

**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: 2/6/2012
 SURVEY CREW: Frank Drake and Nick Chambers
 USGS MAPS: TIMBER
 ECOREGION: Prairie Terraces
 REPORT PREPARED BY: Lora Tennant

REACH: 1 LOCATION: T02N-R06W-S24SE

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): 488 : 4,102
 Secondary channel length (meters) and area (m²) 185 : 784
 VWI average: 3.0 VWI Range: 1.5 - 6 Average Gradient: 2.0%
 Pieces LWD per 100m: 36.3 Wood Volume (m³) per 100m: 62.6
 Percent pools: 28% Complex pools (LWD pieces>=3): 5 Pools >=1m deep: 3
Percent substrate (avg): Silt / organics Sand Gravel Cobble Boulder Bedrock
 All units 8 16 32 31 9 4
 Pool units 3 19 36 25 9 8
 Fast water units 0 8 32 44 15 1

SURVEY COMMENTS:

This is a post-restoration habitat survey. Numerous log habitat structures were noted throughout the survey site.

Survey Date: 2/6/2012

Report Date: 11/13/2012

T02N-R06W-S24SE

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	0%
Moderate V-shape	100%	Multiple Terraces	0%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	3.0	VWI Range:	1.5 - 6

Channel Morphology (Percent Reach Length)

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

Channel Characteristics

<u>Type</u>	<u>Length (m)</u>	<u>Area (m²)</u>	<u>Dry Units</u>
Primary	488	4,102	0
Secondary	185	784	4

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 3
Width: 7.3	Width: 12.4	19.2 (13 - 28)	24.2 (18.5 - 31)
Depth: 0.50	Height: 0.7	1.4 (1.3 - 1.4)	1.8 (1.6 - 2.1)

W:D ratio: 18.0

Stream Flow Type: MF

Average Unit Gradient: 2.0%

Water temperature (°C): 6.0 - 6.0

Entrenchment (ACW:FPW ratio): 1.6

Habitat Units/100m (total channel length): 5.1

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

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:	2%	Reach avg: 80%
Undercut Banks:	0%	Range: 56 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	177	36.3
Volume (m ³):	306	62.6
Key pieces (>=12m x 0.60m):	9	1.8

HABITAT INVENTORY

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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 UNIT	2	58	6.3	0.00	335	3	13	18	40	28	3	0
POOL-ALCOVE	1	21	1.8	0.20	38	0	100	0	0	0	0	0
POOL-BACKWATER	4	16	2.5	0.56	42	1	18	29	23	19	3	10
POOL-DAMMED	1	26	11.0	1.10	286	1	10	35	35	15	5	0
POOL-LATERAL SCOUR	5	99	7.8	1.05	793	15	0	16	40	24	10	10
POOL-PLUNGE	1	4	13.5	0.75	47	1	15	20	20	40	5	0
POOL-STRAIGHT SCOUR	2	31	8.0	0.80	262	16	3	18	35	25	10	10
PUDDLED UNIT	2	90	4.5	0.15	370	4	20	28	33	18	3	0
RAPID/BOULDERS	9	227	8.9	0.34	1,964	96	0	7	28	45	19	2
RIFFLE	4	68	5.9	0.40	448	13	0	8	36	44	13	0
RIFFLE W/ POCKETS	1	32	9.0	0.50	288	0	0	20	45	35	0	0
STEP/LOG	2	1	11.5	0.11	14	1	5	25	45	23	3	0
Total:	34	673	7.3	0.50	4,886	151	Avg: 8	16	32	31	9	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	6	63	3.8	0.59	365	7.48%	2	0.5
Scour Pools	8	134	8.6	0.95	1,102	22.55%	32	2.9
Glides	0	0			0	0.00%	0	0.0
Riffles	5	100	6.5	0.42	736	15.06%	13	1.8
Rapids	9	227	8.9	0.34	1,964	40.20%	96	4.9
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	2	1	11.5	0.11	14	0.29%	1	7.1
Dry	4	148	5.4	0.08	705	14.43%	7	1.0
Culverts	0	0			0	0.00%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

GCG: 8-W GALES CREEK
SITE ID: 460

Survey Date: 2/6/2012

Report Date: 11/13/2012

T02N-R06W-S24SE

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	14	20.8	28.7
Pools >=1m deep:	3	4.5	6.1
Complex pools (LWD pieces>=3):	5	7.4	10.2
Pool frequency (channel widths/pool):	3.9		
Residual pool depth (avg):	0.66		

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

GCG: 8-W

**GALES CREEK
SITE ID: 460**

Survey Date 2/6/2012

RIPARIAN ZONE

Report Date: 11/13/2012

VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	1138
Total conifers/1000 ft	203
Total conifers >20" dbh/1000 ft	0
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	1.3	0.3	2.0	0.0	0.0	0.3	3.3
15-30cm	0.0	4.7	0.3	3.0	0.3	1.0	0.7	8.7
30-50cm	0.0	2.0	0.7	2.7	1.7	0.7	2.3	5.3
50-90cm	0.0	0.3	0.0	0.3	0.0	0.7	0.0	1.3
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m ²	0.0	8.3	1.3	8.0	2.0	2.3	1.1	6.2

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	70		77		64	
Shrub cover	37		27		23	
Grass/forb cover	22		31		45	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	0		50		50	
High terrace	67		33		33	
Low terrace	33		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		17		0	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	0		6		23	

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 ft	1138
Total conifers/1000 ft	203
Total conifers >20" dbh/1000 ft	0
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	0.3	3.3
15-30cm	0.7	8.7
30-50cm	2.3	5.3
50-90cm	0.0	1.3
>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		
9	LF	1	HT	0	80	20	20	Conifer							UTM=0471570/ 5054452
								Hardwood		1	1				
9	LF	2	SC	0	75	30	20	Conifer							SC/HT
								Hardwood			1				
9	LF	3	HT	0	70	40	25	Conifer							3MTRANSITIO N,SLOPE=50%
								Hardwood		1					
9	RT	1	HT	0	80	30	10	Conifer							
								Hardwood		6	1				
9	RT	2	HT	0	85	30	15	Conifer							
								Hardwood			3				
9	RT	3	HT	0	70	25	30	Conifer							
								Hardwood		1	1	2			
20	LF	1	LT	0	75	10	30	Conifer							UTM=0471386/ 5054438
								Hardwood		1					LT/HT S=10
20	LF	2	HT	0	75	40	20	Conifer							2M
								Hardwood		3	2	1			TRANSITION SLOPE=80
20	LF	3	HS	60	70	30	60	Conifer							
								Hardwood			1				
20	RT	1	HT	0	80	30	40	Conifer							1M
								Hardwood	2	4	2	1			TRANSITION SLOPE=90
20	RT	2	HS	20	80	30	30	Conifer							2M ROADBED
								Hardwood	5	1	2				
20	RT	3	RB	0	15	5		Conifer							GRAVEL
								Hardwood							
32	LF	1	LT	0	45	80	10	Conifer							UTM=0471261/ 5054443 S=80
								Hardwood		1	2				
32	LF	2	HS	10	75	10	70	Conifer	1		2				
								Hardwood	1						
32	LF	3	HS	70	80	5	80	Conifer		1	1				
								Hardwood							
32	RT	1	HT	0	60	50	20	Conifer							1M
								Hardwood	2	1					TRANSITION, SLOPE=100
32	RT	2	HS	5	70	20	30	Conifer		1					
								Hardwood		5					
32	RT	3	HS	10	80	30	30	Conifer				4			
								Hardwood		1					

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 2/6/2012

COMMENT SUMMARY

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

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	LP	00	31	DJ,HS	CH/MV D30/S LT/ST, PHOTO-0035-0039
1	4	RB	01	89	HS	
1	5	BW	10	89	HS	
1	6	RB	01	123	HS,DJ	
1	7	PD	02	123	DJ	AVG POOL 2X1
1	8	DU	02	123	DJ,HS	
1	9	RI	01	151		CT/MT D30/S ST/LT, PHOTO-0040-0043
1	11	RB	01	168	HS	
1	12	BW	10	168	DJ,HS	
1	13	SL	00	168.4	HS	H=0.7M

COMMENT SUMMARY

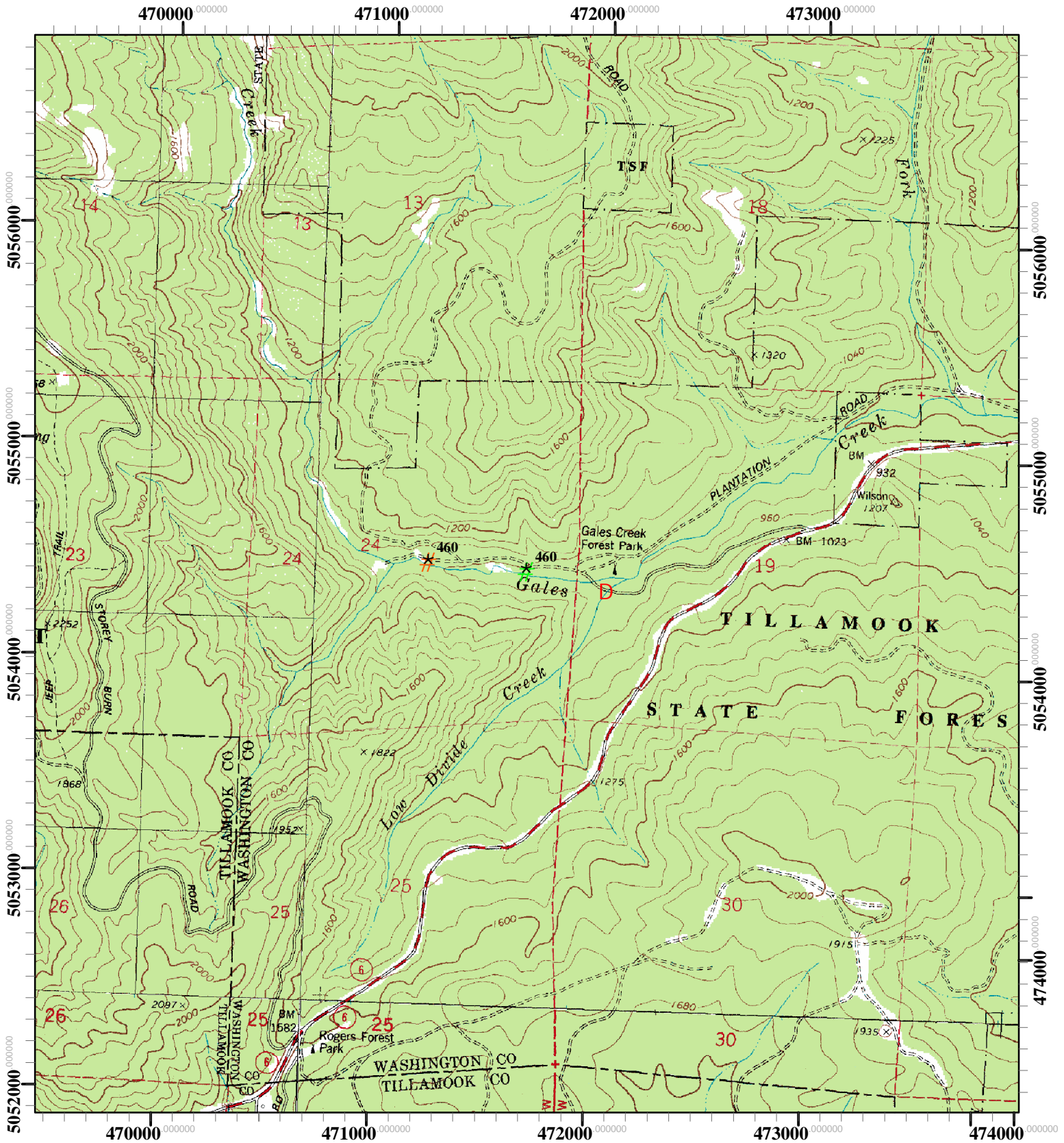
MONITORING AREA: 8-W SITE ID: 460 STREAM: GALES CREEK

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	14	DP	00	194.4	HS	
1	15	RB	01	221.4	HS	
1	16	LP	01	233.4	HS	
1	17	RB	01	250.4	HS	
1	18	SP	01	270.4	HS	
1	19	RB	01	315.4	HS	PHOTO-0044-0047
1	20	LP	00	332.4	HS,DJ	CT/MT D30/S ST/LT, SITE 4 START SEG 2
1	21	DU	02	332.4	HS	
1	22	PD	02	332.4	HS	AVG POOL 4X0.5
1	24	BW	10	340.4	HS	

COMMENT SUMMARY

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

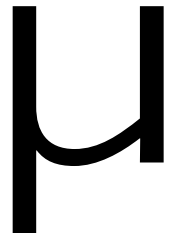
REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	25	SP	00	351.4	DJ	
1	26	RB	00	368.4	DJ	
1	27	RI	00	390.4	HS	
1	28	PP	00	393.9	HS	OLD SILL LOG & NEW HS
1	29	SL	00	394.9	HS	H=0.4M
1	30	RB	00	406.9	HS	PHOTO-0048 UNITS 28-30
1	31	RP	00	438.9	HS,DJ	
1	32	RI	00	448.9		CH/MV D30/S ST/LT
1	34	LP	00	487.9		CH/MV D15/S ST/LT, END OF SURVEY, UTM=0471216/5054438



0 0.25 0.5 1 Kilometers

Site Number: 460
 Stream: Gales Cr
 T02N R06W S24
 County: Washington
 Quad: Timber

- ✱ Restoration Start
- ✱ Restoration End
- D Potential Barrier
- Spawning Survey Segments



W-460 Gales Creek (Tualatin Basin) - 2012 Winter Restoration Survey



Start of survey looking upstream.



Looking upstream to a log habitat structure.



Log habitat structures.



Surveyor with log habitat structures.



End of survey looking upstream.



End of survey looking downstream.