AT TJ LEFT, SIGN /
4	RI	00	69.2	/AI	STEEP TRIB -SLIDES IN CRE	
11	LP	01	232.8	TJ/, WL		RSN
12	CB	11	232.8			BLUE LINE ON MAP
15	RI	00	302.5			3D-0450856-4852353
16	RI	00	330.7		BSS SITE 3	
19	LP	00	362		COHO FRY	
23	SR	00	471	TJ/,SS/		SS/, SALMON SPAWNING
37	LP	00	701.1		HAB FLAGGING, 80 BOULDE	
43	LP	01	812.2	/TJ		
44	CR	11	812.2		VERY LOW FLOW	
64	LP	00	1080.5		METRIC & RIPARIAN	
65	RR	01	1101	/TJ	0451571-4852691	
81	RI	00	1387.3			3D-0451761-4852565
86	RI	01	1510.2	/TJ		
87	RR	11	1510.2			BUM CREEK ON MAP
88	RI	00	1529.3	BC		LARGE PIECES OF METAL
89	LP	00	1562.9	HS		
91	LP	01	1573.5	WL		RSN
93	LP	01	1591.1	HS		
97	RI	00	1644.7			RIPARIAN #6

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **4-UMP** SITE ID: **250** SOUTH SISTER CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
98	LP	00	1659.1			2D-0451941-4852683
100	LP	00	1669.3	DJ, HS	PLACED LOGS	
106	LP	01	1721.8	HS		
113	LP	00	1778.5	HS		
114	LP	00	1816.1	HS		
119	RI	00	1918		3D-0452070-4852837	
122	RI	01	1956.2	TJ/, CE		
125	CC	11	1956.2	CC		METAL W/SUBSTRATE BA
126	LP	00	1968.3			CULVERT IN GOOD CONDI
128	LP	01	1997.4	/TJ, HS		
132	LP	00	2037.3	HS		
133	RI	00	2041.5		RSN TERRESTRIAL	
138	LP	00	2121.3	HS		
139	RB	00	2132.7		2D-0452266-4852985	2D-0452273-4852989
140	LP	00	2150.7	HS		
151	SR	00	2312	CS/		
157	RI	00	2396.2		2D-0452489-4853055	METRIC, RIPARIAN #9
171	RI	00	2580.5	CE/,SS/		
180	LP	01	2713.4	TJ/	RSN, END AT TRIB, SIGN AL	END SIGN ALDER/



Name: GUNTER
 Date: 5/23/2006
 Scale: 1 inch equals 2000 feet

Location: 10 451785 E 4852481 N
 Caption: SOUTH SISTER CREEK RESTORATION SITE - SMITH BASIN