

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

STREAM: BAYS CREEK
 GCG: 1-NC
 SITE ID: 3
 BASIN: NESTUCCA
 TREATMENT DATE: 2003
 SURVEY DATE: 3/27/2009
 SURVEY CREW: Ryan Jacobsen / Miles Johnson
 USGS MAPS: BLAINE
 ECOREGION: Volcanics
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T03S-R09W-S24SW

SURVEY DESCRIPTION:

Channel morphology: Constrained alternately by high terraces and hillslopes

Dominant landuse(s): Second growth timber (15-30 cm dbh)

Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh

Primary channel length (meters) and area (m²): 485 : 3,508

Secondary channel length (meters) and area (m²): 46 : 73

VWI average: 2.8 VWI Range: 1.5 - 4 Average Gradient: 2.0%

Pieces LWD per 100m: 11.5 Wood Volume (m³) per 100m: 65.4

Percent pools: 29% Complex pools (LWD pieces \geq 3): 5 Pools \geq 1m deep:2

<u>Percent substrate (avg):</u>	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	0	21	24	22	7	26
Pool units	0	37	25	14	8	17
Fast water units	0	11	26	24	7	32

SURVEY COMMENTS:

The Bays Creek habitat survey is a post-treatment, long term monitoring site. The crew noted small tributaries throughout the surveyed length and also made note of observing amphibians. There were no potential barriers to upstream fish migration observed within the survey reach. A previous post-treatment habitat survey was conducted during the winter of 2004. Comparisons were made among key coho salmon habitat attributes: total secondary channel length, pieces of LWD per 100 m, wood volume per 100 m, percent pools, and complex pools. All key attributes increased except pieces of LWD, which showed a slight decrease.

Survey Date: 3/27/2009

Report Date: 2/16/2010 T03S-R09W-S24SW

REACH 1

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	100%
Moderate V-shape	0%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	2.8	VWI Range:	1.5 - 4

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

Type	Length (m)	Area (m ²)	Dry Units
Primary	485	3,508	0
Secondary	46	73	0

Channel Dimensions (m)

Wetted	Active	Floodprone <i>n</i> = 5	First Terrace <i>n</i> = 3
Width: 6.1	Width: 7.4	10.8 (6 - 14.8)	14.5 (11.5 - 17)
Depth: 0.49	Height: 0.5	1.1 (0.9 - 1.2)	1.4 (1.1 - 1.7)

W:D ratio: 14.3

Stream Flow Type: MF

Average Unit Gradient: 2.0%

Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 5.5

Habitat Units/100m (primary channel length): 6.0

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	LT
Riparian Vegetation:	D30	S

Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:		Reach avg:
Undercut Banks:		Range: -

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	56	11.5
Volume (m ³):	317	65.4
Key pieces (>=12m x 0.60m):	34	7.0

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T03S-R09W-S24SW

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/BOULDERS	4	27	0.9	0.04	26	0	0	11	55	23	9	3
POOL-BACKWATER	1	4	1.5	0.30	5	0	10	90	0	0	0	0
POOL-LATERAL SCOUR	7	126	8.1	0.90	1,001	0	0	39	21	12	8	19
POOL-PLUNGE	1	8	6.0	0.80	48	0	0	19	48	24	10	0
RAPID/BEDROCK	8	198	6.5	0.49	1,295	0	0	11	9	9	4	67
RAPID/BOULDERS	5	118	7.3	0.33	853	0	0	11	28	38	12	11
RIFFLE	2	48	7.1	0.33	340	0	0	15	35	45	0	5
STEP/COBBLE	1	2	7.0	0.35	14	0	0	0	10	80	10	0
Total:	29	531	6.1	0.49	3,580	0	Avg: 0	21	24	22	7	26

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	1	4	1.5	0.30	5	0.15%	0	0.0
Scour Pools	8	134	7.8	0.89	1,049	29.28%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	2	48	7.1	0.33	340	9.48%	0	0.0
Rapids	13	316	6.8	0.43	2,148	59.98%	0	0.0
Cascades	4	27	0.9	0.04	26	0.71%	0	0.0
Step/Falls	1	2	7.0	0.35	14	0.39%	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

GCG: 1-NC BAYS CREEK
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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:	9	17.0	18.6
Pools >=1m deep:	2	3.8	4.1
Complex pools (LWD pieces>=3):	5	9.4	10.3
Pool frequency (channel widths/pool):	7.9		
Residual pool depth (avg):	0.49		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 3/27/2009

COMMENT SUMMARY

MONITORING AREA: 1-NC SITE ID: 3 STREAM: BAYS CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	RR	00	25		T=8C
1	2	LP	01	42	TJ/	
1	3	CB	11	42		ACW=1.5M, T=8C
1	7	RR	00	117	SS/	
1	8	RR	01	142	/TJ	
1	9	CB	11	142		ACW=0.9M, T=8C
1	12	RR	01	215	TJ/	
1	13	CB	11	215		ACW=1.3M, T=8C
1	21	LP	01	356	/TJ	
1	22	CB	11	356		ACW=1.4M, T=9C
1	28	RB	01	485	/TJ	
1	29	RB	11	485		ACW=3.5M, T=8.5C

Bays Creek (NC-3) 2009 Winter Habitat Survey Photographs



Unit 1 - Upstream view at start of survey.



Unit 8 - Looking upstream at a bedrock rapid.



Unit 25 - Habitat structure within left bank influencing active channel.



Unit 25 - Downstream view of habitat structure.



Unit27 - Downstream view of habitat structure at end of survey.