

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

STREAM: South Sister Creek (U-250)
BASIN: Smith River
SURVEY TYPE: Post-Tx
DATE: August 22, 2007
SURVEY CREW: Ryan Lande, Andy Livesay
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 17.7 km²
USGS MAPS: Gunter
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The South Sister Creek habitat survey extended 2,736 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 5.3 (range: 2.0-8.0). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 0.8 percent. Scour pools (52%) and riffles (45%) comprised stream habitat. Bedrock (53%) dominated stream substrate. Wood volume was low at 9.2 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-S14SW

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	5.3	VWI Range:	2 - 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	2,736	13,283	0
Secondary Channel	91	236	3
Off-Channel Units	66	128	3

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 12	<u>First Terrace</u> n = 12
Width: 4.5	Width: 8.2	12.0 (7.5 - 16)	15.4 (10 - 22)
Depth: 0.24	Height: 0.5	1.0 (0.7 - 1.2)	1.9 (1.1 - 3)

W:D ratio: 17.4
 Stream Flow Type: LF
 Average Unit Gradient: 0.8%
 Water temperature (°C): 16.0 - 16.0

Entrenchment (ACW:FPW ratio): 1.5
 Habitat Units/100m (total channel length): 4.7
 Habitat Units/100m (primary channel length): 4.9

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	3%	Reach avg: 94%
Undercut Banks:	3%	Range: 69 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	347	12.7
Volume (m ³):	251	9.2
Key pieces (>=12m x 0.60m):	7	0.3

OREGON DEPT OF FISH AND WILDLIFE

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

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

8/20/2007

REACH 1		T20S-R08W-S14SW					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
DRY UNIT	6	59	1.9	0.00	117	9	2	49	29	3	2	15
GLIDE	1	13	7.0	0.10	91	2	5	5	0	0	0	90
POOL-LATERAL SCOUR	60	1,204	5.6	0.44	7,028	503	3	15	14	8	3	56
RAPID/BEDROCK	1	23	3.0	0.15	68	9	0	0	11	26	0	63
RAPID/BOULDERS	3	29	1.9	0.05	60	23	3	7	48	27	2	13
RIFFLE	52	1,529	3.9	0.10	6,169	602	1	6	20	10	4	59
STEP/BEDROCK	4	17	3.6	0.08	56	10	0	3	4	1	8	85
STEP/BOULDERS	1	1	0.5	0.05	1	9	5	10	35	20	30	0
STEP/COBBLE	7	19	2.7	0.04	58	1	1	4	64	17	9	4
Total:	135	2,893	4.5	0.24	13,647	1,168	Avg: 2	12	20	9	4	53

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	0	0			0	0.00%	0	0.0	
Scour Pools	60	1,204	5.6	0.44	7,028	51.50%	503	7.2	
Glides	1	13	7.0	0.10	91	0.67%	2	2.2	
Riffles	52	1,529	3.9	0.10	6,169	45.20%	602	9.8	
Rapids	4	52	2.2	0.08	128	0.93%	32	25.1	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	12	37	2.8	0.05	115	0.84%	20	17.5	
Dry	6	59	1.9	0.00	117	0.86%	9	7.7	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	60	20.7	21.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	23	8.0	8.4
Pool frequency (channel widths/pool):	5.9		
Residual pool depth (avg):	0.38		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

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

Survey Date 8/20/2007

RIPARIAN ZONE

Report Date: 11/7/2007

VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 10 transects

Total hardwoods/1000	500
Total conifers/1000 ft	274
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	0.1	2.0	0.2	2.2	0.1	1.5	0.4	5.7
15-30cm	0.7	1.6	1.4	0.1	1.6	0.3	3.7	2.0
30-50cm	0.1	0.3	0.1	0.0	0.2	0.2	0.4	0.5
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	0.9	3.9	1.7	2.3	1.9	2.0	1.5	2.7

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	82		80		75	
Shrub cover	42		23		29	
Grass/forb cover	58		71		68	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	35		45		55	
High terrace	60		45		35	
Low terrace	0		0		0	
Floodplain	5		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		10		10	
Riprap	0		0		0	
Surface slope (%)	24		22		25	

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

10 transects

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

Total hardwoods/1000	500
Total conifers/1000 ft	274
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	0.4	5.7
15-30cm	3.7	2.0
30-50cm	0.4	0.5
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		
14	LT	1	HT	0	85	65	35	Conifer							
								Hardwood		3					
14	LT	2	HT	0	85	10	90	Conifer		1	1			LARGE 2.4 M. STUMP	
								Hardwood							
14	LT	3	HT	0	85	25	70	Conifer		2	1				
								Hardwood							
14	RT	1	HS	70	85	5	95	Conifer		1					
								Hardwood		2					
14	RT	2	HS	70	85	10	90	Conifer							
								Hardwood	2						
14	RT	3	HS	60	70	10	90	Conifer			2				
								Hardwood							
23	LT	1	HT	0	75	70	30	Conifer							
								Hardwood		1					
23	LT	2	HT	0	75	40	55	Conifer		2					
								Hardwood							
23	LT	3	HT	0	75	30	70	Conifer			1				
								Hardwood							
23	RT	1	HS	120	80	0	95	Conifer						BEDROCK CLIFF	
								Hardwood	1						
23	RT	2	HS	70	80	15	85	Conifer			1				
								Hardwood	1						
23	RT	3	HS	60	60	45	50	Conifer			1				
								Hardwood							
35	LT	1	HT	0	85	30	70	Conifer			1				
								Hardwood							
35	LT	2	HT	0	80	0	100	Conifer			1				
								Hardwood							
35	LT	3	HT	0	75	10	90	Conifer	1	1					
								Hardwood							
35	RT	1	HS	50	85	5	95	Conifer	1	1					
								Hardwood							
35	RT	2	HS	25	85	0	100	Conifer	1	2					
								Hardwood							
35	RT	3	HS	40	80	0	100	Conifer			1				
								Hardwood							

46	LT	1	HT	0	65	40	60	Conifer			
								Hardwood		3	
46	LT	2	HT	0	75	25	75	Conifer			
								Hardwood			
46	LT	3	HT	0	75	30	70	Conifer		2	
								Hardwood			
46	RT	1	HS	35	85	65	30	Conifer			
								Hardwood	2		
46	RT	2	HS	40	85	15	85	Conifer		1	
								Hardwood			
46	RT	3	HS	55	85	5	95	Conifer			
								Hardwood	1	1	
62	LT	1	HT	0	85	5	95	Conifer		2	1
								Hardwood			
62	LT	2	HT	0	85	20	80	Conifer		1	
								Hardwood			
62	LT	3	HT	0	80	40	60	Conifer			
								Hardwood	1		
62	RT	1	HT	0	85	15	85	Conifer		2	
								Hardwood		1	
62	RT	2	HT	0	85	5	95	Conifer		1	
								Hardwood			
62	RT	3	HT	0	80	40	60	Conifer		1	1
								Hardwood			
74	LT	1	HT	0	85	65	35	Conifer			
								Hardwood	2		
74	LT	2	HT	0	85	40	60	Conifer	1		
								Hardwood	2		
74	LT	3	RB	0	45	20	35	Conifer			
								Hardwood			
74	RT	1	FP	0	80	70	30	Conifer			
								Hardwood			
74	RT	2	HS	10	90	20	80	Conifer		1	
								Hardwood			
74	RT	3	HS	30	90	10	90	Conifer		3	
								Hardwood			
92	LT	1	HT	0	80	70	30	Conifer			
								Hardwood		1	
92	LT	2	RB	0	20	20	20	Conifer			
								Hardwood			
92	LT	3	HS	35	65	30	55	Conifer			
								Hardwood		1	
92	RT	1	HT	0	80	90	10	Conifer			
								Hardwood			
92	RT	2	HS	45	85	40	60	Conifer		1	
								Hardwood			

92	RT	3	HS	40	85	20	80	Conifer	1	
								Hardwood		
104	LT	1	HT	0	80	75	25	Conifer		
								Hardwood	2	1
104	LT	2	HT	0	80	85	15	Conifer		
								Hardwood	1	
104	LT	3	HT	0	80	70	30	Conifer		
								Hardwood		1
104	RT	1	HS	60	80	25	75	Conifer		
								Hardwood	3	1
104	RT	2	HS	70	90	10	90	Conifer		
								Hardwood	7	
104	RT	3	HS	70	90	5	95	Conifer		
								Hardwood	5	1
111	LT	1	HT	0	75	65	35	Conifer		
								Hardwood		1
111	LT	2	RB	0	60	30	15	Conifer	1	
								Hardwood		
111	LT	3	HS	0	40	90	10	Conifer		
								Hardwood	2	
111	RT	1	HS	25	90	5	95	Conifer		
								Hardwood	9	
111	RT	2	HS	25	90	5	95	Conifer		1
								Hardwood	4	
111	RT	3	HS	30	85	25	75	Conifer		1
								Hardwood	1	
125	LT	1	HT	0	90	55	45	Conifer		
								Hardwood		3
125	LT	2	HT	0	85	65	35	Conifer		
								Hardwood		1
125	LT	3	RB	0	80	55	45	Conifer		
								Hardwood	1	1
125	RT	1	HS	110	90	10	90	Conifer		
								Hardwood	3	
125	RT	2	HS	85	90	10	90	Conifer		
								Hardwood	5	
125	RT	3	HS	70	80	10	90	Conifer		
								Hardwood	4	

COMMENT SUMMARY

MONITORING AREA: 4-UMP SITE ID: 250 STREAM: SOUTH SISTER CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	LP	00	24.45	HS	PLACED ROCKS, UNDERGROUND FLOW
2	RI	01	59.45	AI, /TJ	
9	RI	00	147.75	HS	PLACED ROCKS
10	LP	00	202.75		UNDERGROUND FLOW
11	RI	01	218.75	HS, TJ/	PLACED ROCKS
12	RB	11	218.75		TEMP 14C, TRIB ALTERED BY RESTORATION ACCESS POINT
13	LP	00	244.75	HS	PLACED LOGS AND ROCKS
16	LP	00	306.55	HS	PLACED LOGS, BOULDERS
17	RI	00	356.55	HS	PLACED ROCKS
19	RI	00	445.55	HS	PLACED LOGS, BOULDERS
20	LP	00	492.55	HS	PLACED LOGS, BOULDERS
21	RI	00	512.55	HS	PLACED LOGS, BOULDERS
22	LP	00	537.55	HS	PLACED BOULDERS
23	RI	00	583.55	HS	PLACED LOGS, BOULDERS. DUNNS SALAMANDER
24	LP	00	595.55	HS	PLACED LOGS, BOULDERS
25	SB	00	596.95	HS	PLACED BOULDERS. UNDERGROUND FLOW
26	LP	00	615.95	HS	PLACED LOGS
27	RI	00	665.95	HS	PLACED LOGS, BOULDERS
28	LP	00	681.95		UNDERGROUND FLOW
31	LP	00	765.95	HS	PLACED LOGS
32	SR	00	769.45	HS	PLACED LOGS
33	LP	01	780.45	HS, /TJ	PLACED LOGS

COMMENT SUMMARY

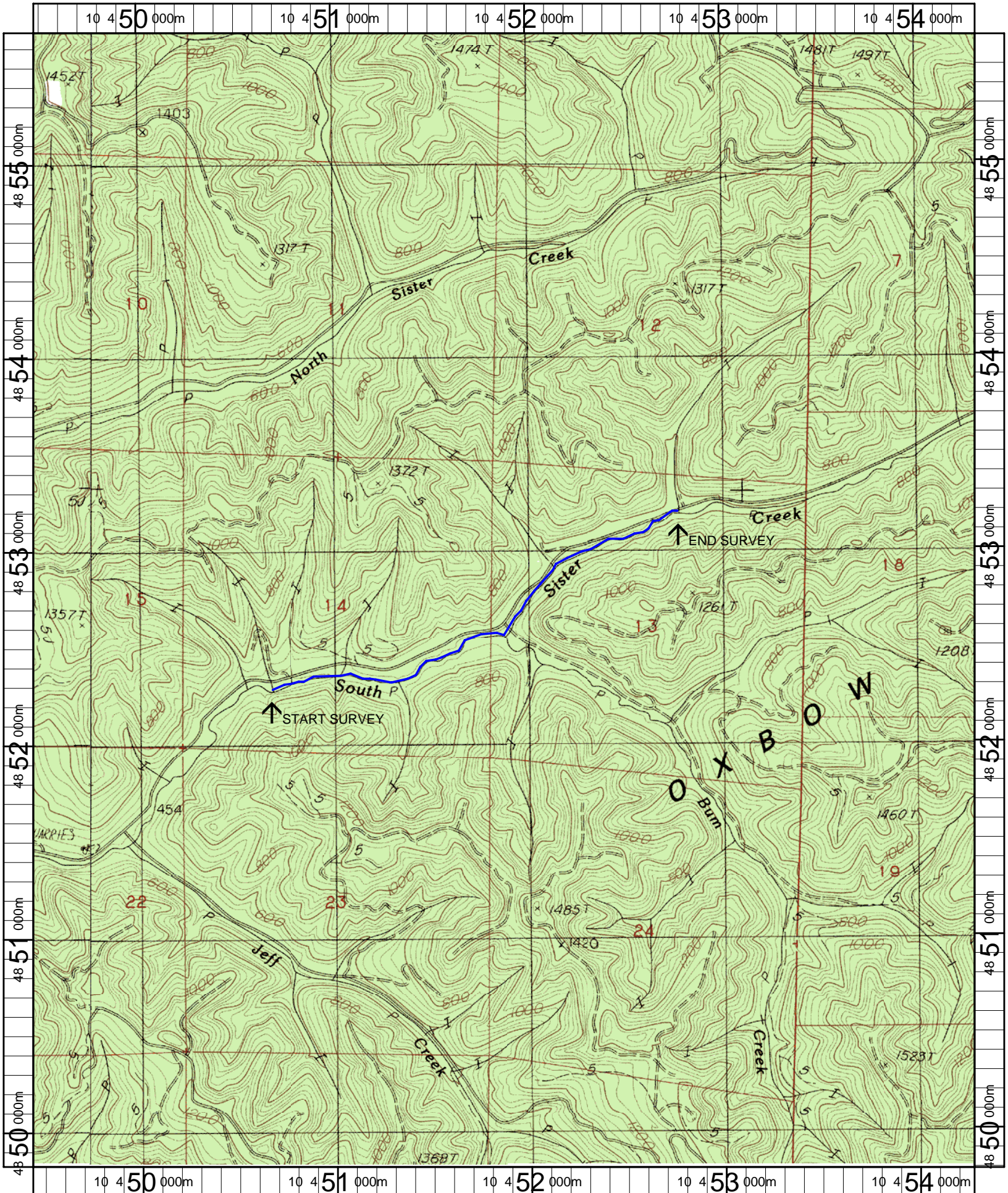
MONITORING AREA: 4-UMP SITE ID: 250 STREAM: SOUTH SISTER CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
41	LP	00	896.95	HS	PLACED BOULDERS
42	RI	00	926.95	HS	PLACED BOULDERS
50	RI	00	1117.45	HS	PLACED ROOTWAD, BOULDERS
51	LP	00	1139.95	HS	PLACED BOULDERS
55	LP	01	1230.45	HS	PLACED BOULDERS
59	SR	00	1282.45	HS	PLACED BOULDERS
63	RI	00	1356.95	HS	PLACED LOGS,BOULDERS
66	LP	00	1452.95	HS, DJ	PLACED LOGS,BOULDERS
67	GL	01	1465.95	TJ	BUM CREEK, TEMP. 15.5°C
68	RI	11	1465.95	HS	PLACED BOULDERS
69	RI	00	1521.95	HS, BC	PLACED BOULDERS
70	LP	00	1556.95	HS	PLACED LOGS
71	RI	01	1586.95	HS	PLACED LOGS
77	LP	00	1660.05	HS, DJ	PLACED LOGS
82	LP	00	1701.25	HS	LOGS
85	LP	02	1701.25	HS	LOGS
86	DU	02	1701.25	HS	LOGS
88	LP	01	1746.25	HS	LOG
89	LP	02	1746.25	HS	LOGS
91	LP	00	1786.45	HS	LOG, LOTS OF COHO FRY
94	RI	00	1881.45	HS	PLACED BOULDERS
95	RI	00	1904.45	HS	PLACED BOULDERS

COMMENT SUMMARY

MONITORING AREA: 4-UMP SITE ID: 250 STREAM: SOUTH SISTER CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
97	RI	01	1965.45	HS	PLACED BOULDERS
98	RI	11	1965.45	TJ/	
99	LP	01	1989.45	/TJ	
103	LP	00	2047.45	DJ, HS	LOGS
106	LP	00	2139.45	HS	LOG
108	LP	00	2169.45	HS	LOGS
122	LP	00	2438.25		UNDERGROUND FLOW
134	LP	00	2736.25	TJ/	
135	RB	11	2736.25		TRIB TEMP 14 C



Name: GUNTER
 Date: 5/9/2007
 Scale: 1 inch equals 2000 feet

Location: 10 451874 E 4852738 N
 Caption: SOUTH SISTER CREEK RESTORATION SITE - SMITH BASIN