

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

STREAM: GALES CREEK
 GCG: 8-W
 SITE ID: 391
 BASIN: TUALATIN
 TREATMENT DATE: 2008
 SURVEY DATE: 7/7/2008
 SURVEY CREW: Gwyn Woolley-Scott / Linda Campbell
 USGS MAPS: GALES CREEK
 ECOREGION: Prairie Terraces
 REPORT PREPARED BY: Matt Strickland / Sharon Tippery / Charles Stein

SURVEY DESCRIPTION:

Channel morphology: Constrained alternately by high terraces and hillslopes

Dominant landuse(s): Agricultural crop or dairy land.

Dominant riparian vegetation: Shrubs (willow, salmonberry, some small alder)

Primary channel length (meters) and area (m²): 1,024 : 20,275

Secondary channel length (meters) and area (m²) 79 : 304

VWI average: 14.0 VWI Range: 10 - 15 Average Gradient: 0.5%

Pieces LWD per 100m: 4.4 Wood Volume (m³) per 100m: 9.5

Percent pools: 68% Complex pools (LWD pieces>=3): 5 Pools >=1m deep: 4

Percent substrate (avg):	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	12	5	41	21	5	17
Pool units	19	5	34	16	5	23
Fast water units	5	4	45	24	5	17

COMMENTS:

This is a pre-treatment, restoration survey.

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

**GALES CREEK
GCG: 8-W SITE ID: 391**

Survey Date: 7/7/2008

Report Date: 12/29/2008

T01N-R04W-S57SE

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	0%	Multiple Terraces	100%
Open V-shape	0%	Wide Floodplain	0%
Valley Width Index	14.0	VWI Range:	10 - 15

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	1,024	20,275	0
Secondary	79	304	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 4
Width: 16.0	Width: 26.3	35.3 (30 - 41.5)	44.6 (34 - 69.4)
Depth: 0.60	Height: 1.7	3.4 (2 - 4)	4.4 (2.2 - 5.8)

W:D ratio: 17.2

Stream Flow Type: LF

Average Unit Gradient: 0.5%

Water temperature (°C): 15.0 - 15.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 1.5

Habitat Units/100m (primary channel length): 1.6

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	AG	ST
Riparian Vegetation:	S	D30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	33%	Reach avg: 52%
Undercut Banks:		Range: 0 - 89

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	45	4.4
Volume (m ³):	97	9.5
Key pieces (>=12m x 0.60m):	3	0.3

OREGON DEPARTMENT OF FISH AND WILDLIFE

GALES CREEK

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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
POOL-BACKWATER	2	79	3.3	0.50	304	12	29	4	39	18	7	2
POOL-LATERAL SCOUR	5	649	20.0	1.22	13,940	55	19	5	34	16	5	23
RIFFLE	9	375	16.7	0.28	6,335	107	5	4	45	24	5	17
Total:	16	1,103	16.0	0.60	20,579	174	Avg: 12	5	41	21	5	17

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	79	3.3	0.50	304	1.48%	12	3.9
Scour Pools	5	649	20.0	1.22	13,940	67.74%	55	0.4
Glides	0	0			0	0.00%	0	0.0
Riffles	9	375	16.7	0.28	6,335	30.78%	107	1.7
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

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	7	6.3	6.8
Pools >=1m deep:	4	3.6	3.9
Complex pools (LWD pieces>=3):	5	4.5	4.9
Pool frequency (channel widths/pool):	6.0		
Residual pool depth (avg):	1.12		

Survey Date 7/7/2008
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**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

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

Total hardwoods/1000	305
Total conifers/1000 ft	81
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	0.0	0.0	0.7	0.0	0.7	0.0	1.3
15-30cm	0.0	0.7	0.0	1.0	0.0	0.0	0.0	1.7
30-50cm	1.3	1.0	0.0	0.3	0.0	0.7	1.3	2.0
50-90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.3	1.7	0.0	2.0	0.0	1.3	0.4	1.7

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	55		41		26	
Shrub cover	67		52		48	
Grass/forb cover	32		58		42	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	50		0		0	
High terrace	0		50		50	
Low terrace	50		50		33	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	19		2		2	

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	305
Total conifers/1000 ft	81
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	0.0	1.3
15-30cm	0.0	1.7
30-50cm	1.3	2.0
50-90cm	0.0	0.0
>90cm	0.0	0.0

RIPARIAN ZONE VEGETATION

Reach 1

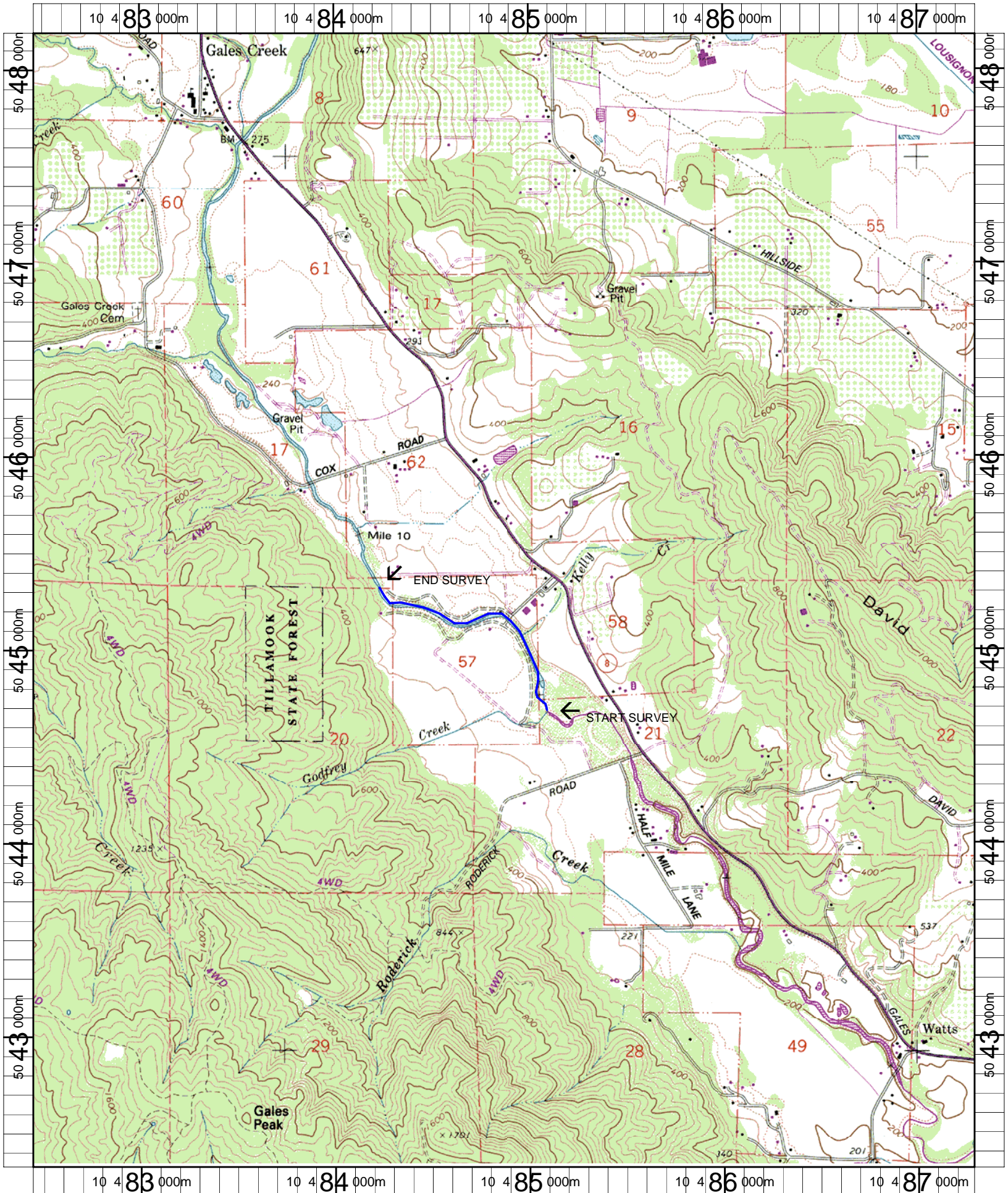
Reach 1

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes	
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90		
4	LF	1	LT	2	20	85	15	Conifer							BLACKBERRY WALL
								Hardwood		2					
4	LF	2	LT	1	0	85	15	Conifer							
								Hardwood							
4	LF	3	LT	1	0	85	15	Conifer							
								Hardwood							
4	RT	1	LT	1	85	95	5	Conifer							
								Hardwood							
4	RT	2	LT	1	90	95	5	Conifer							
								Hardwood			1				
4	RT	3	LT	1	90	95	5	Conifer							
								Hardwood			2				
8	LF	1	LT	3	85	90	10	Conifer				4			
								Hardwood							
8	LF	2	LT	3	80	20	80	Conifer							
								Hardwood		3					
8	LF	3	RB	2	0	20	80	Conifer							DIRT RD
								Hardwood							
8	RT	1	HS	75	25	60	40	Conifer							ERODED HS-UNABLE TO CLIMB
								Hardwood							
8	RT	2	HT	2	10	80	80	Conifer							
								Hardwood							
8	RT	3	HT	2	0	20	20	Conifer							
								Hardwood							
11	LF	1	HS	15	60	40	50	Conifer							ESTIMATES
								Hardwood			2				
11	LF	2	HT	3	15	20	80	Conifer							
								Hardwood	2						
11	LF	3	HT	3	15	20	80	Conifer							
								Hardwood	1						
11	RT	1	HS	20	55	30	70	Conifer							
								Hardwood			1				
11	RT	2	HT	3	50	10	90	Conifer							
								Hardwood							
11	RT	3	HT	3	50	50	50	Conifer							
								Hardwood	1						

COMMENT SUMMARY

MONITORING AREA: 8-W SITE ID: 391 STREAM: GALES CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	RI	00	50		VWI ESTIMATED
7	LP	00	504.8	RF, WL	
8	RI	00	554.8		BC-INTAKE
16	LP	00	1023.8		METRIC AT TOP OF POOL: END OF SURVEY



Name: GALES CREEK
 Date: 1/10/2008
 Scale: 1 inch equals 2000 feet

Location: 10 0484870 E 5045254 N NAD 27
 Caption: GALES CREEK RESTORATION SITE - TUALATIN BASIN