

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

STREAM: Hayes Creek (MC-220)  
BASIN: Yaquina River  
SURVEY TYPE: Post-Tx  
DATE: February 2, 2006  
SURVEY CREW: Scott Venables, Seth Ring  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 5.9 km<sup>3</sup>  
USGS MAPS: Eddyville  
ECOREGION: Coast Range Sedimentary

**GENERAL DESCRIPTION:**

The Hayes Creek habitat survey extended 2,021 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 4.4 (range: 2.6-6.7). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 1.6percent. Riffles (63%) and scour pools (29%) dominated stream habitat. Gravel (36%) and sand (25%) dominated stream substrate. Wood volume was low at 19.7 m<sup>3</sup>/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

T10S-R09W-S28SW

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	0%
Moderate V-shape	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	4.4	VWI Range:	2.6 - 6.7

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	100%
Bedrock	0%	Multiple Channel	0%
Terrace	0%	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	2,021	8,877	0
Secondary Channel	55	70	2
Off-Channel Units	215	305	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 8	<u>First Terrace</u> n = 8
Width: 3.7	Width: 6.5	23.0 ( 10.6 - 36.4 )	31.8 ( 14.7 - 48.1 )
Depth: 0.44	Height: 0.6	1.3 ( 1 - 1.6 )	1.8 ( 1.65 - 2.2 )

W:D ratio: 10.2  
 Stream Flow Type: MF  
 Average Unit Gradient: 1.6%  
 Water temperature (°C): 9.0 - 9.0

Entrenchment (ACW:FPW ratio): 3.4  
 Habitat Units/100m (total channel length): 7.7  
 Habitat Units/100m (primary channel length): 8.7

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
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):	305	15.1
Volume (m <sup>3</sup> ):	398	19.7
Key pieces (>=12m x 0.60m):	29	1.4

OREGON DEPT OF FISH AND WILDLIFE

HAYES CREEK POST-TX (2-MC, 220)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/2/2006

REACH 1		T10S-R09W-S28SW					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
GLIDE	2	17	3.4	0.28	57	0	5	14	17	3	2	59
POOL-BACKWATER	21	78	2.0	0.41	160	0	41	47	8	1	1	1
POOL-DAMMED	2	8	4.2	0.55	34	0	0	30	15	20	0	35
POOL-LATERAL SCOUR	58	596	4.1	0.74	2,554	0	3	28	38	11	1	18
POOL-PLUNGE	6	32	3.9	0.65	150	0	2	30	20	8	2	38
PUDDLED UNIT	3	50	0.4	0.05	23	0	65	32	3	0	0	0
RAPID/BEDROCK	4	85	4.5	0.25	358	0	0	6	4	2	0	88
RIFFLE	65	1,366	3.8	0.26	5,599	0	1	15	50	20	2	12
RIFFLE W/ POCKETS	2	40	6.0	0.55	235	0	0	38	46	8	3	5
STEP/BEAVER DAM	1	1	5.4	0.15	3	0	0	30	70	0	0	0
STEP/BEDROCK	2	1	2.9	0.05	2	0	0	0	0	0	0	100
STEP/COBBLE	4	13	4.9	0.21	63	0	0	6	26	68	0	0
STEP/LOG	6	4	3.1	0.18	14	0	3	41	40	13	0	3
<b>Total:</b>	<b>176</b>	<b>2,290</b>	<b>3.7</b>	<b>0.44</b>	<b>9,252</b>	<b>0</b>	<b>Avg: 8</b>	<b>25</b>	<b>36</b>	<b>14</b>	<b>1</b>	<b>16</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	23	86	2.2	0.42	194	2.10%	0	0.0	
Scour Pools	64	628	4.1	0.73	2,705	29.23%	0	0.0	
Glides	2	17	3.4	0.28	57	0.62%	0	0.0	
Riffles	67	1,407	3.8	0.27	5,833	63.05%	0	0.0	
Rapids	4	85	4.5	0.25	358	3.87%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	13	18	3.8	0.17	82	0.88%	0	0.0	
Dry	3	50	0.4	0.05	23	0.24%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	87	38.0	43.1
Pools >=1m deep:	8	3.5	4.0
Complex pools (LWD pieces>=3):	19	8.3	9.4
Pool frequency (channel widths/pool):	4.0		
Residual pool depth (avg):	0.48		

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC**      SITE ID: **220**      HAYES CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	01	7.8	HS		
4	LP	02	12.4		FISH	
5	RI	01	45.1		US-MT, D30, S, YT, ST	
6	RI	11	45.1		T = 9.5 C, ACW = 3.7 M	
17	LP	00	147.4	HS		
22	PP	00	219.4	HS		
23	SL	00	220.1		H = .35 M	
26	LP	00	250.9	HS	T = 9 C AT 1229	
27	RI	01	282.9	/TJ	5 TO 6 INCH FISH	
28	RI	11	282.9		T = 9.5 C, ACW = 1.6 M	
29	SL	11	282.9		US-MT, D30, S, YT, S, H = .7 M	
35	SL	00	344.4		H = .25 M	
37	RP	00	405.3	HS	POCKETS UP TO .7 M DEEP	
41	RI	01	467.7	TJ/	SLMN SPAWNING SURVEY SIGN	
43	RI	12	467.7		BEDROCK = HARDPAN, ACW = 2.8 M	
44	RI	00	484.8		TRIB TEMP = 9 C AT 1225	
47	RI	00	524.7	SS/, /SS		
51	RI	01	571.9	HS		
53	LP	00	577.9		SALMON CARCASS	
54	RI	00	601.3		US-MT, D30, S, YT, ST	
57	RP	00	646.3	HS		

# Comment Summary

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UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
62	LP	00	773.3		T = 7 C AT 0900	
63	RI	00	801.8	HS	6 LOGS IN HS	
66	RI	01	839	DJ	SITE 10	
69	RI	01	872.9	HS		
71	LP	00	881.1	HS		
73	LP	00	914.4	HS		
75	LP	00	930.2		TAG FOR SITE 10	
76	LP	00	938.6		US-MT, D30, S, ST	
78	RI	01	1004.7	HS		
81	SC	00	1018.5		H = 1.5 M	
83	RI	01	1066.5	HS		
85	LP	01	1083.4	TJ		
86	RI	11	1083.4		ACW = .9 M, T = 7 C AT 1148	
88	LP	00	1130.8	HS		
98	SL	00	1210.75		H = .35 M	
99	RI	00	1218.85	HS	5 LOGS	
107	LP	01	1270.65	HS, TJ	1 LOG, 3 INCH FISH	
108	LP	11	1270.65		ACW = 4.5 M, T = 8 C AT1340	
110	SL	11	1270.65		H = .4 M	
111	RI	00	1281.75		JV SALMONIDS	
112	LP	00	1294.55		JV SALMONIDS	

# Comment Summary

## Restoration Monitoring Sites 2006

**MONITORING AREA: 2-MC      SITE ID: 220      HAYES CREEK POST-TX**

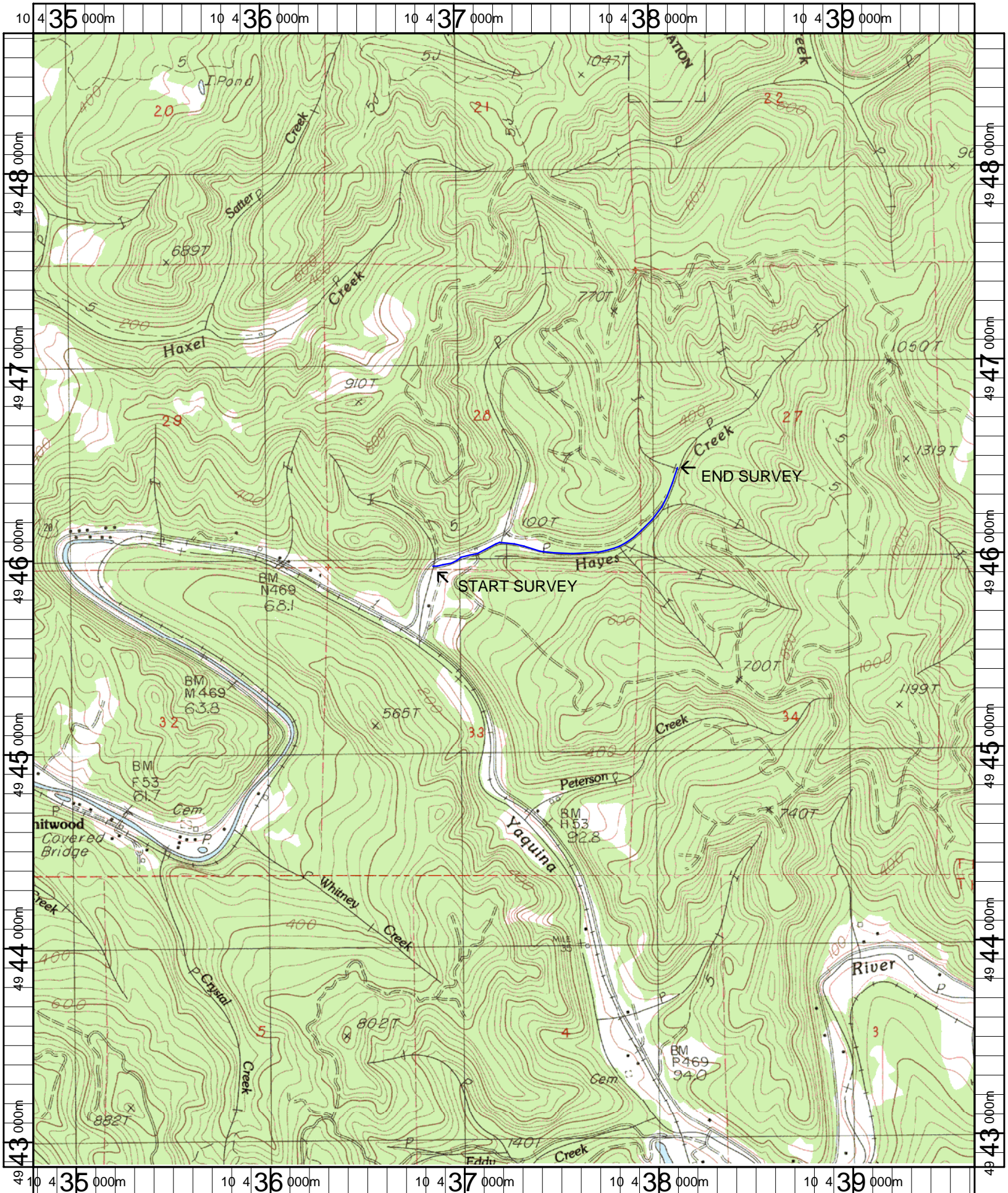
<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
113	LP	00	1306.55			4 2-3" FISH, DEAD PORCUPINE
116	RI	01	1366.35	HS		2 LOGS, SALMON CARCASS
117	BW	10	1366.35			CT-MT, D15, S, ST, MT
121	PD	02	1381.65			ACW = 1.5 M
124	RI	01	1444.75	/TJ		
125	RI	11	1444.75			ACW = 3.1, T = 8 C AT 1500
126	SD	00	1445.25	DJ, BD		H = .3 M
129	BW	10	1478.05	HS		5 LOGS
142	RI	00	1653.05			US-MT, D30, S, ST, MT
143	LP	00	1668.75	HS		6 LOGS
146	RI	01	1728.25	HS		4 LOGS
151	RI	00	1777.95			T = 7 C AT 0900
153	LP	00	1794.95	HS		2 LOGS
154	RI	01	1824.25	DJ, /TJ		
156	RI	11	1824.25			ACW = 1.1 M, T = 7 C AT 0925
158	RI	00	1851.75			CT-MT, D30, S
159	GL	00	1859.05	HS, SS/		5 LOGS
163	PP	01	1904.95			VALLEY COMES IN ON RT
165	SR	00	1905.3			H = .3 M
167	SR	00	1907.35	HS		3 LOGS, H = .7 M
169	RI	01	1987.95	TJ, HS		5 LOGS, SPAWNING SIGN, AQI TAG

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: 2-MC      SITE ID: 220      HAYES CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
170	RI	11	1987.95		ACW = 3 M, H = .1 M, T = 8 C	
171	SL	11	1987.95		H = .5 M	
173	PD	02	2002.95		ACW = 2.8 M	
176	PP	00	2020.55		CT-MT, D30, S, END SURVEY TAG	



Name: EDDYVILLE (OR)  
 Date: 2/13/2007  
 Scale: 1 inch equals 2000 feet

Location: 10 0437229 E 4945776 N  
 Caption: HAYES CREEK RESTORATION SITE - SIUSLAW BASIN