

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

STREAM: BEAR CREEK
 GCG: 3-MS
 SITE ID: 125
 BASIN: COQUILLE
 TREATMENT DATE: 2002
 SURVEY DATE: 4/28/2009
 SURVEY CREW: Ryan Jacobsen / Miles Johnson
 USGS MAPS: BILL PEAK
 ECOREGION: Coastal Uplands
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T29S-R14W-S12SE

SURVEY DESCRIPTION:

Channel morphology: Constrained alternately by high terraces and hillslopes

Dominant landuse(s): Timber harvest - not yet replanted.

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

Primary channel length (meters) and area (m²): 697 : 3,775

Secondary channel length (meters) and area (m²) 9 : 10

VWI average: 13.5 VWI Range: 10 - 20 Average Gradient: 0.3%

Pieces LWD per 100m: 12.5 Wood Volume (m³) per 100m: 20.5

Percent pools: 85% Complex pools (LWD pieces>=3): 10 Pools >=1m deep: 10

<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	15	30	50	4	0	1
Pool units	21	38	37	2	0	2
Fast water units	4	16	66	15	0	0

SURVEY COMMENTS:

Bear Creek reach 1 is a post-treatment, long term monitoring site. Reach 1 ended at a tributary junction (Monroe Creek) approximately 720 meters upstream from the start of the survey. A large active landslide was noted at unit 17, approximately 300 meters upstream from the start of 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 2003. 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. Wood volume and percent pools increased, while all other attributes decreased.

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REACH: 2 LOCATION: T29S-R14W-S12SE

SURVEY DESCRIPTION:

Channel morphology: Constrained by high terraces
 Dominant landuse(s): Young forest trees (3-15 cm dbh)
 Dominant riparian vegetation: Deciduous trees: size class 30-50cm dbh
 Primary channel length (meters) and area (m²): 22 : 88
 Secondary channel length (meters) and area (m²): 21 : 29
 VWI average: 20.0 VWI Range: 20 - 20 Average Gradient: 0.0%
 Pieces LWD per 100m: 4.5 Wood Volume (m³) per 100m: 0.7
 Percent pools: 75% Complex pools (LWD pieces>=3): 0 Pools >=1m deep:0
Percent substrate (avg): Silt / organics Sand Gravel Cobble Boulder Bedrock
 All units 22 28 50 0 0 0
 Pool units 10 25 65 0 0 0
 Fast water units 5 10 85 0 0 0

SURVEY COMMENTS:

Bear Creek reach 2 is a post-treatment, long term monitoring site. Reach 2 started at a tributary junction (Monroe Creek) approximately 720 meters upstream from the start of the survey and ended at a cable crossing approximately 200 meters upstream of the tributary. There were no potential barriers to upstream fish migration observed within the survey reach.

Survey Date: 4/28/2009

Report Date: 2/16/2010

T29S-R14W-S12SE

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	13.5	VWI Range:	10 - 20

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	697	3,775	0
Secondary	9	10	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 4
Width: 5.1	Width: 6.5	7.8 (6 - 9.5)	9.9 (8.5 - 11)
Depth: 0.61	Height: 0.3	0.7 (0.5 - 0.7)	2.4 (1.95 - 3.5)

W:D ratio: 20.3

Stream Flow Type: MF

Average Unit Gradient: 0.3%

Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.2

Habitat Units/100m (total channel length): 5.7

Habitat Units/100m (primary channel length): 5.7

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	TH	ST
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):	87	12.5
Volume (m ³):	143	20.5
Key pieces (>=12m x 0.60m):	7	1.0

Survey Date: 4/28/2009

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T29S-R14W-S12SE

REACH 2

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	20.0	VWI Range:	20 - 20

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

Type	Length (m)	Area (m2)	Dry Units
Primary	22	88	0
Secondary	21	29	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 1	<u>First Terrace</u> n = 1
Width: 2.4	Width: 8.0	10.5 (10.5 - 10.5)	12.0 (12 - 12)
Depth: 0.50	Height: 0.4	0.7 (0.7 - 0.7)	3.0 (3 - 3)

W:D ratio: 22.9

Stream Flow Type: MF

Average Unit Gradient: 0.0%

Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 7.0

Habitat Units/100m (primary channel length): 13.6

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	ST
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):	1	4.5
Volume (m ³):	0	0.7
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

BEAR CREEK
GCG: 3-MS SITE ID: 125

Survey Date: 4/28/2009

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T29S-R14W-S12SE

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	1	7	1.0	0.05	7	0	0	0	65	35	0	0
POOL-DAMMED	1	14	5.0	0.75	70	0	14	76	10	0	0	0
POOL-ISOLATED	1	2	1.3	0.30	3	0	33	44	22	0	0	0
POOL-LATERAL SCOUR	23	532	6.0	0.89	3,134	0	21	36	38	2	0	2
RIFFLE	7	123	3.8	0.19	461	0	4	18	66	12	0	0
STEP/COBBLE	6	27	3.8	0.15	96	0	0	13	87	1	0	0
STEP/LOG	1	1	10.0	0.40	13	0	30	40	30	0	0	0
Total:	40	706	5.1	0.61	3,784	0	Avg: 15	30	50	4	0	1

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	16	3.2	0.53	73	1.92%	0	0.0
Scour Pools	23	532	6.0	0.89	3,134	82.82%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	7	123	3.8	0.19	461	12.19%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	1	7	1.0	0.05	7	0.18%	0	0.0
Step/Falls	7	28	4.7	0.19	109	2.89%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

Survey Date: 4/28/2009

Report Date: 2/16/2010

T29S-R14W-S12SE

REACH 2

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	
POOL-BACKWATER	1	4	1.8	0.50	7	0	50	50	0	0	0	0	
POOL-LATERAL SCOUR	1	22	4.0	0.90	88	0	10	25	65	0	0	0	
RIFFLE	1	17	1.3	0.10	22	0	5	10	85	0	0	0	
Total:		3	43	2.4	0.50	117	0	Avg: 22	28	50	0	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	4	1.8	0.50	7	6.14%	0	0.0
Scour Pools	1	22	4.0	0.90	88	75.02%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	1	17	1.3	0.10	22	18.84%	0	0.0
Rapids	0	0			0	0.00%	0	0.0
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	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
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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:	25	35.4	35.9
Pools >=1m deep:	10	14.2	14.3
Complex pools (LWD pieces>=3):	10	14.2	14.3
Pool frequency (channel widths/pool):	4.4		
Residual pool depth (avg):	0.67		

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

BEAR CREEK
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REACH 2

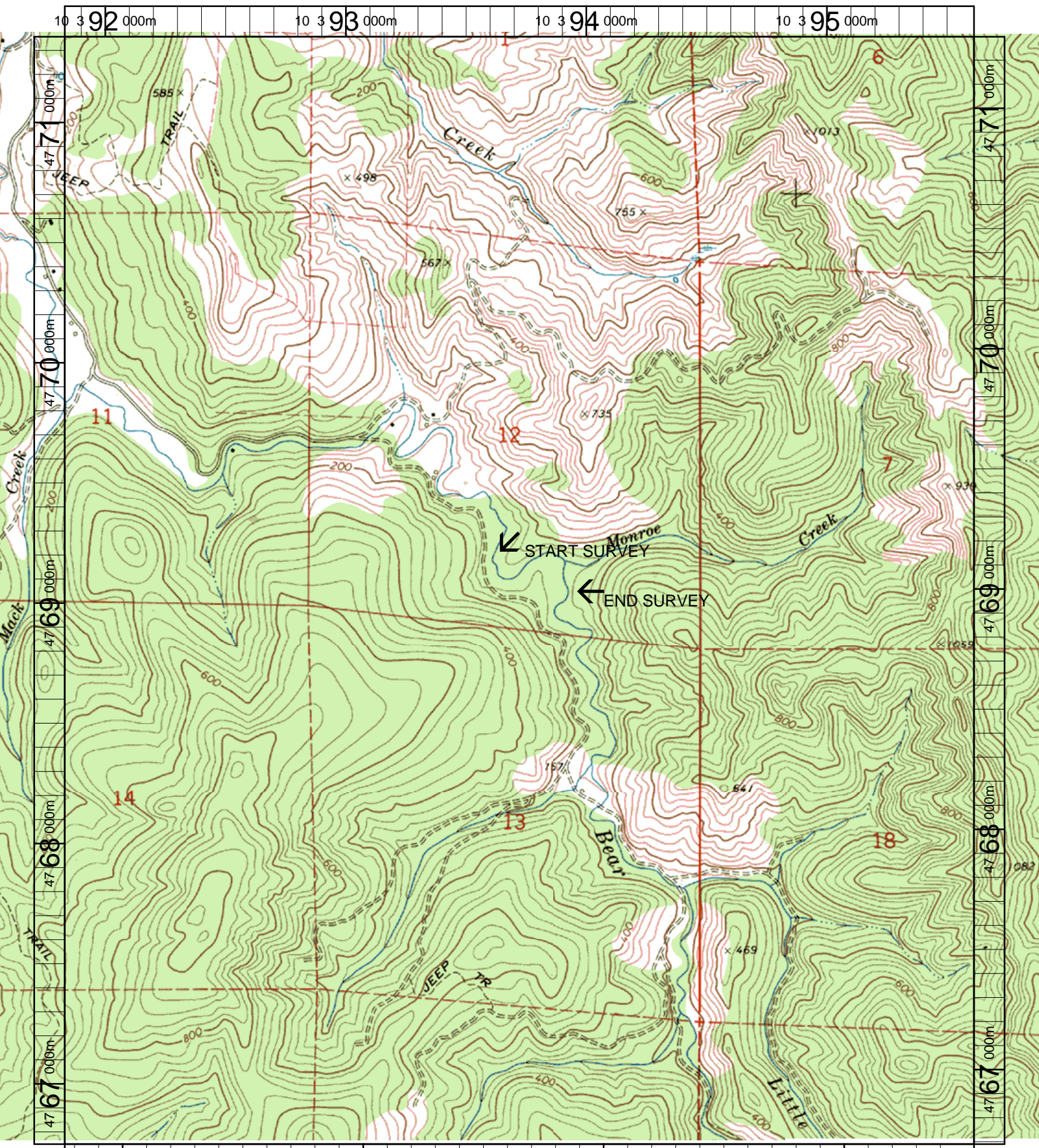
POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	2	46.5	90.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	2.7		
Residual pool depth (avg):	0.80		

COMMENT SUMMARY

MONITORING AREA: 3-MS SITE ID: 125 STREAM: BEAR CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	LP	00	27		T=9C
1	10	LP	01	182.5	/TJ	HARDPAN
1	11	CB	11	182.5		ACW=1.5M, T=8C
1	17	LP	00	298.5	/LA	5M W X 8M H
1	22	LP	00	362.5	RF	
1	40	RI	01	696.9	TJ/	BEGIN REACH 2 AT TJ/ GPS POINT
2	42	RI	11	696.9	RF	ACW=2.6M, T=9C, ATV TRAIL FORDS TRIB



Name: BILL PEAK
 Date: 3/20/2003
 Scale: 1 inch equals 1666 feet

Location: 10 393681 E 4769027 N
 Caption: BEAR CREEK RESTORATION SITE- COQUILLE BASIN

Bear Creek (MS-125) 2009 Winter Habitat Survey Photographs



Unit 4 - Upstream view of habitat structure near start of survey.



Unit 7 - Looking upstream towards placed log habitat structures.



Unit 10 - Upstream view of habitat structure debris jam.



Unit 11 - Small tributary with placed logs visible.



Unit 40 - Habitat structure collecting debris.



Unit 40 - Debris jam collecting wood and accumulation of gravel.