

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

STREAM: Jack Creek (SC-36)
 BASIN: Chetco River
 SURVEY TYPE: Pre and Post-Tx
 DATE: October 27, 2003
 REPORT PREPARED BY: Paul Jacobsen

The Jack Creek restoration project extended approximately 1,125 meters, with about 1,100 meters of the project being monitored for pre- and post-treatment conditions. Thirty-four habitat structures were created and 97 key pieces (according to the ODF Large Wood Placement Guide) were used. The intended goals of the project included increasing stream complexity, improved interaction with the floodplain, increased pool area, and enhanced salmonids spawning and rearing habitat. In the first seasons following restoration activities, large wood volume and key pieces are increased as expected. Winter riffle gravel is higher and summer riffle fines are lower.

	ODFW	Benchmark	Winter Pre	Summer Pre	Winter Post	Summer Post	
Habitat Variable	Desirable	Undesirable	2/16/00	6/28/00	2/13/01	6/27/01	
Reach #							
Pool Area	>35	<10	42.5	48.1	25.8	35.0	
Pool Frequency	5-8	>20	3.5	3.3	6.5	6.6	
Residual Pool Depth	>0.5-1.0m	<0.2-0.5m	.78	.73	.77	.86	
Complex Pools/km	>2.5	<1.0	7.2	4.5	6.1	5.4	
Width/Depth Ratio	<15	>30	17.8	18.1	13.0	19.3	
Riffle Gravel % area	>35	<15	57	52	67	46	
Silt-Sand-Organic %	<12	>25	0	19	8	5	
Shade %	>70	< 60		81		51	
LWD - pieces/100m	>20	<10	9.2	5.7	7.6	6.5	
LWD - Volume/100m	>30	<20	15.0	44.0	33.1	39.7	
LWD - Key pieces/ 100m	>3	<1	0.4	2.8	5.0	5.4	
Riparian Conifers>20" dbh/1000ft	>300	<150		0		0	
Riparian Conifers>35" dbh/1000ft	>200	<75		0		0	

COMMENTS:

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

Twenty-three habitat structures were recorded.

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

STREAM: Jack Creek (SC-36)
BASIN: Chetco River
SURVEY TYPE: Post-Tx
DATE: June 27, 2001
SURVEY CREW: Lisa Krentz, Joe Zuccarello
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 12.2 km²
USGS MAPS: Mt Emily
ECOREGION: Coast Range California Extension

GENERAL DESCRIPTION:

The Jack Creek habitat survey extended 1,096 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 3.0 (range: 2.0 – 4.0). Land use for the reach was second growth (15-30 cm dbh) trees. The average unit gradient was 1.7 percent. Riffles (54%) and scour pools (35%) dominated stream habitat. Gravel (40%) and cobble (37%) dominated stream substrate. Wood volume was high at 39.7 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

T40S-R13W-S11NE

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 avg: 3.0 range: 2.0-4.0

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	1,096	5,592	0
Secondary	21	65	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	5.3	Width	9.9	15.6	15.7
Depth	0.51	Height	0.5	1.0	1.5
		W:D ratio	19.3	Entrenchment	1.6

Stream Flow Type: MF Water Temp: 13.0-13.0°C
 Avg. Unit Gradient: 1.7% Habitat Units/100m: 3.5

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	0%	Reach avg: 51%
Undercut Banks	3%	Range: 28-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ($\geq 3m \times 0.15m$)	71	6.5
Volume (m ³)	435	39.7
Key pieces ($\geq 10m \times 0.6m$)	59	5.4

REACH 1

T40S-R13W-S11NE

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	Cbbl	Bldr	Bdrk
GLIDE	2	88	6.1	0.20	534	0	0	0	60	40	0	0
POOL-BACKWATER	1	11	5.1	0.75	57	2	60	20	10	10	0	0
POOL-LATERAL SCOUR	16	328	6.6	0.96	1,980	0	15	30	34	21	0	0
RAPID/BOULDERS	1	10	0.8	0.05	8	0	0	0	20	80	0	0
RIFFLE	19	680	4.4	0.18	3,078	0	1	4	46	49	0	0
Total:	39	1,117	5.3	0.51	5,657	2	Avg: 8	15	40	37	0	0

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Percent	Large Boulders Number	Boulders #/100m ²
Dammed & BW Pools	1	11	5.1	0.75	57	1.00	2	3.5
Scour Pools	16	328	6.6	0.96	1,980	34.99	0	0.0
Glides	2	88	6.1	0.20	534	9.45	0	0.0
Riffles	19	680	4.4	0.18	3,078	54.42	0	0.0
Rapids	1	10	0.8	0.05	8	0.14	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

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	17	15.2
Pools ≥1m deep:	7	6.3
Complex pools (LWD pieces ≥3):	6	5.4
Pool Frequency (channel widths/pool):	6.6	
Residual pool depth (avg)	0.86m	

STREAM SUMMARY

JACK CREEK POST-TX (#36)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate Percent Wetted Area					Total Large Boulder	
					S/O	Sand	Grvl	Cbbl	Bldr		Bdrk
39	1,117	5.3	0.51	5,657	8	15	40	37	0	0	2

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	1,980	35.0
Backwater Pools	57	1.0
Glide	534	9.4
Riffle	3,078	54.4
Rapid	8	0.1
Cascade	0	0.0
Step	0	0.0
Dry	0	0.0

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	1,036
Total conifers/1000 ft	163
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	3.0	0.0	1.7	0.3	2.7	0.3	7.3
15-30cm	0.0	3.7	0.0	2.3	2.0	2.0	2.0	8.0
30-50cm	0.0	0.3	0.0	0.3	0.3	1.0	0.3	1.7
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/100m ²	0.0	7.0	0.0	4.3	2.7	5.7	0.9	5.7

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	66		67		83	
Shrub cover	38		31		38	
Grass/forb cover	58		47		37	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	50		50		83
High terrace	33		0		0	
Low terrace	17		17		17	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		33		0	
Riprap	0		0		0	
Surface slope (%)	42		35		45	

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

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

Total hardwoods/1000 ft	1,036
Total conifers/1000 ft	163
Total conifers >20" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

<u>Diameter</u> <u>class (cm)</u>	<u>Zones 1-3</u>	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.3	7.3
15-30cm	2.0	8.0
30-50cm	0.3	1.7
50-90cm	0.0	0.0
>90cm	0.0	0.0

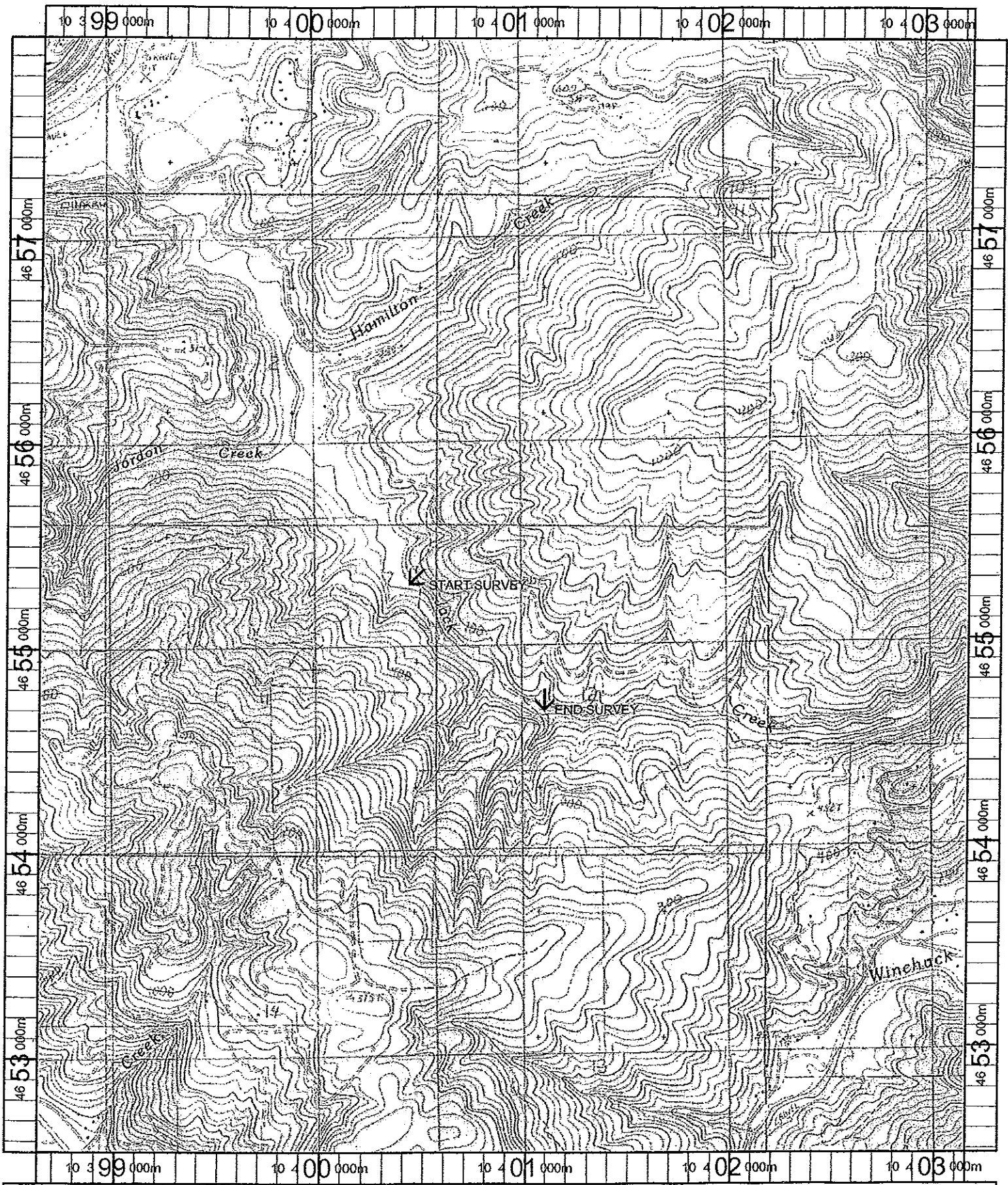
RIPARIAN ZONE VEGETATION

Reach 1

Reach 1

VEGETATION DETAIL

Unit	Side	Zone	Surface	Slope	Cover (percent)				Diameter class (cm)					Notes
					Canopy	Shrub	Grass		3-15	15-30	30-50	50-90	>90	
17	LF	1	HT	0.0	60	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	5	0	0	0	ALDER
17	LF	2	RB	0.0	5	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
17	LF	3	HS	60.0	90	60	40	Conifer	0	1	0	0	0	
								Hardwood	5	1	0	0	0	ONE MYRTLE
17	RT	1	HS	60.0	100	10	60	Conifer	0	0	0	0	0	
								Hardwood	3	0	0	0	0	
17	RT	2	HS	50.0	100	15	50	Conifer	0	0	0	0	0	
								Hardwood	2	0	0	0	0	
17	RT	3	HS	40.0	70	25	75	Conifer	0	0	0	0	0	
								Hardwood	3	0	0	0	0	
30	LF	1	HS	100.0	80	20	80	Conifer	0	0	0	0	0	
								Hardwood	3	2	1	0	0	
30	LF	2	HS	80.0	95	5	5	Conifer	0	0	0	0	0	
								Hardwood	2	2	1	0	0	
30	LF	3	HS	70.0	90	5	5	Conifer	1	1	1	0	0	
								Hardwood	0	2	1	0	0	
30	RT	1	LT	0.0	60	90	10	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	
30	RT	2	LT	0.0	80	95	5	Conifer	0	0	0	0	0	
								Hardwood	0	4	0	0	0	ALDER & MYRTLE
30	RT	3	LT	0.0	75	70	30	Conifer	0	0	0	0	0	
								Hardwood	0	2	1	0	0	
37	LF	1	HT	0.0	55	20	80	Conifer	0	0	0	0	0	
								Hardwood	3	2	0	0	0	ALDER
37	LF	2	RB	0.0	65	40	60	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	ALDER
37	LF	3	HS	40.0	85	30	30	Conifer	0	3	0	0	0	
								Hardwood	0	0	1	0	0	ALDER
37	RT	1	HS	90.0	40	25	75	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
37	RT	2	HS	80.0	55	30	60	Conifer	0	0	0	0	0	
								Hardwood	1	0	0	0	0	
37	RT	3	HS	60.0	85	40	40	Conifer	0	1	0	0	0	
								Hardwood	0	1	0	0	0	



Name: MT EMILY
 Date: 11/8/100
 Scale: 1 inch equals 2000 feet

Location: 10 400829 E 4655220 N
 Caption: JACK CREEK RESTORATION SITE - CHETCO BASIN