

**ODFW AQUATIC INVENTORY PROJECT
OREGON PLAN FOR SALMON & WATERSHEDS
STREAM RESTORATION HABITAT REPORT**

STREAM: Cougar Creek (MC-305)
BASIN: Yaquina River
SURVEY TYPE: Post-Tx
DATE: July 25, 2006
SURVEY CREW: Lanoah Babcock, Sharon Tippery
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 2.6 km²
USGS MAPS: Harlan
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Cougar Creek habitat survey extended 1,476 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.9 (range: 1.0-7.0). Land use for the reach was large (30-50 cm dbh) and second growth (15-30 cm dbh) trees. The average unit gradient was 3.2 percent. Rapids (34%), riffles (33%) and scour pools (31%) dominated stream habitat. Sand (44%) and gravel (34%) dominated stream substrate. Wood volume was low at 12.2 m³/100m.

COMMENTS:

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

The crew noted several habitat structures during the survey.

REACH 1

T12S-R08W-S22NW

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	3.9	VWI Range:	1 - 7

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 Channel	1,476	3,180	0
Secondary Channel	0	0	0
Off-Channel Units	41	38	3

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 7	<u>First Terrace</u> n = 4
Width: 2.1	Width: 3.7	5.7 (3.5 - 9)	8.0 (4.7 - 12)
Depth: 0.22	Height: 0.3	0.6 (0.6 - 0.7)	0.9 (0.85 - 0.9)

W:D ratio: 11.9

Entrenchment (ACW:FPW ratio): 1.5

Stream Flow Type: LF

Habitat Units/100m (total channel length): 5.3

Average Unit Gradient: 3.2%

Habitat Units/100m (primary channel length): 5.5

Water temperature (°C): 15.5 - 15.5

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	LT	ST
Riparian Vegetation:	D30	P

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	2%	Reach avg: 88%
Undercut Banks:	6%	Range: 56 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	140	9.5
Volume (m ³):	180	12.2
Key pieces (>=12m x 0.60m):	7	0.5

OREGON DEPT OF FISH AND WILDLIFE

COUGAR CREEK POST-TX (2-MC, 305)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/25/2006

REACH 1		T12S-R08W-S22NW					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	2	24	2.2	0.08	54	0	0	5	50	38	8	0
DRY CHANNEL	3	20	0.8	0.00	16	0	0	37	38	25	0	0
POOL-LATERAL SCOUR	33	394	2.4	0.40	981	17	5	77	13	4	1	0
POOL-PLUNGE	1	4	4.3	0.40	18	0	5	80	5	10	0	0
RAPID/BEDROCK	1	8	3.7	0.05	30	10	0	5	5	5	20	65
RAPID/BOULDERS	13	492	2.2	0.11	1,058	121	0	9	19	52	19	0
RIFFLE	26	572	1.7	0.10	1,054	7	0	26	69	5	0	0
STEP/BOULDERS	1	2	3.1	0.05	6	4	0	0	5	15	80	0
STEP/LOG	1	1	2.4	0.03	1	0	0	50	45	5	0	0
Total:	81	1,517	2.1	0.22	3,218	159	Avg: 2	44	34	14	5	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	0	0			0	0.00%	0	0.0	
Scour Pools	34	398	2.4	0.40	999	31.04%	17	1.7	
Glides	0	0			0	0.00%	0	0.0	
Riffles	26	572	1.7	0.10	1,054	32.74%	7	0.7	
Rapids	14	500	2.3	0.11	1,087	33.80%	131	12.0	
Cascades	2	24	2.2	0.08	54	1.68%	0	0.0	
Step/Falls	2	3	2.8	0.04	8	0.24%	4	52.4	
Dry	3	20	0.8	0.00	16	0.50%	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:	34	22.4	23.0
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	7	4.6	4.7
Pool frequency (channel widths/pool):	12.0		
Residual pool depth (avg):	0.32		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

COUGAR CREEK POST-TX
GCG: 2-MC SITE ID: 305

Survey Date 7/25/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 5 transects

Total hardwoods/1000	219
Total conifers/1000 ft	146
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	0.6	0.0	0.0	0.0	0.6
15-30cm	0.0	0.2	0.6	0.0	0.6	0.2	1.2	0.4
30-50cm	0.0	1.6	0.2	0.4	1.0	0.2	1.2	2.2
50-90cm	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.4
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.0	2.0	0.8	1.2	1.6	0.4	0.8	1.2

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	55	66	72
Shrub cover	42	42	35
Grass/forb cover	58	57	62

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	60	70	100
High terrace	10	0	0
Low terrace	30	30	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	36	33	32

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

5 transects

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

Total hardwoods/1000	219
Total conifers/1000 ft	146
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	0.6
15-30cm	1.2	0.4
30-50cm	1.2	2.2
50-90cm	0.0	0.4
>90cm	0.0	0.0

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **305** **COUGAR CREEK POST-TX**

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	RI	00	46	WL, BV		START SIGN BB,SD 02/200
2	LP	00	56			T=16.0C
3	RI	00	68	BV		
6	LP	00	120.2	BV		FISH
7	RI	00	128.2	BV		
8	LP	00	141.2	BV		FISH
9	RI	00	174.2	BV, FC		PINK FLAG, BARBED WIR
10	LP	00	197.2	BV, WL		GAME TRAIL, FISH
11	RI	00	202.2	BV		
12	LP	00	208.2	BV		
13	RI	00	219.2	BV		
14	LP	00	228.2	BV		COHO
15	RI	00	232.2	BV		
16	LP	00	240.2			COHO
18	LP	00	273.2	HS, WL	HS #1=2 LOGS	RSN, COHO
21	RI	00	307.2	BV		
23	LP	00	332.2	HS	HS #2 THRU UNIT 24	COHO
24	RI	00	347.2		SS/	
25	LP	00	370.2	SS/, WL		PINK FLAG "SITE 6"
27	LP	00	410.2			COHO
29	LP	00	440.2	BV		COHO

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **305** **COUGAR CREEK POST-TX**

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
30	RI	00	471.2	BV		COHO
31	LP	01	485.2	BV, /TJ	/TJ	COHO
32	DC	11	485.2		ACW=0.70M	
33	RI	00	494.2	BV		
34	LP	00	501.7	WL		
35	RI	00	516.7			PIPE IN CREEK
36	LP	00	536.7	BV		COHO
37	SL	00	537.3		H=0.30M	
38	RI	00	549.3	BV	RIPARIAN #2	
39	LP	01	562.3	BV, /TJ	/TJ	COHO
40	DC	11	562.3		ACW=0.60M	
41	RI	00	578.3			PIPE IN CREEK
42	LP	00	592.3	BV		
45	LP	00	641.3	HS	HS #3	COHO
47	LP	00	697.3	HS, BV		COHO
49	LP	00	763.3	HS		COHO
50	RI	00	809.3	BV		
51	LP	01	813.3	BV, /TJ	/TJ, RIPARIAN #3	COHO, TROUT
52	DC	11	813.3		ACW=1.10M	
53	RI	00	837.3	BV		
54	LP	00	846.3	WL		BEAR TRACKS

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **305** **COUGAR CREEK POST-TX**

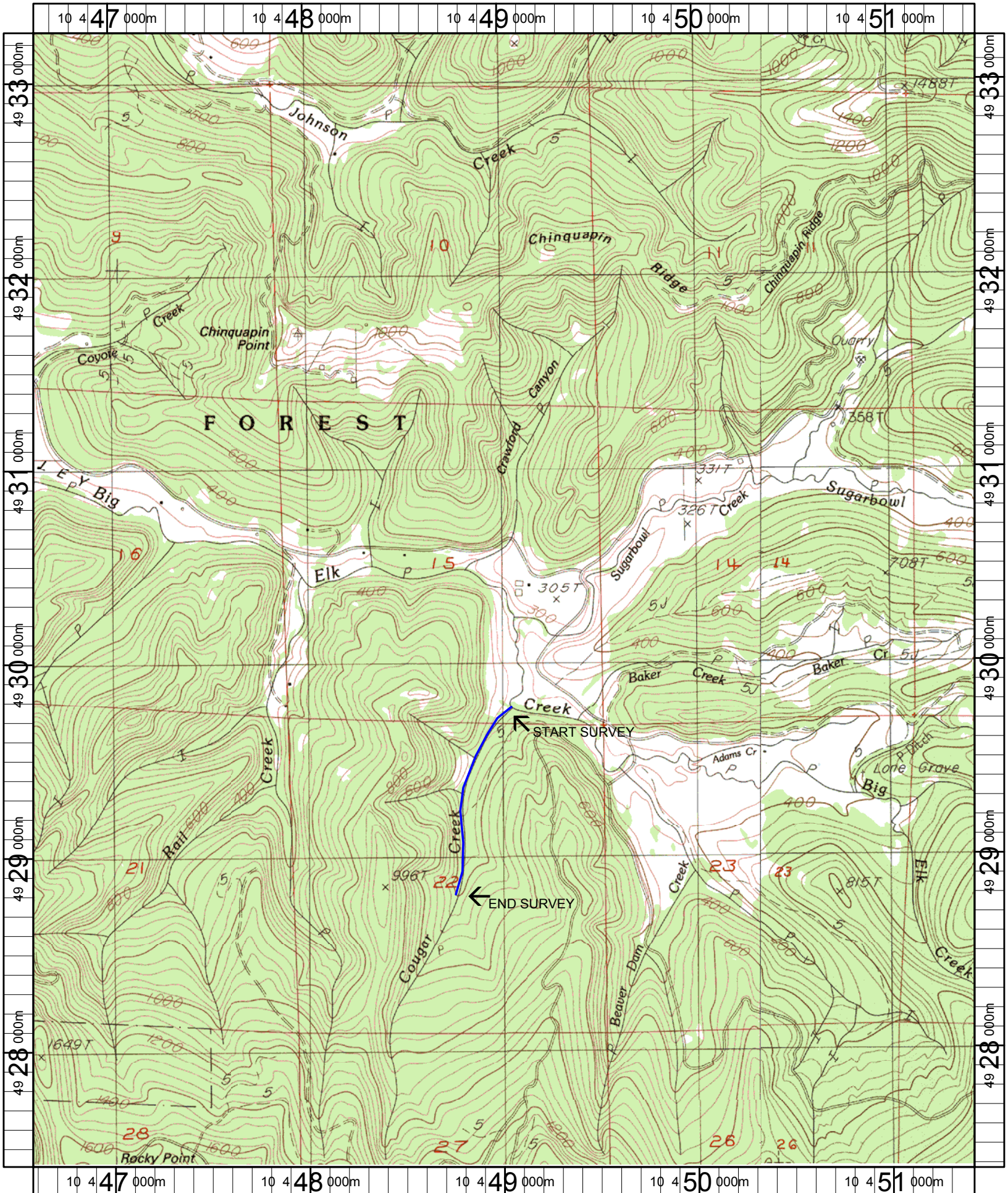
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
55	RI	00	902.3	WL, BV	/SS	BEAR TRACKS
57	RI	00	949.3	WL, BV	/SS	
58	RB	00	991.3	BV		
60	RB	00	1027.7	WL, BV	RIPARIAN #4	
61	LP	00	1031.2	BV	T=16.0C	
62	RB	00	1080.2	BV, WL		
63	RB	00	1118.2	/SS, BV		BEAR TRACKS
64	LP	00	1126.2	BV		
65	RB	01	1176.2	BV, WL, TJ/	TJ/	ORANGE FLAG
67	RB	01	1226.2	TJ/	TJ/	
68	CB	11	1226.2		ESTIMATE LENGTH & WIDTH	
69	RB	00	1272.2		RIPARIAN #5	
70	LP	00	1278.3		CA-CT, HARDWOOD 50	
71	RB	00	1313.3	BV, WL		
72	LP	00	1315.5			COHO
73	CB	00	1329.5	WL		GAME TRAIL
75	SB	00	1335.7		H=0.30M	
77	LP	00	1354.7			COHO
78	RB	00	1399.7	WL		
79	LP	00	1402.9			COHO
80	RB	00	1452.9	WL		

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 2-MC SITE ID: 305 COUGAR CREEK POST-TX

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
81	RB	00	1475.9	WL		END SIGN



Name: HARLAN
 Date: 1/21/2005
 Scale: 1 inch equals 2000 feet

Location: 10 449017 E 4930317 N
 Caption: COUGAR CREEK RESTORATION SITE - YAQUINA BASIN