

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

STREAM: LOWER SOUTH SISTER CREEK
 GCG: 4-UMP
 SITE ID: 403
 BASIN: SMITH
 TREATMENT DATE: 2008
 SURVEY DATE: 3/5/2009
 SURVEY CREW: David Jones / Ryan Emig
 USGS MAPS: TWIN SISTERS
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T20S-R08W-S22NW

SURVEY DESCRIPTION:

Channel morphology: Constrained by high terraces
 Dominant landuse(s): Large timber (30-50 cm dbh)
 Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh
 Primary channel length (meters) and area (m²): 1,601 : 16,068
 Secondary channel length (meters) and area (m²) 69 : 85
 VWI average: 5.8 VWI Range: 4 - 7 Average Gradient: 1.1%
 Pieces LWD per 100m: 16.6 Wood Volume (m³) per 100m: 14.0
 Percent pools: 67% Complex pools (LWD pieces>=3): 17 Pools >=1m deep: 7
 Percent substrate (avg):

	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	1	7	30	14	19	29
Pool units	0	8	27	13	7	45
Fast water units	0	6	37	18	16	22

SURVEY COMMENTS:

The Lower South Sister Creek survey is a post-treatment, restoration site. The crew noted habitat structures throughout the survey reach consisting of placed boulders and logs. The crew also observed several winter steelhead redds. Debris jams were noted throughout. There were no potential barriers to upstream fish migration observed within the survey.

Survey Date: 3/5/2009

Report Date: 2/16/2010

T20S-R08W-S22NW

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	5.8	VWI Range:	4 - 7

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	Braided Channel	0%
Alt. Terrace/Hill	0%		
Landuse	0%		

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m²)</u>	<u>Dry Units</u>
Primary	1,601	16,068	0
Secondary	69	85	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 6
Width: 8.8	Width: 12.3	15.7 (13 - 18.5)	18.9 (14.5 - 24.5)
Depth: 0.61	Height: 0.5	1.0 (0.9 - 1.1)	1.8 (1.5 - 2.3)

W:D ratio: 25.4

Stream Flow Type: MF

Average Unit Gradient: 1.1%

Water temperature (°C): 7.0 - 7.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 3.8

Habitat Units/100m (primary channel length): 4.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	ST
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):	266	16.6
Volume (m ³):	224	14.0
Key pieces (>=12m x 0.60m):	2	0.1

HABITAT INVENTORY

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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	2	22	4.9	0.20	148	0	3	10	7	5	5	71
CASCADE/BOULDERS	4	54	5.0	0.31	331	0	0	6	51	11	26	6
POOL-DAMMED	12	713	9.8	1.10	7,421	0	1	8	18	10	7	57
POOL-LATERAL SCOUR	11	294	8.9	0.99	2,703	0	0	8	36	17	7	31
POOL-PLUNGE	2	18	10.0	1.00	180	0	0	8	38	8	15	33
POOL-STRAIGHT SCOUR	1	56	9.0	1.00	504	0	0	10	5	5	5	76
RAPID/BEDROCK	4	121	7.9	0.31	1,142	0	0	5	25	7	10	53
RAPID/BOULDERS	2	56	12.5	0.25	688	0	0	7	28	51	14	0
RIFFLE	8	190	7.1	0.31	1,516	0	0	6	53	23	5	13
RIFFLE W/ POCKETS	5	103	10.6	0.47	1,058	0	0	7	27	15	35	16
STEP/BEDROCK	2	7	6.8	0.18	74	0	3	5	10	5	10	68
STEP/BOULDERS	9	29	11.4	0.33	334	0	1	6	17	10	66	0
STEP/COBBLE	2	7	5.3	0.23	56	0	11	21	48	15	5	0
Total:	64	1,670	8.8	0.61	16,153	0	Avg: 1	7	30	14	19	29

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	12	713	9.8	1.10	7,421	45.94%	0	0.0
Scour Pools	14	368	9.0	0.99	3,387	20.96%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	13	293	8.4	0.37	2,574	15.93%	0	0.0
Rapids	6	177	9.4	0.29	1,830	11.33%	0	0.0
Cascades	6	76	4.9	0.28	479	2.97%	0	0.0
Step/Falls	13	43	9.8	0.29	464	2.87%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

LOWER SOUTH SISTER CREEK
GCG: 4-UWP SITE ID: 403

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REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	26	15.6	16.2
Pools >=1m deep:	17	10.2	10.6
Complex pools (LWD pieces>=3):	17	10.2	10.6
Pool frequency (channel widths/pool):	5.2		
Residual pool depth (avg):	0.67		

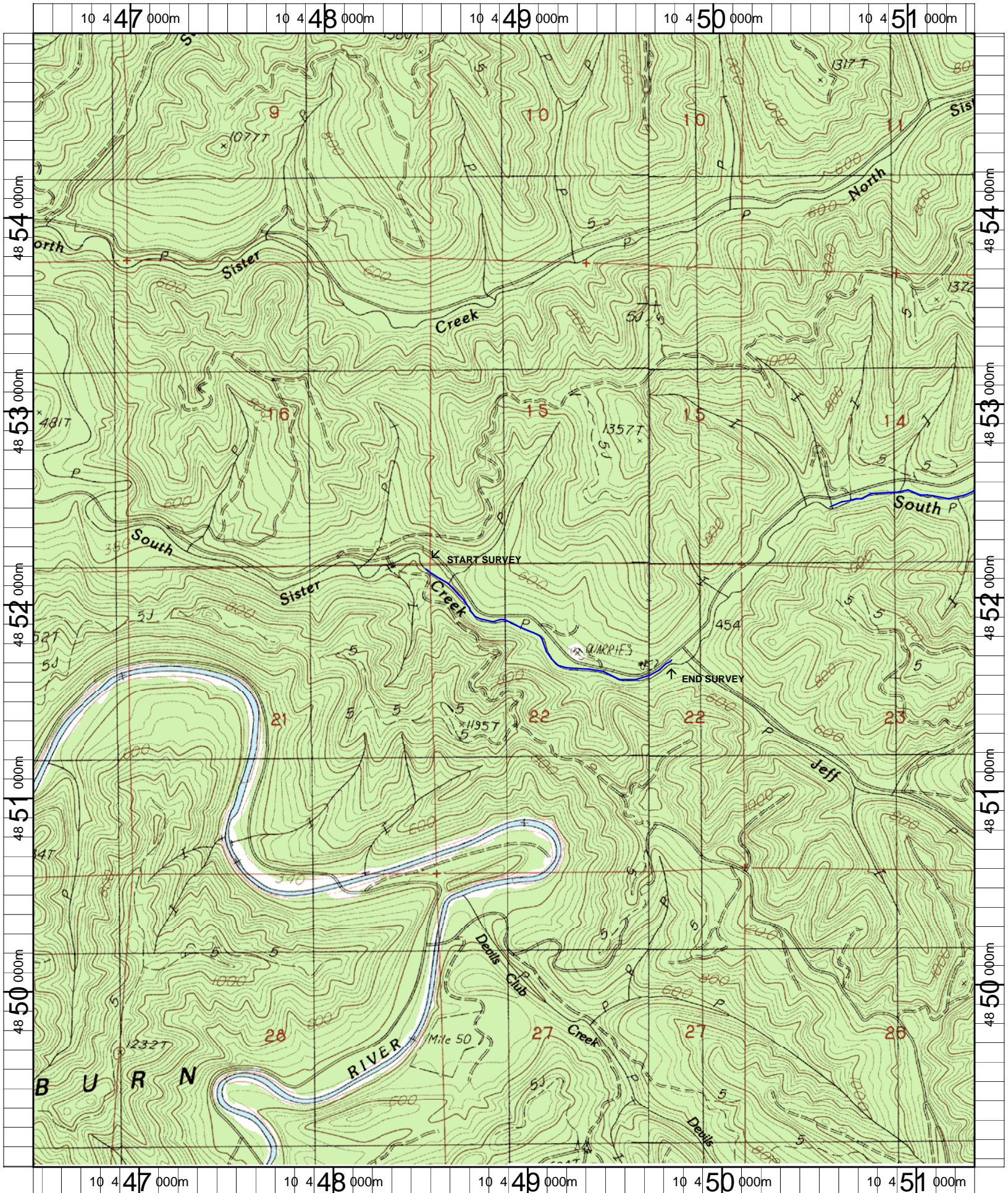
OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 3/5/2009

COMMENT SUMMARY

MONITORING AREA: 4-UMP SITE ID: 403 STREAM: LOWER SOUTH SISTER CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	DP	00	49		PLACED BOULDERS FORMED DAM
1	6	DP	01	159	TJ/	
1	8	RI	11	159		ACW=1.65M, T=7C
1	14	RR	00	353.5	DJ	
1	17	LP	00	413.5	DJ	STEELHEAD REDD IN TAILOUT
1	23	RI	00	521.5		STW REDD
1	25	LP	00	596.5	SS/	
1	30	RB	01	742.5	TJ,HS,DJ	
1	32	CR	11	742.5		ACW=1M, T=8C
1	33	RP	00	768.5	HS	
1	35	DP	01	851.5	/TJ	
1	36	CB	11	851.5		ACW=1.2M, T=8C
1	39	DP	00	933	/SS	
1	40	RI	00	971	/SS	
1	43	DP	00	1072	DJ,HS	
1	48	RI	11	1147		ACW=1.2M, T=7.5C
1	50	PP	00	1198	DJ	
1	54	DP	00	1350	/SS	
1	62	DP	02	1544		POOL DAMMED BY TREE ROOTS/DEBRIS



Name: TWIN SISTERS
 Date: 1/5/2009
 Scale: 1 inch equals 2000 feet

Location: 10 0448899 E 4852006 N NAD 83
 Caption: LOWER SOUTH SISTER CREEK RESTORATION SITE - SMITH BASIN

Lower South Sister Creek (UMP-403) 2009 Winter Habitat Survey Photographs



Unit 1 - A upstream view of the Lower South Sister Creek survey start.



Lower South Sister Creek reach photo.



Upstream view of pool/riffle habitat.



Placed boulders and large wood for habitat structures.



Upstream view at the end of the Lower South Sister Creek habitat survey.