

**ODFW AQUATIC INVENTORY PROJECT  
RESTORATION MONITORING  
STREAM HABITAT REPORT**

STREAM: UPPER SOUTH SISTER CREEK  
 GCG: 4-UMP  
 SITE ID: 404  
 BASIN: SMITH  
 TREATMENT DATE: 2008  
 SURVEY DATE: 7/26/2011  
 SURVEY CREW: Eric Bailey and Sara DeRischebourg  
 USGS MAPS: TWIN SISTERS  
 ECOREGION: Mid-Coastal Sedimentary  
 REPORT PREPARED BY: Lora Tennant

REACH: 1 LOCATION: T20S-R08W-S13NW

**SURVEY DESCRIPTION:**

Channel morphology: Constrained alternately by high terraces and hillslopes

Dominant landuse(s): Second growth timber (15-30 cm dbh)

Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh

Primary channel length (meters) and area (m<sup>2</sup>): 623 : 1,955

Secondary channel length (meters) and area (m<sup>2</sup>) 19 : 18

VWI average: 5.0 VWI Range: 3.5 - 6 Average Gradient: 1.4%

Pieces LWD per 100m: 23.6 Wood Volume (m<sup>3</sup>) per 100m: 29.1

Percent pools: 56% Complex pools (LWD pieces $\geq$ 3): 8 Pools  $\geq$ 1m deep: 0

<u>Percent substrate (avg):</u>	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	11	22	16	7	4	39
Pool units	12	29	16	6	2	36
Fast water units	4	16	18	8	5	50

**SURVEY COMMENTS:**

This is a post-treatment (boulders) restoration survey. The crew observed juvenile salmonids, a frog, a Dunn's salamander, rough-skinned newts, and beaver activity. Boulder and log habitat structures were also documented.

Survey Date: 7/26/2011

Report Date: 6/8/2012

T20S-R08W-S13NW

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	5.0	VWI Range:	3.5 - 6

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 (m<sup>2</sup>)</u>	<u>Dry Units</u>
Primary	623	1,955	0
Secondary	19	18	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 2.9	Width: 6.3	10.3 ( 8.8 - 13 )	13.0 ( 10.8 - 15.5 )
Depth: 0.18	Height: 0.5	1.1 ( 0.8 - 1.4 )	1.7 ( 1.2 - 2.3 )

W:D ratio: 12.3

Stream Flow Type: LF

Average Unit Gradient: 1.4%

Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.7

Habitat Units/100m (total channel length): 9.4

Habitat Units/100m (primary channel length): 9.6

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	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:	2%	Reach avg: 84%
Undercut Banks:	9%	Range: 69 - 97

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	147	23.6
Volume (m <sup>3</sup> ):	181	29.1
Key pieces (>=12m x 0.60m):	7	1.1

**OREGON DEPT OF FISH AND WILDLIFE**  
**HABITAT INVENTORY**

**UPPER SOUTH SISTER CREEK**  
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**T20S-R08W-S13NW**

**REACH 1**

**HABITAT DETAIL**

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
POOL-BACKWATER	5	15	1.0	0.07	16	1	49	29	3	1	0	18
POOL-DAMMED	6	96	2.5	0.19	257	12	24	42	9	1	1	23
POOL-LATERAL SCOUR	18	213	3.6	0.37	789	80	8	25	19	7	2	39
POOL-STRAIGHT SCOUR	1	12	4.2	0.15	51	3	0	30	0	5	5	60
RAPID/BEDROCK	8	140	2.7	0.07	404	34	0	10	6	4	3	78
RAPID/BOULDERS	1	22	2.0	0.20	44	10	0	0	0	5	5	90
RIFFLE	6	74	2.6	0.09	212	23	9	24	37	12	7	11
RIFFLE W/ POCKETS	2	40	2.3	0.18	95	25	3	23	20	13	8	35
STEP/BEDROCK	4	9	3.2	0.05	29	3	0	5	17	4	3	72
STEP/COBBLE	2	4	3.0	0.06	12	9	0	13	48	33	8	0
STEP/LOG	3	6	3.1	0.08	18	6	10	27	22	18	10	13
STEP/STRUCTURE	4	11	3.6	0.08	45	15	5	19	6	1	18	51
<b>Total:</b>	<b>60</b>	<b>642</b>	<b>2.9</b>	<b>0.18</b>	<b>1,973</b>	<b>221</b>	<b>Avg: 11</b>	<b>22</b>	<b>16</b>	<b>7</b>	<b>4</b>	<b>39</b>

**HABITAT SUMMARY**

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	11	111	1.8	0.14	273	13.82%	13	4.8
Scour Pools	19	225	3.6	0.36	841	42.60%	83	9.9
Glides	0	0			0	0.00%	0	0.0
Riffles	8	114	2.5	0.11	307	15.57%	48	15.6
Rapids	9	162	2.6	0.08	448	22.72%	44	9.8
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	13	29	3.3	0.07	104	5.29%	33	31.6
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

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**POOL SUMMARY**

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	30	46.8	48.2
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	8	12.5	12.9
Pool frequency (channel widths/pool):	3.4		
Residual pool depth (avg):	0.25		

Survey Date 7/26/2011

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**RIPARIAN ZONE  
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	1605
Total conifers/1000 ft	163
Total conifers >20" dbh/1000 f	20
Total conifers >35" dbh/1000 f	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	3.3	0.0	3.0	0.0	2.7	0.0	9.0
15-30cm	0.0	4.3	0.0	1.3	2.0	5.0	2.0	10.7
30-50cm	0.0	1.0	0.3	0.7	0.0	4.3	0.3	6.0
50-90cm	0.0	0.0	0.0	0.3	0.3	0.0	0.3	0.3
>90cm	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
Total/100m2	0.0	9.0	0.3	5.3	2.3	12.0	0.9	8.8

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	82		69		81	
Shrub cover	26		28		32	
Grass/forb cover	74		63		68	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		33		67	
High terrace	67		50		33	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		17		0	
Riprap	0		0		0	
Surface slope (%)	63		80		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	1605
Total conifers/1000 ft	163
Total conifers >20" dbh/1000 f	20
Total conifers >35" dbh/1000 f	0

**Average number of trees in a 5-m wide band**

<u>Diameter class (cm)</u>	<u>Zones 1-3</u>	
	<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.0	9.0
15-30cm	2.0	10.7
30-50cm	0.3	6.0
50-90cm	0.3	0.3
>90cm	0.0	0.3

**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		
11	LF	1	HT		85	10	90	Conifer							TRANSITION-8% SLOPE
								Hardwood		1			1		
11	LF	2	HT		80	50	50	Conifer							
								Hardwood		3					
11	LF	3	HT		75	40	60	Conifer							AM-DUNN'S SALAMANDER
								Hardwood	2						
11	RT	1	HT		90	5	95	Conifer							TRANSITION-22% SLOPE
								Hardwood	4	2	1				
11	RT	2	HS	80	90	10	90	Conifer							
								Hardwood			1				
11	RT	3	HS	80	90	20	80	Conifer							
								Hardwood		4					
22	LF	1	HT		75	40	60	Conifer							TRANSITION-35% SLOPE
								Hardwood		3					
22	LF	2	HT		85	15	85	Conifer				1			TRANSTION-22% SLOPE
								Hardwood	3						
22	LF	3	HT		85	10	90	Conifer					1		
								Hardwood		2	7				
22	RT	1	HS	80	85	5	95	Conifer							
								Hardwood	2	1					
22	RT	2	HS	80	75	50	50	Conifer							
								Hardwood	6						
22	RT	3	HS	80	80	70	30	Conifer							
								Hardwood	6	3					
34	LF	1	HS	45	80	5	95	Conifer							
								Hardwood		2	2				
34	LF	2	RB		10	10	30	Conifer							60% RD GRV
								Hardwood							
34	LF	3	HS	80	65	40	60	Conifer							
								Hardwood		4	6				
34	RT	1	HT		75	90	10	Conifer							BEES
								Hardwood	4	4					
34	RT	2	HT		75	30	70	Conifer							
								Hardwood		1	1	1			
34	RT	3	HS	32	90	10	90	Conifer							
								Hardwood		6					

OREGON DEPT OF FISH AND WILDLIFE  
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OREGON PLAN MONITORING SITE  
SURVEY DATE: 7/26/2011

COMMENT SUMMARY

MONITORING AREA: 4-UMP SITE ID: 404 STREAM: UPPER SOUTH SISTER CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	SS	00	6	HS	H=1.0M
1	2	DP	00	19.5	HS	0452052/4853159
1	3	LP	01	31.9	TJ/	TJ/
1	4	RI	11	31.9		ACW=1.4M; T=13.5C
1	6	SL	00	32.9	DJ	H=0.7M
1	7	LP	00	45.3	WL, DJ	HS-LOGS
1	8	RP	00	74.8	AM,HS	AM-SALAMANDER
1	9	LP	00	83.8	BV	BV DEBRIS
1	11	LP	00	130.8	AM	0452092/4853140
1	13	SP	00	156.4		
1	14	SR	00	157.6	HS	H=0.05M
1	15	LP	00	164.1		HS-LOGS



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REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	16	SR	00	166.5	HS	H=.15M
1	17	LP	00	178.8	HS	HS-LOGS
1	18	SL	00	181.3	DJ	H=.2M
1	20	LP	00	209.1		
1	21	RB	00	231.1		
1	22	LP	00	237.1		0452213/4853187
1	23	RI	00	244.1	HS	HS-LOGS
1	24	DP	00	259.1	HS	DEBRIS JAM-HS
1	31	LP	00	336.1	AM,HS	
1	33	LP	00	369.4	CE	
1	34	SR	00	372.6		0452324/4853257
1	36	SC	00	382.3	AM	

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COMMENT SUMMARY

MONITORING AREA: 4-UMP SITE ID: 404 STREAM: UPPER SOUTH SISTER CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	37	LP	01	395.3	HS	
1	38	BW	10	395.3		AM-RSN
1	41	SC	00	414.1		
1	42	LP	00	433.9	HS,BV	
1	43	RR	00	459.3	BV	
1	44	SL	01	461.3	BV	DJ-LOGS
1	47	RR	00	483.6	BV	
1	48	LP	00	494.6		
1	49	RR	00	512.6		
1	50	SS	00	513.6	DJ,HS	H=1.2M
1	51	DP	00	523	HS	DP CREATED BY DJ
1	52	RI	00	529	HS	

**COMMENT SUMMARY**

MONITORING AREA: 4-UMP SITE ID: 404 STREAM: UPPER SOUTH SISTER CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	53	SS	00	530	BV,HS	HS-LOGS
1	54	DP	00	561	BV,WL	
1	56	RR	00	579		HS-LOGS
1	57	SS	00	581.5	BV,HS,DJ	HS-LOGS; H=1.4M
1	60	LP	00	622.5		0452518/4853318