

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

STREAM: Hamilton Creek (S-380)  
BASIN: Chetco River  
SURVEY TYPE: Pre-Tx  
DATE: July 26, 2007  
SURVEY CREW: Scott Kuhn, Drew Harper  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 3.7 km<sup>2</sup>  
USGS MAPS: Mt Emily  
ECOREGION: Southern Oregon Coastal Mountains

**GENERAL DESCRIPTION:**

The Hamilton Creek habitat survey extended 669 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 7.7 (range: 1.0-13.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 2.4 percent. Dry channel units (49%) and scour pools (23%) dominated stream habitat. Gravel (44%) and cobble (26%) dominated stream substrate. Wood volume was low at 11.3 m<sup>3</sup>/100m.

**COMMENTS:**

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

REACH 1

T41S-R13W-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	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	7.7	VWI Range:	1 - 13

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 Channel	669	2,070	12
Secondary Channel	0	0	0
Off-Channel Units	72	124	2

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 6	<u>First Terrace</u> n = 4
Width: 2.8	Width: 4.7	7.2 ( 4.9 - 10.2 )	10.2 ( 5.8 - 14.7 )
Depth: 0.21	Height: 0.3	0.7 ( 0.5 - 0.8 )	1.3 ( 0.9 - 1.6 )

W:D ratio: 14.4  
 Stream Flow Type: PD  
 Average Unit Gradient: 2.4%  
 Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 1.5  
 Habitat Units/100m (total channel length): 5.7  
 Habitat Units/100m (primary channel length): 6.3

**Riparian, Bank, and Wood Summary**

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	2%	Reach avg: 94%
Undercut Banks:	1%	Range: 58 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	81	12.1
Volume (m <sup>3</sup> ):	75	11.3
Key pieces (>=12m x 0.60m):	1	0.1

HABITAT INVENTORY

Report Date: 11/14/2007

Survey Date:

7/26/2007

REACH 1		T41S-R13W-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/BEDROCK	1	14	2.7	0.25	39	0	5	15	20	15	10	35
CASCADE/BOULDERS	2	53	2.0	0.10	105	36	2	10	17	12	55	5
CULVERT CROSSING	1	13	0.3	0.02	3	0	5	5	9	18	64	0
DRY CHANNEL	2	47	1.8	0.00	86	0	0	5	69	23	3	0
DRY UNIT	6	140	5.6	0.00	782	1	2	9	49	34	6	0
POOL-LATERAL SCOUR	9	122	2.6	0.43	329	10	10	26	39	19	4	2
POOL-STRAIGHT SCOUR	3	34	4.4	0.80	183	4	8	19	49	18	6	0
PUDDLED UNIT	6	108	1.8	0.13	199	1	6	17	46	29	3	0
RAPID/BOULDERS	5	73	1.9	0.12	139	6	1	9	44	34	12	0
RIFFLE	1	25	2.2	0.05	55	0	0	5	50	36	9	0
RIFFLE W/ POCKETS	6	113	2.3	0.08	274	1	0	7	54	32	8	0
<b>Total:</b>	<b>42</b>	<b>741</b>	<b>2.8</b>	<b>0.21</b>	<b>2,193</b>	<b>59</b>	<b>Avg: 4</b>	<b>14</b>	<b>44</b>	<b>26</b>	<b>10</b>	<b>2</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	0	0			0	0.00%	0	0.0	
Scour Pools	12	155	3.1	0.53	511	23.31%	14	2.7	
Glides	0	0			0	0.00%	0	0.0	
Riffles	7	138	2.3	0.08	329	15.00%	1	0.3	
Rapids	5	73	1.9	0.12	139	6.33%	6	4.3	
Cascades	3	67	2.2	0.15	144	6.55%	36	25.1	
Step/Falls	0	0			0	0.00%	0	0.0	
Dry	14	295	3.4	0.06	1,067	48.67%	2	0.2	
Culverts	1	13	0.3	0.02	3	0.15%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	12	16.2	17.9
Pools >=1m deep:	1	1.3	1.5
Complex pools (LWD pieces>=3):	4	5.4	6.0
Pool frequency (channel widths/pool):	13.1		
Residual pool depth (avg):	0.48		

Survey Date 7/26/2007

**RIPARIAN ZONE**

Report Date: 11/7/2007

**VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	975
Total conifers/1000 ft	122
Total conifers >20" dbh/1000 ft	41
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	3.0	0.0	0.0	0.0	5.3	0.0	8.3
15-30cm	0.0	2.3	0.3	0.3	1.0	2.3	1.3	5.0
30-50cm	0.0	0.3	0.0	0.7	0.0	0.7	0.0	1.7
50-90cm	0.3	0.0	0.3	1.0	0.0	0.0	0.7	1.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.3	5.7	0.7	2.0	1.0	8.3	0.7	5.3

**Canopy closure and ground cover**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	78		53		58	
Shrub cover	57		39		14	
Grass/forb cover	43		33		32	

**Predominant landform in each zone**

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	33		0		33	
High terrace	67		67		17	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		33		50	
Riprap	0		0		0	
Surface slope (%)	13		4		12	

**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	975
Total conifers/1000 ft	122
Total conifers >20" dbh/1000 ft	41
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	8.3
15-30cm	1.3	5.0
30-50cm	0.0	1.7
50-90cm	0.7	1.0
>90cm	0.0	0.0

**RIPARIAN ZONE VEGETATION**

Reach 1 Reach 1

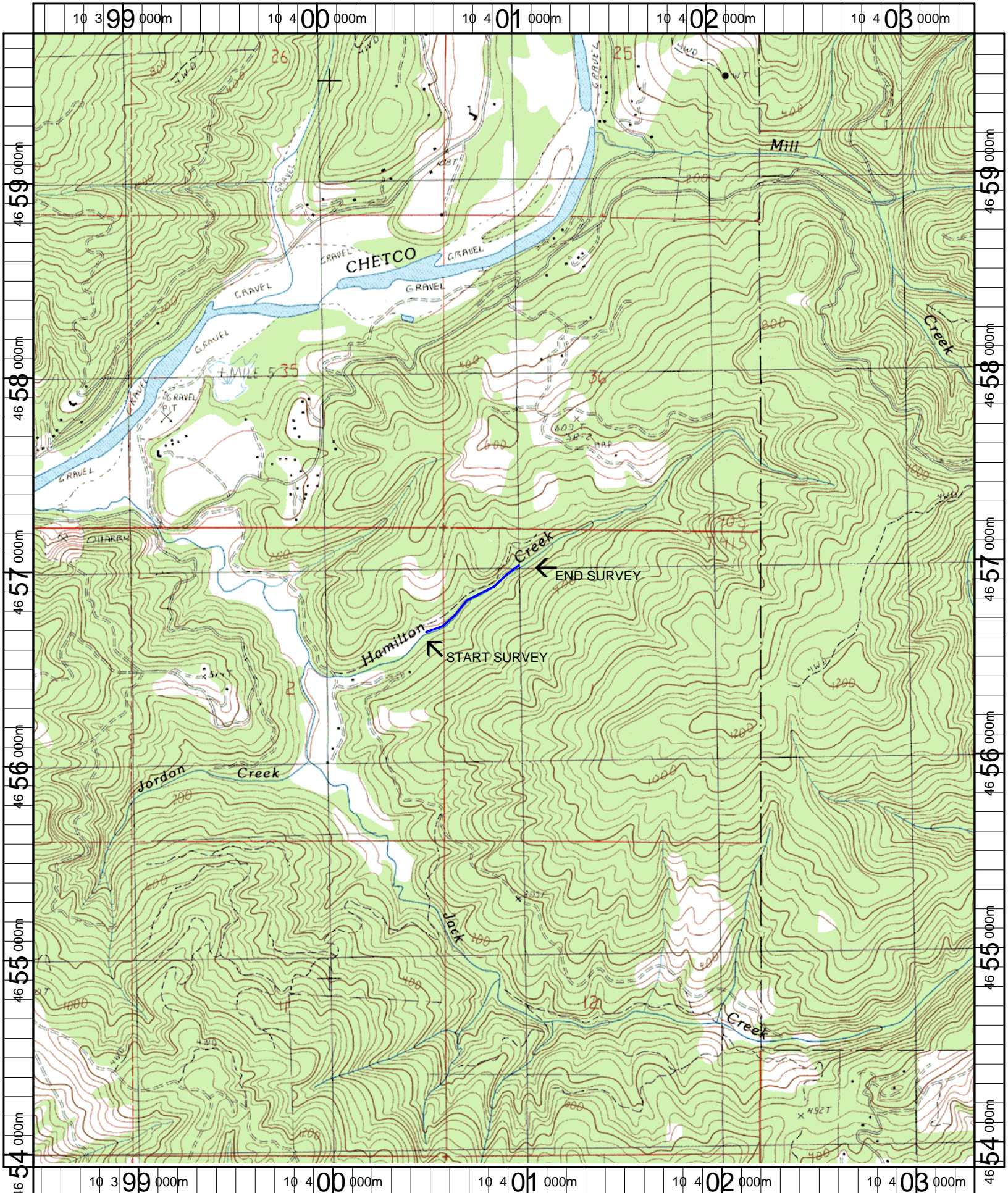
Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
8	LT	1	HT	0	70	60	40	Conifer							WOODEN SHED IN RIP
								Hardwood							
8	LT	2	HT	0	20	100	0	Conifer		1					
								Hardwood							
8	LT	3	RB	0	0	0	0	Conifer							GRAVEL ROADBED
								Hardwood							
8	RT	1	HS	0	100	20	80	Conifer							
								Hardwood	1	2					
8	RT	2	HT	0	100	40	60	Conifer							
								Hardwood							
8	RT	3	HT	0	100	60	30	Conifer							CROSSES OVER TRIB
								Hardwood		3	1				
17	LT	1	HT	15	70	10	90	Conifer					1		
								Hardwood	1	5					
17	LT	2	RB	0	10	20	10	Conifer							
								Hardwood							
17	LT	3	HS	30	95	20	60	Conifer			3				
								Hardwood	16						
17	RT	1	HT	0	70	80	20	Conifer							
								Hardwood	3		1				
17	RT	2	HT	5	100	30	50	Conifer					1		
								Hardwood		1	2	3			
17	RT	3	HS	30	100	0	20	Conifer							
								Hardwood		4	1				
24	LT	1	HT	30	75	80	20	Conifer							CROSSES UNKNOWN TRIB; DRY
								Hardwood	2						
24	LT	2	HT	10	60	40	60	Conifer							
								Hardwood							
24	LT	3	RB	0	40	5	70	Conifer							DIRT PARKING AREA JUST
								Hardwood							
24	RT	1	HS	30	80	90	10	Conifer							
								Hardwood	2						
24	RT	2	RB	10	30	5	15	Conifer							GRAVEL ROAD 41-13-1.0
								Hardwood							
24	RT	3	RB	10	10	0	10	Conifer							
								Hardwood							

COMMENT SUMMARY

MONITORING AREA: 5-SC SITE ID: 380 STREAM: HAMILTON CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	LP	00	9.7		HAMILTON CR. SC-380 T=13C
4	PD	00	60.4		TROUT FRY IN PUDDLE
5	DU	00	85.4	CE/	DIA=0.5M, DROP=0.6M, LENGTH=8M, SLOPE=10
9	DC	11	155.3	/TJ	
11	LP	00	185.5	AM, CE/	FRG; UNKNOWN FRY; DIA=0.5M, DRP=1.3M, LENGTH=10M, SLOPE=13 BDRCK=H
23	CC	00	383.8	CC	DROP=0.3M, DIA=1.8M; STEEL W/ TAR(?) COATING; SO.CO. LUMBER RD. #41-13-1
25	DC	11	408.8	TJ/	
33	RB	01	533.4	/LA	
34	CB	11	533.4	/TJ	TEMP=14C
35	SP	00	539.4	SS/	





Name: MT EMILY  
 Date: 7/10/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 400919 E 4656823 N  
 Caption: HAMILTON CREEK RESTORATION SITE - CHETCO RIVER BASIN