

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

STREAM: BARN GULCH
 GCG: 3-MS
 SITE ID: 181
 BASIN: TENMILE LAKE
 TREATMENT DATE: 2003
 SURVEY DATE: 4/28/2009
 SURVEY CREW: Ryan Jacobsen / Miles Johnson
 USGS MAPS: TRAIL BUTTE
 ECOREGION: Mid-Coastal Sedimentary
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T23S-R12W-S13SE

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): 546 : 1,087

Secondary channel length (meters) and area (m²): 25 : 13

VWI average: 4.8 VWI Range: 4 - 6 Average Gradient: 1.1%

Pieces LWD per 100m: 8.6 Wood Volume (m³) per 100m: 10.8

Percent pools: 48% Complex pools (LWD pieces \geq 3): 4 Pools \geq 1m deep:0

<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	10	20	52	18	0	0
Pool units	14	20	53	13	0	0
Fast water units	5	18	53	24	0	0

SURVEY COMMENTS:

The Barn Gulch habitat survey is a post-treatment, long term monitoring site. The crew noted observing a red legged frog during the survey. 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 either stayed approximately the same or decreased slightly except secondary channel length, which showed a significant increase.

Survey Date: 4/28/2009

Report Date: 2/16/2010

T23S-R12W-S13SE

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	4.8	VWI Range:	4 - 6

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	546	1,087	0
Secondary	25	13	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 2.1	Width: 3.1	4.5 (3.1 - 5.3)	5.8 (3.3 - 7.7)
Depth: 0.27	Height: 0.3	0.6 (0.5 - 0.8)	0.9 (0.7 - 1.1)

W:D ratio: 10.4

Stream Flow Type: MF

Average Unit Gradient: 1.1%

Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.6

Habitat Units/100m (total channel length): 8.6

Habitat Units/100m (primary channel length): 9.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
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):	47	8.6
Volume (m ³):	59	10.8
Key pieces (>=12m x 0.60m):	0	0.0

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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	1	11	0.3	0.05	3	0	0	0	30	70	0	0	
POOL-BACKWATER	1	2	3.0	0.25	6	0	30	60	10	0	0	0	
POOL-LATERAL SCOUR	25	224	2.5	0.43	531	0	14	20	53	13	0	0	
RAPID/BOULDERS	2	23	0.3	0.02	7	0	13	18	55	15	0	0	
RIFFLE	17	305	1.8	0.12	536	0	4	20	54	22	0	0	
STEP/COBBLE	3	6	2.8	0.08	17	0	3	20	50	27	0	0	
Total:		49	571	2.1	0.27	1,100	0	Avg: 10	20	52	18	0	0

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	2	3.0	0.25	6	0.55%	0	0.0
Scour Pools	25	224	2.5	0.43	531	48.25%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	17	305	1.8	0.12	536	48.76%	0	0.0
Rapids	2	23	0.3	0.02	7	0.63%	0	0.0
Cascades	1	11	0.3	0.05	3	0.30%	0	0.0
Step/Falls	3	6	2.8	0.08	17	1.52%	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

BARN GULCH
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POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	26	45.6	47.6
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	4	7.0	7.3
Pool frequency (channel widths/pool):	7.0		
Residual pool depth (avg):	0.33		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 4/28/2009

COMMENT SUMMARY

MONITORING AREA: 3-MS SITE ID: 181 STREAM: BARN GULCH

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	LP	00	4.3		CT\CT D30\S ST\YT, T=9C
1	14	RI	00	170.5		CT\CT D30\S ST\YT
1	22	LP	01	262.5	TJ\	
1	23	RB	11	262.5		ACW=0.5M, T=8C
1	24	RI	00	272.1		CA\CT D30\S ST\LT
1	32	RI	00	351.1		CA\CT D30\S ST\LT
1	43	RI	01	475.3	TJ\	
1	44	CB	00	486.3		ACW=0.7M, T=8C
1	46	RB	11	492.8		ACW=0.6M, T=6.5C
1	49	RI	00	545.8		CA\CT D30\S ST\LT

Barn Gulch (MS-181) 2009 Winter Habitat Survey Photographs



Unit 1 - Upstream view of Barn Gulch survey and placed habitat logs.



Unit 24 - Upstream view of Barn Gulch riparian.



Unit 25 - Upstream view of pool with a redd in the tailout.



Unit 49 - A downstream view at the end of the survey.