

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

STREAM: GALES CREEK
 GCG: 8-W
 SITE ID: 460
 BASIN: TUALATIN
 TREATMENT DATE: 2011
 SURVEY DATE: 4/18/2011
 SURVEY CREW: Frank Drake and Kara Anlauf
 USGS MAPS: TIMBER
 ECOREGION: Prairie Terraces
 REPORT PREPARED BY: Matt Strickland / Charles Stein

REACH: 1 LOCATION: T02N-R06W-S24NE

SURVEY DESCRIPTION:

Channel morphology: Constrained by 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): 477 : 4,746
 Secondary channel length (meters) and area (m²): 274 : 887
 VWI average: 1.6 VWI Range: 1.5 - 2 Average Gradient: 3.6%
 Pieces LWD per 100m: 21.4 Wood Volume (m³) per 100m: 10.9
 Percent pools: 6% Complex pools (LWD pieces>=3): 0 Pools >=1m deep:2
 Percent substrate (avg):

	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	14	16	20	35	13	4
Pool units	0	13	20	28	10	30
Fast water units	3	9	24	43	18	3

SURVEY COMMENTS:

This is a pre treatment restoration survey. The crew noted beaver activity consisting of fresh chewed sticks. The crew also noted numerous debris jams throughout the survey length.

Survey Date: 4/18/2011

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T02N-R06W-S24NE

REACH 1

Valley and Channel Summary

Valley Characteristics (Percent Reach Length)

Narrow Valley Floor		Broad Valley Floor	
Steep V-shape	0%	Constraining Terraces	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	1.6	VWI Range:	1.5 - 2

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

Type	Length (m)	Area (m ²)	Dry Units
Primary	477	4,746	0
Secondary	274	887	8

Channel Dimensions (m)

Wetted	Active	Floodprone <i>n</i> = 4	First Terrace <i>n</i> = 4
Width: 7.3	Width: 16.2	21.2 (16 - 24)	28.5 (25 - 32)
Depth: 0.43	Height: 0.8	1.7 (1.6 - 1.7)	2.3 (2 - 2.5)

W:D ratio: 19.8

Stream Flow Type: MF

Average Unit Gradient: 3.6%

Water temperature (°C): 6.0 - 6.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 4.0

Habitat Units/100m (primary channel length): 6.3

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:	2%	Reach avg: 83%
Undercut Banks:	0%	Range: 67 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	102	21.4
Volume (m ³):	52	10.9
Key pieces (>=12m x 0.60m):	0	0.0

HABITAT INVENTORY

GCG: 8-W

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T02N-R06W-S24NE

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
DRY CHANNEL	4	109	4.3	0.00	500	0	30	29	18	24	0	0
DRY UNIT	1	26	3.2	0.00	83	2	30	10	10	40	10	0
POOL-ALCOVE	1	28	1.5	0.10	42	0	90	10	0	0	0	0
POOL-BACKWATER	1	3	8.0	0.80	24	1	10	30	10	40	10	0
POOL-LATERAL SCOUR	1	18	9.1	1.10	164	0	0	20	30	35	0	15
POOL-STRAIGHT SCOUR	1	17	9.1	1.40	155	3	0	5	10	20	20	45
PUDDLED UNIT	3	70	2.3	0.18	208	2	33	37	10	17	3	0
RAPID/BOULDERS	16	442	10.1	0.55	4,427	61	0	6	24	48	20	3
RIFFLE	2	38	0.8	0.05	30	0	30	40	25	5	0	0
Total:	30	751	7.3	0.43	5,633	69	Avg: 14	16	20	35	13	4

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	31	4.8	0.45	66	1.17%	1	1.5
Scour Pools	2	35	9.1	1.25	319	5.65%	3	0.9
Glides	0	0			0	0.00%	0	0.0
Riffles	2	38	0.8	0.05	30	0.54%	0	0.0
Rapids	16	442	10.1	0.55	4,427	78.59%	61	1.4
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	0	0			0	0.00%	0	0.0
Dry	8	205	3.4	0.07	791	14.04%	4	0.5
Culverts	0	0			0	0.00%	0	0.0

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

**GCG: 8-W GALES CREEK
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Survey Date: 4/18/2011

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T02N-R06W-S24NE

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	4	5.3	8.4
Pools >=1m deep:	2	2.7	4.2
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	11.6		
Residual pool depth (avg):	0.70		

Survey Date 4/18/2011

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

Report Date: 9/14/2011

Summary of Riparian Zone (0-30m) 3 transects

Total hardwoods/1000	630
Total conifers/1000 ft	264
Total conifers >20" dbh/1000 f	20
Total conifers >35" dbh/1000 f	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1 <u>0-10 meters</u>		Zone 2 <u>10 - 20 meters</u>		Zone 3 <u>20 - 30 meters</u>		Zones 1-3 <u>0-30 meters</u>	
	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood	Conifer	Hardwood
3-15cm	0.0	0.3	0.0	0.7	1.3	0.0	1.3	1.0
15-30cm	0.0	2.7	0.7	3.3	0.3	1.0	1.0	7.0
30-50cm	0.0	1.0	0.3	1.0	1.3	0.3	1.7	2.3
50-90cm	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.3	4.0	1.0	5.0	3.0	1.3	1.4	3.4

Canopy closure and ground cover

	Zone 1 <u>0-10 meters</u>		Zone 2 <u>10 - 20 meters</u>		Zone 3 <u>20 - 30 meters</u>	
	(%)		(%)		(%)	
Canopy closure	41		60		63	
Shrub cover	19		36		29	
Grass/forb cover	44		64		53	

Predominant landform in each zone

	Zone 1 <u>0-10 meters</u>		Zone 2 <u>10 - 20 meters</u>		Zone 3 <u>20 - 30 meters</u>	
	(%)		(%)		(%)	
Hillslope	0		67		50	
High terrace	50		33		17	
Low terrace	17		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	33		0		0	
Roadbed/Railroad	0		0		33	
Riprap	0		0		0	
Surface slope (%)	5		21		13	

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

3 transects

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

Total hardwoods/1000	630
Total conifers/1000 ft	264
Total conifers >20" dbh/1000 f	20
Total conifers >35" dbh/1000 f	0

Average number of trees in a 5-m wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u> <u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	1.3	1.0
15-30cm	1.0	7.0
30-50cm	1.7	2.3
50-90cm	0.3	0.0
>90cm	0.0	0.0

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	
6	LF	1	SC	0	60	5	30	Conifer				1		471699E 5054214N
								Hardwood		1	1			
6	LF	2	HT	20	50	60	40	Conifer						
								Hardwood						
6	LF	3	HT	0	60	60	40	Conifer						
								Hardwood			1			
6	RT	1	HT	0	70	10	85	Conifer						
								Hardwood		4				
6	RT	2	HS	10	70	25	75	Conifer		1				
								Hardwood		1	1			
6	RT	3	HS	10	70	25	75	Conifer	3			1		
								Hardwood		1				
18	LF	1	SC	0	5	20	10	Conifer						471519E 5054229N
								Hardwood						
18	LF	2	HS	20	70	20	80	Conifer						
								Hardwood		4				
18	LF	3	HS	40	80	10	90	Conifer	1					
								Hardwood		1				
18	RT	1	HT	30	40	40	60	Conifer						
								Hardwood		1	2			
18	RT	2	HT	0	60	30	70	Conifer				1		
								Hardwood	1	1	1			
18	RT	3	RB	0	50	20	30	Conifer				1		
								Hardwood						
28	LF	1	LT	0	20	10	20	Conifer						471387E 5054232N
								Hardwood						
28	LF	2	HS	30	60	60	40	Conifer						
								Hardwood	1	1	1			
28	LF	3	HS	25	80	50	50	Conifer				1		
								Hardwood		1				
28	RT	1	HT	0	50	30	60	Conifer						
								Hardwood	1	2				
28	RT	2	HS	45	50	20	80	Conifer				1		
								Hardwood		3				
28	RT	3	RB	0	40	10	30	Conifer			1	1		
								Hardwood						

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 4/18/2011

COMMENT SUMMARY

MONITORING AREA: 8-W SITE ID: 460 STREAM: GALES CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	LP	01	18		471731E 5054216N START SIGN R ALDER AT FIRST R TR ABOVE BRIDGE
1	2	RB	01	50	DJ	
1	3	RB	01	75	DJ	
1	4	RI	02	75	DJ	
1	5	RI	02	75	DJ	
1	6	RB	01	100	DJ	RIP 471699E 5054214N. RIP 1
1	8	PD	02	125		ACW 8M, PUDDLES 4X1
1	9	DC	02	125	DJ	
1	11	RB	01	155	DJ,BV	BV CHEW
1	12	PD	02	155		ACW 4.4
1	13	DC	02	155	DJ	ACW=4.2
1	14	RB	00	185	DJ	

COMMENT SUMMARY

MONITORING AREA: 8-W SITE ID: 460 STREAM: GALES CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	15	RB	00	217	DJ	
1	17	RB	01	264	DJ	
1	18	RB	01	290		RIP/METRIC 471519E 5054229N. RIP 2
1	20	DC	02	323	DJ	ACW=2.8
1	21	DC	02	323		ACW=4.3
1	22	PD	02	323	DJ	ACW=3.6 PD 6X1
1	23	DU	02	323		ACW=3.2
1	24	RB	00	347	DJ	TJ/
1	27	BW	10	399		PARTIAL SILL
1	28	RB	00	424	DJ	RIP/METRIC 471387E 5054232N
1	30	SP	00	477	WL	END/FLAG, METRIC AT TOP OF POOL. KINGFISHER

8-W 460 Gales Creek (Tualatin Basin) 2011 Winter Restoration Survey Photographs



Upstream view of survey.



Downstream view of survey.



Upstream view of survey.



Downstream view of alders in stream and riparian.