ODFW AQUATIC INVENTORY PROJECT

OREGON PLAN FOR SALMON & WATERSHEDS

STREAM RESTORATION HABITAT REPORT

STREAM:	Gourlay Creek (L-201)
BASIN:	Scappoose River
SURVEY TYPE:	Post-Tx
DATE:	June 30, 2004
SURVEY CREW:	Scott Young, Ben Walczak
REPORT PREPARED BY:	Paul Jacobsen
BASIN AREA:	9.0 km^2
USGS MAPS:	Dixie Mountain
ECOREGION:	Coast Range Astoria Willapa

GENERAL DESCRIPTION:

The Gourlay Creek habitat survey extended 480 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 6.9 (range: 4.5-10.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 3.3 percent. Rapids (71%) dominated stream habitat. Gravel (60%) dominated stream substrate. Wood volume was moderate at 22.1 m^3/100m.

COMMENTS:

There were no potential barriers to upstream fish migration in the surveyed length.

The crew noted several habitat structures during the survey.

OREGON DEPARTMENT OF FISH AND WILDLIFE **GOURLAY CREEK POST-TX (L-201)**

HABITAT INVENTORY Report Date: 10/27/2004 Survey Date: 6/30/2004

REACH 1 **T03N-R02W-S17SE** **REACH 1**

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 6.9 VWI Range: 4.5 - 10

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	480	1,770	0
Secondary	55	119	1

Channel Dimensions (m)

Wetted		Active		Floodprone *n* = 5		First Terrace *n* = 4	
Width:	3.5	Width:	5.5	11.5	(7.3 - 21)	10.9	(7.5 - 14.3)
Depth:	0.16	Height:	0.4	0.9	(0.8 - 1)	1.4	(1 - 2)

W:D ratio: 12.7
Stream Flow Type: MF
Average Unit Gradient: 3.3%
Water temperature (°C): 13.0 - 13.0

Entrenchment (ACW:FPW ratio): 2.2
Habitat Units/100m (total channel length): 6.2
Habitat Units/100m (primary channel length): 6.9

Riparian, Bank, and Wood Summary

	Primary	Secondary
Land Use:	ST	
Riparian Vegetation:	D30	S

Bank Condition and Shade

Bank Status	Percent Reach Length	Shade (% of 180)
Actively Eroding:	8%	Reach avg: 82%
Undercut Banks:	5%	Range: 48 - 100

Large Wood Debris

	Total	Total / 100m primary channel
All pieces (>=3m x 0.15m):	111	23.1
Volume (m^3):	106	22.1
Key pieces (>=12m x 0.60m):	5	1.0

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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
POOL-ISOLATED	2	5	1.4	0.15	9	0		15	30	48	8	0	0
POOL-LATERAL SCOUR	7	61	3.2	0.37	198	0		9	14	61	16	0	0
POOL-PLUNGE	1	4	5.0	0.25	22	0		10	10	70	10	0	0
PUDDLED UNIT	1	29	3.1	0.05	89	0		10	10	60	10	0	10
RAPID/BOULDERS	16	377	3.6	0.10	1,339	23		4	10	60	25	2	0
RIFFLE	4	56	3.9	0.10	219	0		6	14	68	12	0	0
STEP/COBBLE	1	1	5.7	0.05	8	3		0	5	24	67	5	0
STEP/LOG	1	1	5.5	0.05	6	0		5	15	70	10	0	0
Total:	33	535	3.5	0.16	1,889	26	**Avg:**	6	13	60	20	1	0

HABITAT SUMMARY

Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m^2)	Wetted Area Percent	Large Boulders Number	Large Boulders (# / $100m^2$)
Dammed & BW Pools	2	5	1.4	0.15	9	0.46%	0	0.0
Scour Pools	8	65	3.4	0.36	219	11.61%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	4	56	3.9	0.10	219	11.62%	0	0.0
Rapids	16	377	3.6	0.10	1,339	70.91%	23	1.7
Cascades	0	0			0	0.00%	0	0.0
Step/Falls	2	2	5.6	0.05	13	0.71%	3	22.3
Dry	1	29	3.1	0.05	89	4.69%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	10	18.7	20.9
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	3	5.6	6.3
Pool frequency (channel widths/pool):	9.7		
Residual pool depth (avg):	0.31		

OREGON DEPARTMENT OF FISH AND WILDLIFE **GOURLAY CREEK POST-TX (L-201)**

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RIPARIAN ZONE VEGETATION SUMMARY

REACH 1 **REACH 1**

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

Total hardwoods/1000	284
Total conifers/1000 ft	102
Total conifers >20" dbh/1000 ft	20
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	0.3	0.0	0.0	0.0	0.0	0.0	0.3
15-30cm	0.0	0.7	0.0	1.3	0.3	0.3	0.3	2.3
30-50cm	0.0	0.7	0.3	1.0	0.7	0.3	1.0	2.0
50-90cm	0.0	0.0	0.3	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	0.0	1.7	0.7	2.3	1.0	0.7	0.6	1.6

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	74	78	78
Shrub cover	15	18	20
Grass/forb cover	77	77	77

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	33	67	50
High terrace	33	33	33
Low terrace	17	0	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	17	0	17
Riprap	0	0	0
Surface slope (%)	15	27	26

RIPARIAN ZONE VEGETATION

Reach 1 Reach 1

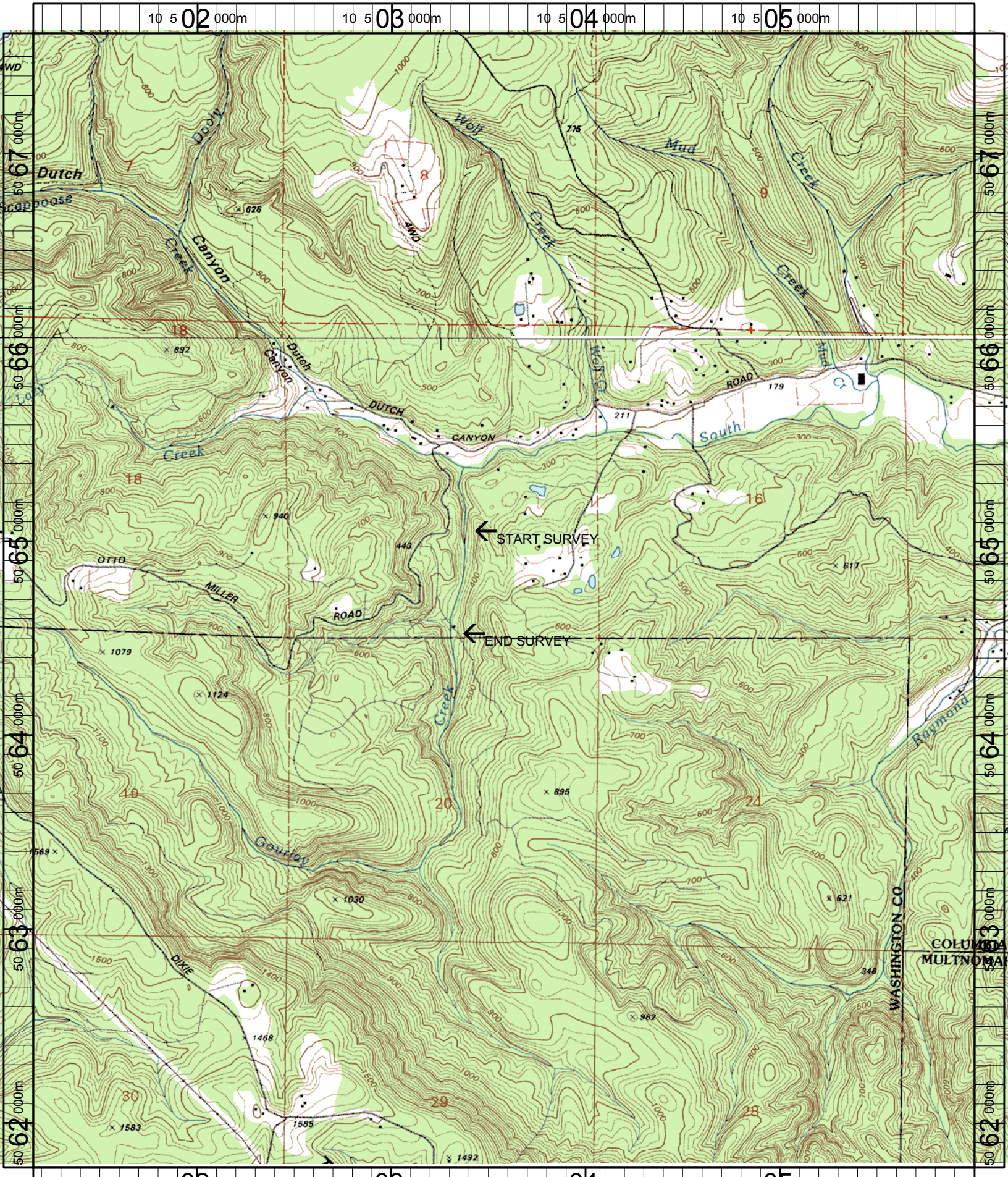
Unit	Side	Zone	Surface	Slope	Cover (percent) Canopy	Shrub	Grass		Diameter class (cm) 3-15	15-30	30-50	50-90	>90	Notes
12	RT	2	HS	30	80	20	80	**Conifer**						
								Hardwood		1				
12	RT	3	HS	55	80	10	90	**Conifer**		1				
								Hardwood						
12	LF	1	RB	0	75	10	50	**Conifer**						10T 0503352 5064905 2D
								Hardwood						
12	LF	2	HS	30	85	10	80	**Conifer**			1			RD CUT AFFECTED
								Hardwood		1				
12	LF	3	HS	25	85	20	80	**Conifer**			1			
								Hardwood						
12	RT	1	LT	0	70	10	90	**Conifer**						
								Hardwood						
20	LF	2	HT	0	75	10	70	**Conifer**						RB BUILT ON HT
								Hardwood		2				
20	LF	3	HT	0	75	20	80	**Conifer**			1			
								Hardwood						
20	RT	1	HS	50	75	10	90	**Conifer**						
								Hardwood						
20	RT	2	HS	70	80	5	95	**Conifer**						
								Hardwood			2			
20	RT	3	HS	75	80	0	100	**Conifer**						
								Hardwood		1				
20	LF	1	HT	0	75	15	85	**Conifer**						10T 0503465 5064677 (2D)
								Hardwood			1			
28	RT	1	HS	40	70	40	50	**Conifer**						
								Hardwood	1		1			
28	LF	1	HT	0	80	5	95	**Conifer**						10T 0503401 5004614 (2D)
								Hardwood		2				
28	LF	3	HT	0	80	10	90	**Conifer**						
								Hardwood			1			
28	LF	2	HT	0	80	5	95	**Conifer**						
								Hardwood			1			
28	RT	2	HS	30	70	60	40	**Conifer**				1		
								Hardwood						
28	RT	3	RB	0	70	60	20	**Conifer**						
								Hardwood						

Comment Summary

Oregon Plan Monitoring Sites 2002

MONITORING AREA: **7-L** **SITE ID:** **201** **GOURLAY CREEK POST-TX (L-201)**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	8.7	SS/ HS	0503436 5064906 - 2D	TEMP=13 DEG C - 12:05 HS=
2	LP	01	17.7	HS		HS=1 LOG
5	PP	00	31.2			CR CUTTING AROUND STEP
6	SL	00	32.2		H=.25	
9	RB	00	90.7	HS		COHO FRY HS=4 LOGS
10	LP	00	104.7	HS, HS		HS=4 LOGS, HS=1 LOG
12	LP	01	123		125M	RIP T 1 10T 0505352 5064905
16	RI	00	184.8	HS		HS=5 LOGS
17	RB	00	208.8			COHO IN POCKET CREATED
18	LP	00	216.8	HS		HS=3 LOGS
19	SC	00	218.2	HS	H=.45	HS=2 LOGS
20	RB	00	241.7	HS		HS=2 LOGS RIP T 2
21	RB	00	260.9	HS		HS=4 LOGS
24	RB	01	321.5			01,02 CREATED BY LG ROO
25	PD	02	321.5			BDRK= HARDPAN CLAY
28	RB	00	381.5			RIP T 3 10T 0503401 5064614
30	RB	01	432.1	/TJ, HS	/TJ	END GOURLEY CR SPAWNI
31	RB	02	432.1		TEMP: 14.5 DEG C	COHO FRY END UNIT - CC O
33	RB	00	479.6	HS		HS=6 LOGS



Name: DIXIE MT
Date: 8/10/2004
Scale: 1 inch equals 2000 feet

Location: 10 503574 E 5064696 N
Caption: GOURLAY CREEK RESTORATION SITE - SCAPPOOSE BASIN