

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

STREAM: Walker Creek (MC-379)  
BASIN: Siuslaw River  
SURVEY TYPE: Reference  
DATE: September 6, 2007  
SURVEY CREW: Jeremy Romer, Matt Strickland  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 6.2 km<sup>2</sup>  
USGS MAPS: Walton  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Walker Creek habitat survey extended 762 meters. The channel was primarily alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 2.3 (range: 1.2-3.0). Land use for the reach was second growth (15-30 cm dbh) and mature (30-50 cm dbh) trees. The average unit gradient was 3.3 percent. Beaver pools (37%) and scour pools (21%) dominated stream habitat. Gravel (25%), sand (24%) and cobble (22%) dominated stream substrate. Wood volume was moderate at 31.0 m<sup>3</sup>/100m.

**COMMENTS:**

There were no potential barriers to upstream fish migration in the surveyed length.

The crew noted beaver activity throughout much of the survey.

REACH 1

T18S-R08W-S02NE

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	56%
Moderate V-shape	44%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.3	VWI Range:	1.2 - 3

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	44%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	Braided Channel	0%
Alt. Terrace/Hill	56%		
Landuse	0%		

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m2)</u>	<u>Dry Units</u>
Primary Channel	762	2,600	0
Secondary Channel	143	246	3
Off-Channel Units	12	12	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 3
Width: 3.2	Width: 5.3	7.3 ( 5 - 9.9 )	10.1 ( 5.5 - 15.9 )
Depth: 0.30	Height: 0.3	0.6 ( 0.4 - 0.7 )	1.0 ( 0.7 - 1.1 )

W:D ratio: 19.1

Entrenchment (ACW:FPW ratio): 1.4

Stream Flow Type: LF

Habitat Units/100m (total channel length): 7.6

Average Unit Gradient: 3.3%

Habitat Units/100m (primary channel length): 9.2

Water temperature (°C): 12.0 - 12.0

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	MT
Riparian Vegetation:	D3	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	8%	Reach avg: 93%
Undercut Banks:	4%	Range: 61 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	149	19.6
Volume (m <sup>3</sup> ):	236	31.0
Key pieces (>=12m x 0.60m):	7	0.9

OREGON DEPT OF FISH AND WILDLIFE

WALKER CREEK REFERENCE (2-MC, 379)

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

9/6/2007

REACH 1		T18S-R08W-S02NE					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
CASCADE/BOULDERS	2	41	1.6	0.11	82	12	0	18	28	35	20	0
DRY UNIT	1	20	3.5	0.00	70	2	0	15	25	35	25	0
POOL-BACKWATER	1	2	3.0	0.40	6	1	0	20	40	30	10	0
POOL-BEAVER DAM	6	183	4.4	0.96	897	0	23	38	26	11	3	0
POOL-DAMMED	4	44	3.1	0.54	142	10	9	25	23	21	15	8
POOL-LATERAL SCOUR	13	130	3.7	0.54	466	25	5	28	22	19	15	10
POOL-PLUNGE	5	28	4.6	0.53	128	10	4	25	26	18	15	12
PUDDLED UNIT	2	38	1.4	0.01	50	9	0	15	28	33	25	0
RAPID/BEDROCK	3	84	3.2	0.13	264	24	0	8	10	18	20	43
RAPID/BOULDERS	8	150	2.0	0.11	285	48	4	18	23	31	23	2
RIFFLE	9	167	2.4	0.10	369	26	6	19	34	26	13	2
STEP/BEAVER DAM	6	7	6.0	0.02	45	0	23	38	26	13	0	0
STEP/BOULDERS	1	2	2.0	0.03	4	5	0	5	10	40	45	0
STEP/COBBLE	3	12	2.2	0.06	24	4	5	17	33	35	10	0
STEP/LOG	6	12	2.2	0.03	27	0	8	23	27	19	10	13
<b>Total:</b>	<b>70</b>	<b>916</b>	<b>3.2</b>	<b>0.30</b>	<b>2,858</b>	<b>176</b>	<b>Avg: 8</b>	<b>24</b>	<b>25</b>	<b>22</b>	<b>14</b>	<b>7</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	229	3.8	0.76	1,045	36.57%	11	1.1	
Scour Pools	18	158	3.9	0.54	593	20.76%	35	5.9	
Glides	0	0			0	0.00%	0	0.0	
Riffles	9	167	2.4	0.10	369	12.90%	26	7.1	
Rapids	11	233	2.3	0.12	549	19.19%	72	13.1	
Cascades	2	41	1.6	0.11	82	2.88%	12	14.6	
Step/Falls	16	32	3.6	0.03	100	3.51%	9	9.0	
Dry	3	58	2.1	0.00	120	4.19%	11	9.2	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	29	31.6	38.1
Pools >=1m deep:	1	1.1	1.3
Complex pools (LWD pieces>=3):	11	12.0	14.4
Pool frequency (channel widths/pool):	5.9		
Residual pool depth (avg):	0.57		

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

**WALKER CREEK REFERENCE  
GCG: 2-MC SITE ID: 379**

Survey Date 9/6/2007

**RIPARIAN ZONE**

Report Date: 11/7/2007

**VEGETATION SUMMARY**

**REACH 1**

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

Total hardwoods/1000	1260
Total conifers/1000 ft	41
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	5.0	0.0	5.3	0.0	3.0	0.0
15-30cm	0.0	1.3	0.0	1.3	0.0	2.0	0.0	4.7
30-50cm	0.0	0.7	0.3	0.7	0.3	1.0	0.7	2.3
50-90cm	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	7.0	0.3	7.7	0.3	6.0	0.2	6.9

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
	Canopy closure	80		93		93
Shrub cover	87		87		89	
Grass/forb cover	13		13		11	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
	Hillslope	67		67		100
High terrace	33		33		0	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	31		31		58	

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	1260
Total conifers/1000 ft	41
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	13.3
15-30cm	0.0	4.7
30-50cm	0.7	2.3
50-90cm	0.0	0.3
>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		
20	LF	1	HT	0	60	70	30	Conifer							
								Hardwood	3						
20	LF	2	HT	0	90	80	20	Conifer							
								Hardwood	4	2					
20	LF	3	HS	50	90	85	15	Conifer							
								Hardwood	3	1					
20	RT	1	HS	25	70	80	20	Conifer							
								Hardwood	6						
20	RT	2	HS	35	90	90	10	Conifer							
								Hardwood	5						
20	RT	3	HS	35	90	90	10	Conifer							
								Hardwood	3		1				
36	LF	1	HT	0	95	80	20	Conifer							HT/FP
								Hardwood	2	4					
36	LF	2	HT	0	95	80	20	Conifer							
								Hardwood	4						
36	LF	3	HS	50	95	90	10	Conifer							
								Hardwood	2	1	1				
36	RT	1	HS	60	95	90	10	Conifer							
								Hardwood	2						
36	RT	2	HS	40	95	90	10	Conifer							
								Hardwood	1	2	1				
36	RT	3	HS	45	95	90	10	Conifer							
								Hardwood		3					
44	LF	1	HS	30	70	100	0	Conifer							
								Hardwood	2						
44	LF	2	HS	50	95	90	10	Conifer							
								Hardwood	2				1		
44	LF	3	HS	110	95	90	10	Conifer							
								Hardwood			1				
44	RT	1	HS	70	90	100	0	Conifer							
								Hardwood			2				
44	RT	2	HS	60	95	90	10	Conifer							
								Hardwood			1				
44	RT	3	HS	60	95	90	10	Conifer							
								Hardwood	1	1					

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 379      STREAM: WALKER CREEK REFERENCE

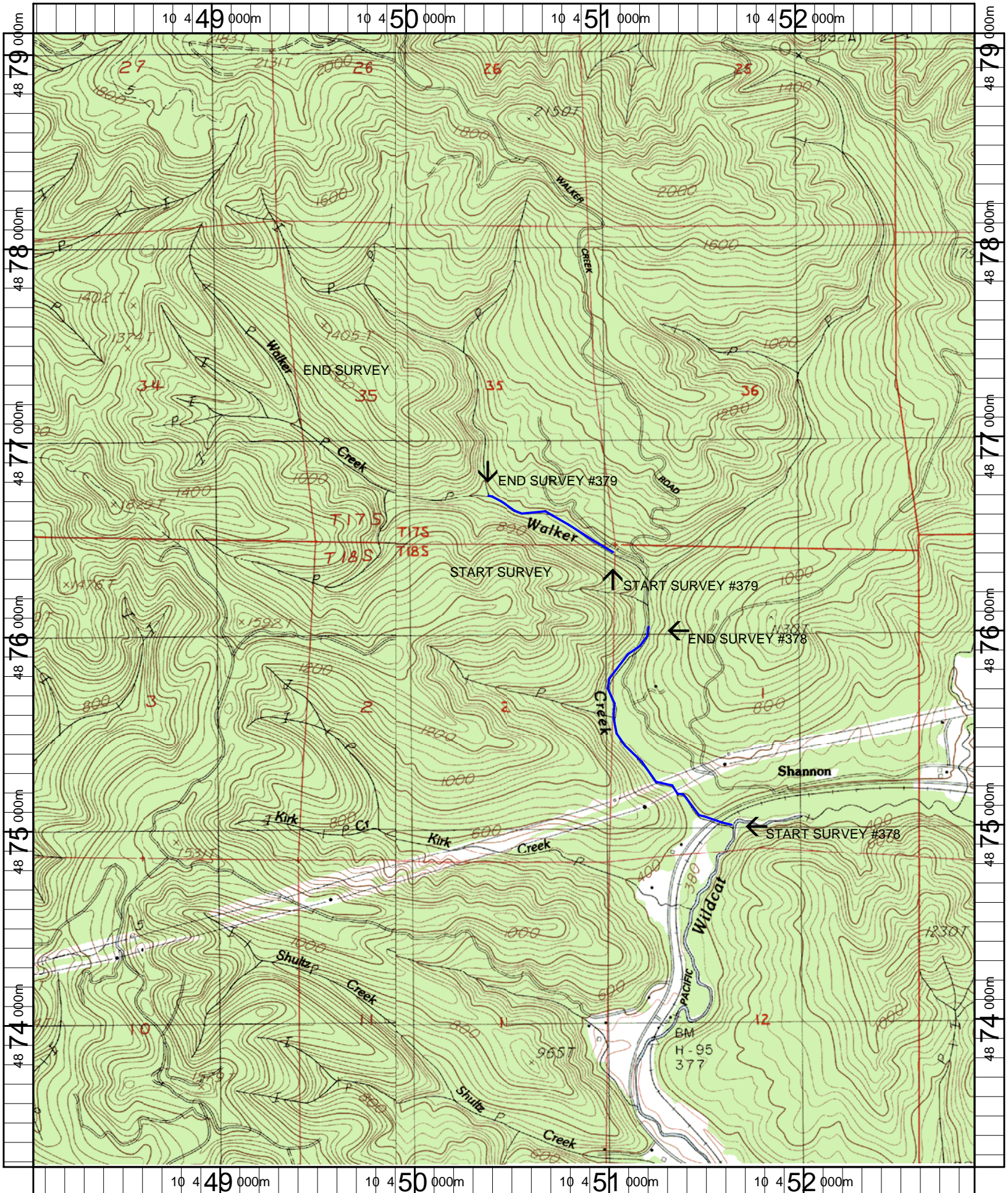
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	SD	00	0.6	BD	H=0.30M, START SIGN ON 3-15 CEDAR RIGHT
2	BP	00	25.1	BV	
3	SD	00	26.6	BD	H=0.30M
4	BP	00	36.6	BV	BEEES
5	RI	00	41.6	BV	
6	LP	00	51.6	BV	ACTIVE BV
7	SD	02	51.6	BD	H=0.25M
8	BP	02	51.6	BV, AM	RSN, TROUT, SCULPIN
9	SL	02	51.6	BV	
10	RB	03	51.6	BV	
11	SL	01	52.4	BV	H=0.40M
12	DP	01	63.9	BV	
13	SL	01	64.5	BV	H=0.30M, UA,MT,D3,S,ST,MT
14	DP	01	79.5	BV	
16	PP	01	89.5	BV	
17	SD	01	91	BD	H=0.90M, NEW 01 CHANNEL
18	BP	01	146	BV	OVER 2.0M DEEP, COHO FRY, CT
19	RI	02	146	BV	
20	SD	00	147.7	BD	H=0.70M, RIP 1, CA,CT
21	BP	00	182.7	BV	COHO FRY
22	RI	00	189.7	BV	
23	SD	00	190.5	BD	H=0.30M

COMMENT SUMMARY

MONITORING AREA: 2-MC      SITE ID: 379      STREAM: WALKER CREEK REFERENCE

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
24	BP	01	224.5	BV, /TJ	ACTIVE
25	CB	11	224.5		ACW=1.1, T=12.0
26	RI	00	237.5		T=12.0
32	SL	00	288		H=0.60M
35	LP	00	313		CRAYFISH
36	RI	00	338		CA,CT,D15,S,MT,ST
37	LP	00	349		HUGE BOULDER
38	LP	02	349	WL	LAMPREY - PHOTO
40	SL	02	349		H=1.00M
44	RI	01	434.5		CH,MV,MT,OG,D15,S
45	BW	10	434.5		FLOW IN FROM TOP
48	LP	00	493		COHO FRY
58	SL	00	639.2		H=0.30M
61	SB	00	653.7		H=0.70M
70	RB	00	761.7		CH,MV,C15,S,MT, NO GPS COVERAGE, SGS





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

Location: 10 450480 E 4876175 N  
 Caption: WALKER CREEK TREATMENT (#378) AND REFERENCE (#379)  
 REACHES - SIUSLAW BASIN