

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: June 29, 2005
SURVEY CREW: Lanoah Babcock, Tory Fitchett
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 5.9 km²
USGS MAPS: Eddyville
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Hayes Creek habitat survey extended 1,983 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 6.5 (range: 2.0-17.0). Land use for the reach was light grazing and mature (50-90 cm dbh) trees. The average unit gradient was 1.9 percent. Riffles (58%) and scour pools (31%) dominated stream habitat. Gravel (39%) and sand (24%) dominated stream substrate. Wood volume was low at 18.6 m³/100m.

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	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	6.5	VWI Range:	2 - 17

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 (m2)</u>	<u>Dry Units</u>
Primary Channel	1,983	6,294	0
Secondary Channel	8	7	1
Off-Channel Units	72	53	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 7	<u>First Terrace</u> n = 6
Width: 3.1	Width: 5.9	8.2 (4.2 - 13.5)	8.6 (5.7 - 11)
Depth: 0.27	Height: 0.4	0.7 (0.6 - 0.9)	1.0 (0.9 - 1.1)

W:D ratio: 17.1

Entrenchment (ACW:FPW ratio): 1.4

Stream Flow Type: MF

Habitat Units/100m (total channel length): 6.1

Average Unit Gradient: 1.9%

Habitat Units/100m (primary channel length): 6.4

Water temperature (°C): 12.0 - 12.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LG	MT
Riparian Vegetation:	D30	M50

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	1%	Reach avg: 63%
Undercut Banks:	4%	Range: 25 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	287	14.5
Volume (m ³):	369	18.6
Key pieces (>=12m x 0.60m):	27	1.4

OREGON DEPT OF FISH AND WILDLIFE

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

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

6/29/2005

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 ²)	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BEDROCK	1	13	4.7	0.10	62	0	0	0	5	10	0	86
CASCADE/BOULDERS	1	10	0.8	0.10	8	2	0	5	35	55	5	0
GLIDE	5	77	3.6	0.25	268	0	7	30	34	9	0	19
POOL-BACKWATER	1	2	2.0	0.30	3	0	40	60	0	0	0	0
POOL-BEAVER DAM	1	6	5.0	0.30	28	0	20	60	20	0	0	0
POOL-LATERAL SCOUR	22	291	3.7	0.52	1,105	0	13	33	35	10	0	10
POOL-PLUNGE	4	31	6.1	0.53	169	0	10	35	26	5	0	25
POOL-STRAIGHT SCOUR	13	170	4.1	0.54	674	0	16	36	22	5	0	21
PUDDLED UNIT	1	8	0.9	0.10	7	0	0	10	60	30	0	0
RAPID/BEDROCK	2	30	1.5	0.10	44	0	0	8	20	25	0	48
RAPID/BOULDERS	4	72	1.2	0.11	129	1	3	14	51	26	1	5
RIFFLE	53	1,173	2.6	0.15	3,318	4	4	20	45	18	0	13
RIFFLE W/ POCKETS	5	133	2.7	0.30	362	0	12	36	35	10	0	7
STEP/BEAVER DAM	1	1	4.6	0.01	4	0	10	50	30	10	0	0
STEP/BEDROCK	2	6	3.7	0.06	23	0	0	3	15	10	0	73
STEP/BOULDERS	2	5	3.7	0.03	17	0	3	15	25	10	0	48
STEP/COBBLE	7	35	3.6	0.09	133	0	0	5	64	28	0	3
STEP/LOG	1	1	1.4	0.05	1	0	0	10	40	50	0	0
Total:	126	2,062	3.1	0.27	6,354	7	Avg: 7	24	39	15	0	15

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	2	7	3.5	0.30	31	0.49%	0	0.0
Scour Pools	39	492	4.1	0.53	1,948	30.65%	0	0.0
Glides	5	77	3.6	0.25	268	4.22%	0	0.0
Riffles	58	1,306	2.6	0.16	3,680	57.92%	4	0.1
Rapids	6	102	1.3	0.11	173	2.73%	1	0.6
Cascades	2	23	2.8	0.10	70	1.09%	2	2.9
Step/Falls	13	48	3.5	0.07	177	2.79%	0	0.0
Dry	1	8	0.9	0.10	7	0.11%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

REACH 1

T10S-R09W-S28SW

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	41	19.9	20.7
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	14	6.8	7.1
Pool frequency (channel widths/pool):	8.5		
Residual pool depth (avg):	0.45		

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

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

**Survey Date 6/29/2005
Report Date: 4/26/2006**

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

Summary of Riparian Zone (0-30m) 4 transects

Total hardwoods/1000	762
Total conifers/1000 ft	152
Total conifers >20" dbh/1000 ft	15
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	1.8	0.8	3.0	0.8	7.8
15-30cm	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
30-50cm	0.0	0.3	0.0	0.3	1.5	1.5	1.5	2.0
50-90cm	0.0	0.5	0.0	1.0	0.3	0.8	0.3	2.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Total/100m2	0.0	4.0	0.0	3.0	2.5	5.5	0.8	4.2

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	68		51		68	
Shrub cover	64		57		67	
Grass/forb cover	36		36		32	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		50		63	
High terrace	50		38		25	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		13		13	
Riprap	0		0		0	
Surface slope (%)	19		16		23	

Summary of Riparian Zone (0-30m) for all reaches

4 transects

Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream

Total hardwoods/1000	762
Total conifers/1000 ft	152
Total conifers >20" dbh/1000 ft	15
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	0.8	7.8
15-30cm	0.0	0.3
30-50cm	1.5	2.0
50-90cm	0.3	2.3
>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			
17	RT	1	HS	20	65	15	80									
							Conifer									
							Hardwood									
17	RT	2	HS	20	60	20	75									
							Conifer									
							Hardwood	2								
17	RT	3	HS	25	90	40	60									
							Conifer									
							Hardwood	5		3						
17	LF	2	RB	2	25	25	25									
							Conifer									
							Hardwood									
17	LF	1	HS	8	70	25	75									3D 0437038 / 4946043
							Conifer									
							Hardwood									
17	LF	3	HS	45	95	95	5		2							
							Conifer									
							Hardwood									
34	RT	3	HS	20	70	75	25									
							Conifer									
							Hardwood	1		2						
34	LF	1	HT	0	45	90	10									2D 0437040 / 4946041 (WAY OFF)
							Conifer									
							Hardwood									
34	LF	3	HT	0	45	100	0				2					
							Conifer									
							Hardwood				1	1				
34	LF	2	HT	0	25	100	0									
							Conifer									
							Hardwood									
34	RT	2	HS	25	40	80	20									
							Conifer									
							Hardwood						1			
34	RT	1	HS	40	60	70	30									
							Conifer									
							Hardwood									
59	RT	1	HS	70	80	60	40									
							Conifer									
							Hardwood	4								
59	RT	2	HS	55	80	50	50									
							Conifer									
							Hardwood				1	1				
59	LF	3	HT	4	70	40	50									20M BACK TO HILLSLOPE
							Conifer									
							Hardwood	4				1	1			
59	RT	3	HS	60	75	35	65									
							Conifer				3	1				
							Hardwood									
59	LF	2	HT	6	60	30	70									
							Conifer									
							Hardwood	3								
59	LF	1	HT	4	75	90	10									2D 0437620 / 4946018
							Conifer									
							Hardwood	5				2				

83	RT	1	HT	7	60	90	10	Conifer										
								Hardwood	3	1								
83	RT	2	HT	7	50	90	10	Conifer										
								Hardwood	2				1					
83	RT	3	HS	25	65	70	30	Conifer										
								Hardwood	2				1					
83	LF	1	HT	3	85	70	30	Conifer										2D 0437881 /
								Hardwood										4946056
83	LF	2	HS	15	65	60	40	Conifer										
								Hardwood					1					
83	LF	3	RB	4	30	80	20	Conifer	1									
								Hardwood			1							

Comment Summary

Restoration Monitoring Sites 2005

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>
1	RI	00	17.9	HS, DJ, BV	HS 1	TEMP 11C, BRAIDED CHANN
2	RI	01	56.8	TJ/		
3	RB	11	56.8	CE		UNDER ROAD THROUGH CU
5	SR	00	67.7		H=0.5M	H 0.5M
7	SP	00	101.1		JUVENILE FISH	LONG TAIL, 1/3 OF LENGTH
8	RI	00	124.6		PACIFIC LAMPREY	
9	SC	00	130.1		H=0.2M	H 0.2M
10	PP	00	144.4	WL		DEER TRACKS
11	SC	00	148.9		H=0.2M	H 0.2M
12	LP	00	171.2	HS, DJ	HS 2	HS AT PTC
14	LP	00	202.3			FRY
16	RI	00	248.6	HS, DJ	HS 3, BL/WH FLAG, 8.8.02	
17	SC	00	258		H=0.4M	H 0.4M, RIP 1
18	SP	00	267.4	HS, DJ	RIP 1, HS 4	FRY
19	RI	01	288.8	/TJ, HS		LOTS OF FRY IN SMALL PUD
22	RI	00	322.3	BC		
23	SP	00	355.1		JUVENILE FISH	
24	SC	00	359.4		H=0.25M, LOTS OF BLAC	H 0.25M
26	SC	00	368.8		H=0.4M	H 0.4M
28	RB	00	430.2	DJ	DJ	LARGE JAM, SOME POCKET
30	RI	00	461.1	DJ, WL		DEER TRACKS

Comment Summary

Restoration Monitoring Sites 2005

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<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
31	RI	01	502.1	TJ/, DJ	SPAWNING SURVEY 2501	TEMP 12C
32	RI	11	502.1			TRIB
33	LP	00	518.1	WL		DEER TRACKS
34	RI	00	537.2	/SS	RIP 2	RIPARIAN 2
35	GL	00	553.2			FRY
36	LP	00	570.4			COHO AND SCULPIN
38	GL	00	590.4	HS, DJ	DJ, HS 5	HS STARTING TO BRAID CH
39	RI	00	638.5			SMALL POCKET, COHO FRY
40	SP	00	651.5	HS, DJ	HS 6	
44	SR	00	726.9		H=0.3M	H 0.3M
45	RP	00	748.8	WL		DEER TRACKS, FRY, POCKE
46	RI	00	792.8		/SS	SMALL POCKET AT BEND
47	RI	00	813.3	HS	HS 7	
48	RI	00	844.1	HS, DJ	HS 8	
49	RI	00	893.3	DJ		
50	RI	00	913.3	HS, DJ	HS 9	
51	GL	00	928.3	HS	HS 10	
52	RI	00	970.6	DJ, DJ ,DJ		MANY FRY
53	RI	00	992.6	BV	BV	
54	LP	00	1000.6	HS, DJ	HS 11	
56	SC	00	1014.8		H=0.4M	H 0.4M

Comment Summary

Restoration Monitoring Sites 2005

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

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
59	RI	00	1043.5		RIP 3	RIPARIAN 3
60	LP	01	1064.8	HS, DJ	HS 12	
62	RI	00	1110.8	WL		DEER TRACKS, COBBLE BA
63	SP	00	1123.8	HS	HS 13	COHO FRY
66	SD	00	1158.5	DJ, BV, BD	H=0.2M	H 0.2M FLOW DIVERTS ARO
67	BP	00	1164.1	BV		
68	RI	00	1174.7	BV, DJ, DJ		
70	RI	00	1221.8	HS	HS 14	
71	SP	00	1227.8	DJ, WL, BV		COHO FRY, TRACKS ON BA
73	LP	00	1248.5			COBBLE BAR
74	SC	01	1252.4	/TJ	H=0.3M	H 0.3M
75	CB	11	1252.4			SL JUST BEYOND UNIT, H 0.
76	SP	00	1257.5	DJ, BV	OLD BV DAM	
77	RP	00	1276.6	SS/		
78	RI	00	1289.6	BV		
79	RI	00	1305.7			COMPLETELY OVERGROWN
80	RI	00	1326.2	HS	HS 15	
81	LP	00	1337.7			COHO FRY
82	RI	00	1357.5			RIPARIAN 4
83	LP	00	1367.5		RIP 4	
85	SP	00	1390.1	DJ, BV		

Comment Summary

Restoration Monitoring Sites 2005

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

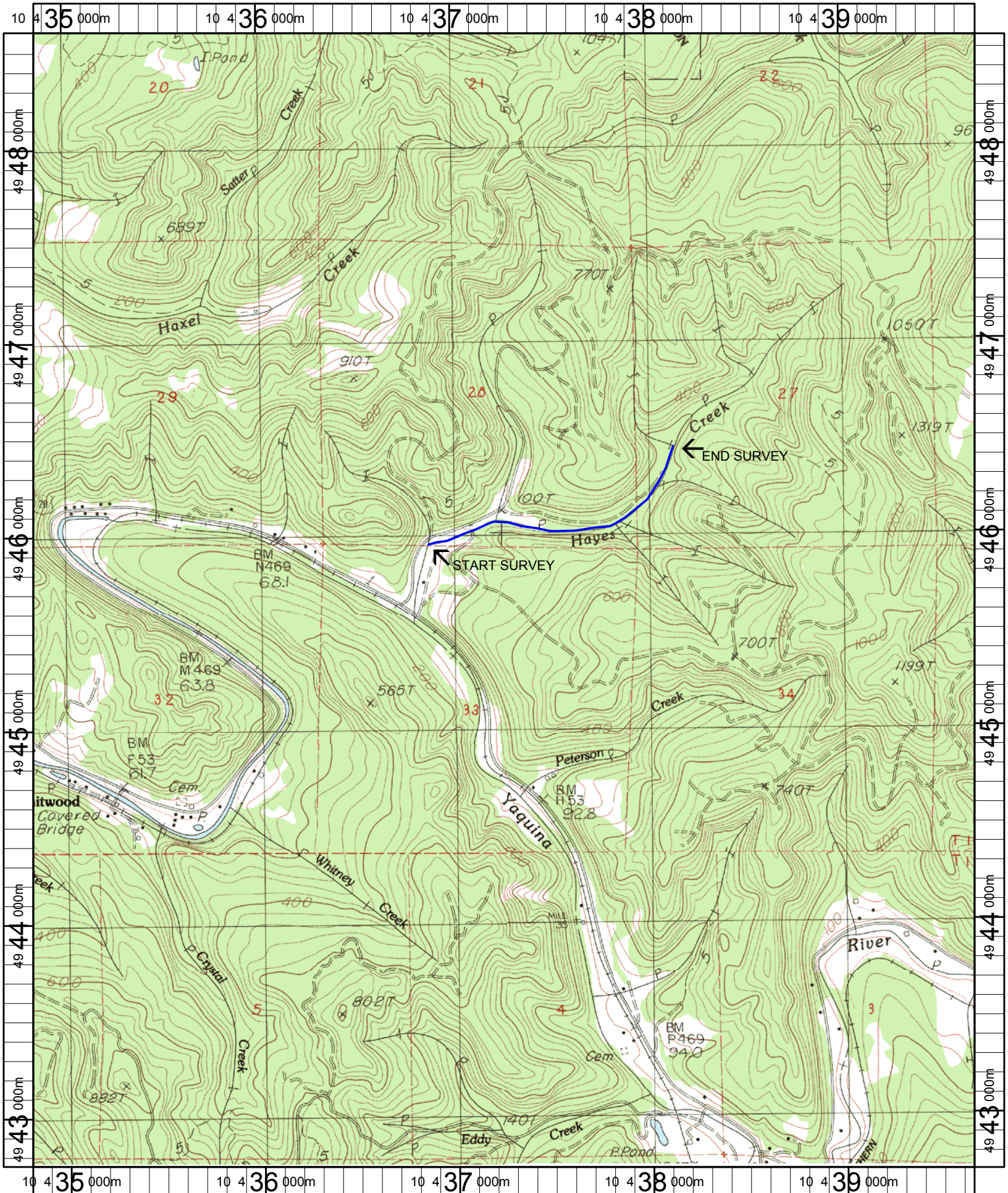
<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
86	RI	00	1416.8	DJ, BV	OLD BEAVER DAM	INCOMPLETE BEAVER DAM
87	RI	01	1434.4	/TJ		
88	RI	11	1434.4			TRIB
89	RI	00	1458.4	DJ		
90	LP	00	1463.7	DJ, BV		
92	LP	00	1483.7	HS, BV		
93	RP	00	1525.9	BV		0.6M DEEP POCKETS AT BE
94	LP	00	1539.7			2 BENDS
95	RI	00	1574.7	BV	BEAVER DEN	
96	SB	00	1575.8	BV, DJ	H=0.45M	H 0.45M
98	LP	00	1597.5	BV		
99	LP	00	1617	BV		
101	LP	00	1644.2	HS, DJ	HS 17	
103	LP	00	1673.1	DJ		
104	RP	00	1710.7	HS, DJ, BV	HS 18	
105	RI	00	1739.4	HS		
106	LP	00	1757.7		HS 19	
107	RI	01	1780.7	/TJ		
108	RI	11	1780.7			TRIB
112	SP	00	1830.4	SS/, HS DJ	HS 20	
115	RR	00	1864.8		BL/WH FLAG, UNIT-220	

Comment Summary

Restoration Monitoring Sites 2005

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>
117	SB	00	1873.2		H=0.9M	H 0.9M, 0.5M DEEP POCKET
120	LP	00	1911.6	HS	HS 21, SPAWNING SURV	
121	RI	01	1952.8	TJ/, HS		
122	RI	11	1952.8			TRIB
123	RI	01	1973.2	HS, DJ		
124	PD	02	1973.2	SS/		
125	SL	00	1973.7	DJ	H=0.3M	H 0.3M
126	RB	00	1983		TEMP 13C	



Name: EDDYVILLE
 Date: 6/13/2005
 Scale: 1 inch equals 2000 feet

Location: 10 437253 E 4945659 N
 Caption: HAYES CREEK RESTORATION SITE - YAQUINA BASIN