

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

STREAM: Cougar Creek (MC-305)
BASIN: Yaquina River
SURVEY TYPE: Pre-Tx
DATE: July 5, 2005
SURVEY CREW: Jeremy Romer, Sheila Davis
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 1,388 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 8.9 (range: 1.5-20.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 2.8 percent. Riffles (37%) and rapids (37%) dominated stream habitat. Gravel (55%) and sand (24%) dominated stream substrate. Wood volume was very low at 3.9 m³/100m.

COMMENTS:

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

REACH 1

T12S-R08W-S15SE

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	8.9	VWI Range:	1.5 - 20

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	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 Channel	1,388	2,766	0
Secondary Channel	0	0	0
Off-Channel Units	60	46	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 7	<u>First Terrace</u> n = 5
Width: 2.0	Width: 3.4	7.7 (3.8 - 13.1)	10.1 (5 - 15.7)
Depth: 0.23	Height: 0.4	0.7 (0.7 - 0.8)	2.0 (1 - 6)

W:D ratio: 9.3
 Stream Flow Type: MF
 Average Unit Gradient: 2.8%
 Water temperature (°C): 12.0 - 12.0

Entrenchment (ACW:FPW ratio): 2.5
 Habitat Units/100m (total channel length): 6.3
 Habitat Units/100m (primary channel length): 6.6

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	LT
Riparian Vegetation:	D15	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	4%	Reach avg: 80%
Undercut Banks:	2%	Range: 32 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	84	6.1
Volume (m ³):	54	3.9
Key pieces (>=12m x 0.60m):	0	0.0

OREGON DEPT OF FISH AND WILDLIFE

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

HABITAT INVENTORY

Report Date: 4/26/2006

Survey Date:

7/5/2005

REACH 1		T12S-R08W-S15SE					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
POOL-BEAVER DAM	1	10	2.5	0.55	26	0	50	50	0	0	0	0
POOL-DAMMED	2	30	2.8	0.53	83	4	31	36	30	0	3	0
POOL-LATERAL SCOUR	32	241	2.4	0.42	564	8	16	31	48	3	1	2
POOL-PLUNGE	3	11	4.2	0.37	45	3	12	33	47	8	0	0
POOL-STRAIGHT SCOUR	1	5	2.1	0.20	9	1	10	30	25	10	0	25
RAPID/BOULDERS	13	477	2.1	0.08	1,034	47	5	14	57	21	3	0
RIFFLE	30	550	1.4	0.10	877	3	6	18	70	7	0	0
RIFFLE W/ POCKETS	3	112	1.4	0.12	160	2	5	17	77	2	0	0
STEP/BEAVER DAM	1	1	3.0	0.05	2	0	33	33	33	0	0	0
STEP/BEDROCK	1	2	0.7	0.05	1	0	0	0	0	0	0	100
STEP/COBBLE	1	8	1.1	0.10	8	0	0	15	55	30	0	0
STEP/LOG	3	2	1.4	0.07	3	0	33	37	30	0	0	0
Total:	91	1,448	2.0	0.23	2,812	68	Avg: 12	24	55	7	1	2

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	3	40	2.7	0.53	109	3.88%	4	3.7	
Scour Pools	36	257	2.5	0.41	618	21.99%	12	1.9	
Glides	0	0			0	0.00%	0	0.0	
Riffles	33	662	1.4	0.10	1,037	36.86%	5	0.5	
Rapids	13	477	2.1	0.08	1,034	36.77%	47	4.5	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	6	12	1.5	0.07	14	0.50%	0	0.0	
Dry	0	0			0	0.00%	0	0.0	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	Primary Channel Length
		<u># / Km</u>	<u># / Km</u>
All Pools:	39	26.9	28.1
Pools >=1m deep:	0	0.0	0.0
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	10.8		
Residual pool depth (avg):	0.33		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

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

Survey Date 7/5/2005
Report Date: 4/26/2006

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	379
Total conifers/1000 ft	261
Total conifers >20" dbh/1000 ft	26
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	0.6	0.2	0.4	0.0	1.3	0.2	2.4
15-30cm	0.2	1.1	0.9	0.9	1.5	0.6	2.6	2.6
30-50cm	0.4	0.6	0.6	0.0	0.0	0.2	1.1	0.9
50-90cm	0.0	0.2	0.2	0.2	0.2	0.0	0.4	0.4
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.6	2.6	1.9	1.5	1.7	2.1	1.4	2.1

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	47		52		54	
Shrub cover	42		72		50	
Grass/forb cover	58		28		50	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	43		64		75	
High terrace	32		32		21	
Low terrace	11		0		0	
Floodplain	21		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		0		0	
Riprap	0		0		0	
Surface slope (%)	22		28		23	

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	379
Total conifers/1000 ft	261
Total conifers >20" dbh/1000 ft	26
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	0.2	2.4
15-30cm	2.6	2.6
30-50cm	1.1	0.9
50-90cm	0.4	0.4
>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	
22	RT	2	HT	10	15	95	5	Conifer	1	1		1		
								Hardwood						
22	LF	2	HS	50	80	95	5	Conifer		1	1			
								Hardwood						
22	RT	1	LT	6	0	5	95	Conifer						
								Hardwood						
22	RT	3	HS	18	60	70	30	Conifer		1				
								Hardwood						
22	LF	1	HS	35	55	80	20	Conifer				1		0448946 / 4929622
								Hardwood						
22	LF	3	HS	35	75	30	70	Conifer		2				
								Hardwood						
37	RT	3	HT	3	20	40	60	Conifer						
								Hardwood	4					
37	LF	1	HS	60	70	40	60	Conifer		1	1			0448871 / 4929522
								Hardwood		1				
37	LF	2	HS	35	60	10	90	Conifer		1	2			
								Hardwood						
37	LF	3	HS	25	60	10	90	Conifer		1				
								Hardwood						
37	RT	1	HT	0	85	5	95	Conifer						
								Hardwood				1		
37	RT	2	HT	0	70	30	70	Conifer						
								Hardwood				1		
58	LF	1	FP	15	5	30	70	Conifer						0448800 / 4929314
								Hardwood	3					
58	LF	2	HS	35	60	100	0	Conifer						
								Hardwood	1					
58	LF	3	HS	30	80	10	90	Conifer			1			
								Hardwood		1	1			
58	RT	1	FP	10	0	60	40	Conifer						
								Hardwood						
58	RT	2	HT	20	0	80	20	Conifer						
								Hardwood						
58	RT	3	HT	15	25	90	10	Conifer						
								Hardwood	1					

75	LF	1	HT	0	80	10	90	Conifer				0448800 /
								Hardwood			2	4929082
75	LF	3	HS	30	60	50	50	Conifer		2		
								Hardwood	1			
75	RT	1	HT	0	60	70	30	Conifer				
								Hardwood		2	1	
75	LF	2	HS	45	60	90	10	Conifer		1		
								Hardwood				
81	RT	1	HS	32	55	70	30	Conifer				
								Hardwood		2		
81	RT	2	HS	25	55	80	20	Conifer				
								Hardwood	1	4		
81	LF	3	HS	25	55	50	50	Conifer				1
								Hardwood				
81	LF	2	HS	35	70	70	30	Conifer				
								Hardwood				
81	LF	1	HS	60	60	50	50	Conifer				
								Hardwood				
81	RT	3	HS	25	55	100	0	Conifer				
								Hardwood		2		

Comment Summary

Restoration Monitoring Sites 2005

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

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	RI	00	44.6	WL	VWI INFLUENCED BY BIG	TRAIL AT MOUTH
2	PP	00	47.1		CT MT D30 G ST RR	
3	LP	00	54.3			JUV. SALMO
5	RP	00	79.7		FISH	JUV. SALMO
7	RI	00	98.9		TEMP 12C	TEMP 12C
8	LP	00	106.9			JUV. SALMO
11	RI	00	180.4	WL, FC	FENCE CROSSING CREE	
14	LP	00	205.3			JUV. SALMO
18	LP	00	235.9			CAUSED BY LOG
19	RI	01	254.4	TJ/		
20	RB	11	254.4		TEMP 12C	ACS 0.6M, TEMP 12C
22	RI	00	282.5	WL	US MT D15 G ST	ELK TRAIL, RIP 1
26	SL	00	310.8	BV	H 0.25M	OLD BEAVER DAM
27	LP	00	328.5			JUVENILE SALMO
29	LP	00	343.6	SS/	/SS	
30	RI	01	397.6	TJ/		
34	SL	00	451.3	BV	H 0.4M	OLD BEAVER DAM
35	DP	01	461.9	BV, TJ/		JUV SALMO
36	RI	11	461.9			ACW 1.2M
37	RI	11	461.9		US MT D15 S ST	
39	RI	00	480.9		OLD WOODEN PIPES	WOODEN PIPE

Comment Summary

Restoration Monitoring Sites 2005

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

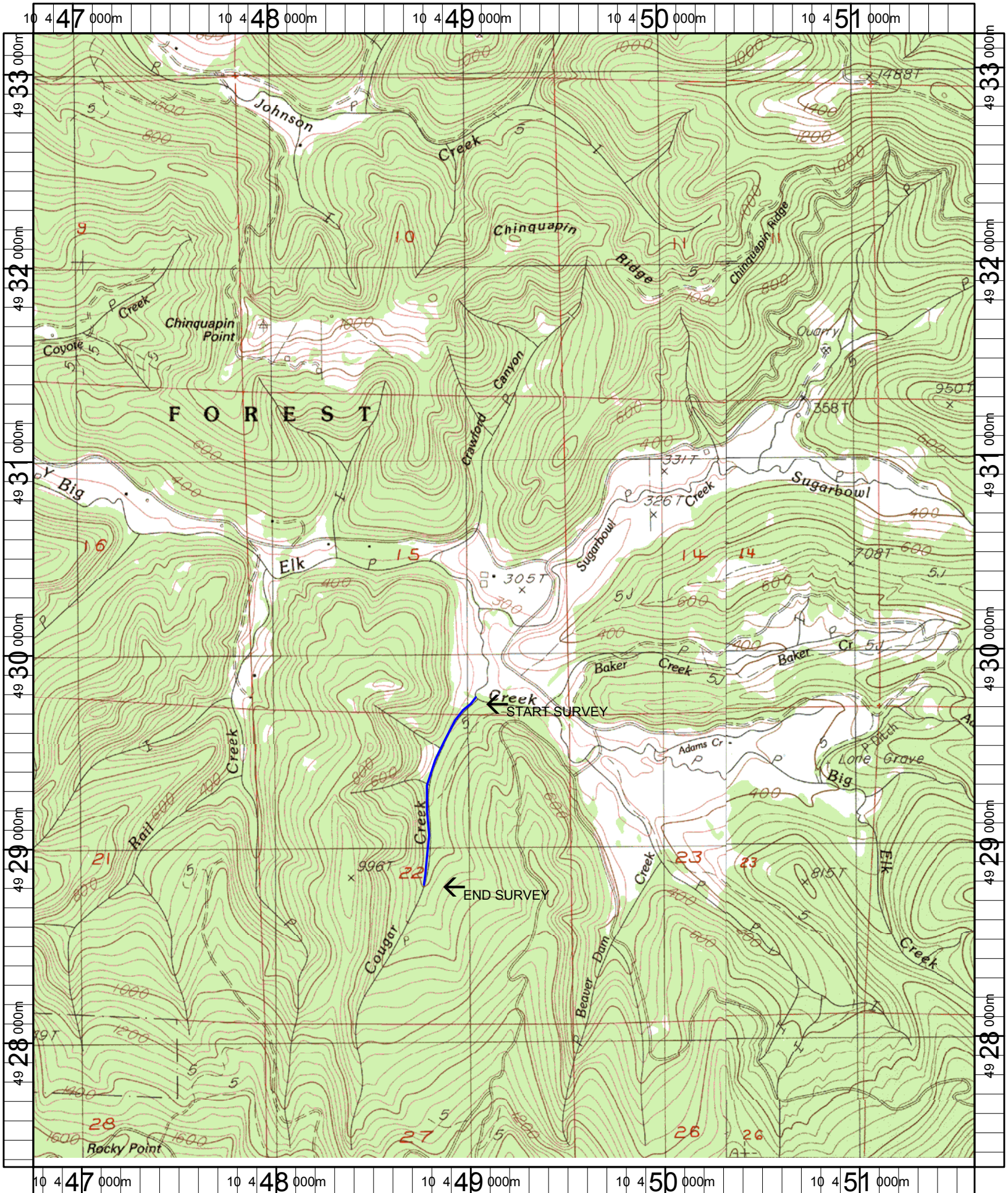
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
43	LP	00	522			JUV. SALMO
47	RB	00	592.3			RED FLAG, SITE 4
48	LP	00	608.6	BV		JUV. SALMONID
52	SL	00	640.2		H 0.3M	H 0.3M
53	DP	00	659.7	FC, BV		
56	RI	00	726.4	BV		
57	LP	00	734.4	BV	CA CT D3 S LT ST	RED FLAG, SITE 2, COTTID
58	SC	00	741.9	SS/	SS/	COTTID
59	LP	00	747.8		COTTIDS	
60	RI	00	771.4	BV		
62	LP	01	788.1	BV, /TJ	/TJ	
63	RI	11	788.1			ACW 0.9M
64	RI	00	794.4		COHO JUVENILE	
65	LP	00	799.5			COHO JUVENILES
67	SD	00	810.6	BD, BV	H 0.45M, BD	H 0.45M
68	BP	00	820.9	BV		
69	RI	00	874.9	/SS	/SS	
70	LP	00	884.2			COTTID
74	PP	00	996.4		CH MV D15 S ST	
75	RB	00	1046.4			RIPARIAN 3
78	RB	01	1150.9	TJ/	TJ/	

Comment Summary

Restoration Monitoring Sites 2005

MONITORING AREA: **2-MC** SITE ID: **305** **COUGAR CREEK PRE-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>
79	RI	11	1150.9		TEMP 13C	TRIB, ACW 0.9M, TEMP 13C
80	RB	00	1220.9	SS/	SS/	JUV. SALMO
81	RB	01	1270.9	TJ/	CH MV D15 S ST LT	
82	RI	11	1270.9		TEMP 11C	TRIB, ACW 0.7M
86	SR	00	1294.8		H=0.6M	H 0.6M
87	RB	00	1309.6			VERY BRUSHY
91	RB	00	1388.3		CH MV D30 S ST LT	END OF SURVEY



Name: HARLAN
 Date: 6/13/2005
 Scale: 1 inch equals 2000 feet

Location: 10 449193 E 4930269 N
 Caption: COUGAR CREEK RESTORATION SITE - YAQUINA BASIN