

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

STREAM: Jack Creek (SC-36)  
BASIN: Chetco River  
SURVEY TYPE: Pre-Tx  
DATE: June 28, 2000  
SURVEY CREW: Peter Bower, Justin Gerding  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 12.2 km<sup>2</sup>  
USGS MAPS: Mt Emily  
ECOREGION: Coast Range California Extension

**GENERAL DESCRIPTION:**

The Jack Creek habitat survey extended 1,090 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 2.3 (range: 2.0 – 2.5). Land use for the reach was second growth (15-30 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 0.7 percent. Scour pools (48%) and riffles (45%) dominated stream habitat. Gravel (49%), sand (26%) and cobble (21%) dominated stream substrate. Wood volume was high at 44.0 m<sup>3</sup>/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

T41S-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	100	Multiple Terraces	0
Open V-shape	0	Wide Floodplain	0

Valley Width Index avg: 2.3 range: 2.0-2.5

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100	Single Channel	0
Bedrock	0	Multiple Channel	0
Terrace	0	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	1,090	6,638	0
Secondary	20	27	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	6.1	Width	12.9	24.3	18.4
Depth	0.63	Height	0.7	1.4	1.3
		W:D ratio	18.1	Entrenchment	1.9

Stream Flow Type: LF Water Temp: 12.0-12.0°C  
 Avg. Unit Gradient: 0.7% Habitat Units/100m: 4.1

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D15	G

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	3%	Reach avg: 81%
Undercut Banks	9%	Range: 33-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	62	5.7
Volume (m <sup>3</sup> )	480	44.0
Key pieces (≥10m x 0.6m)	31	2.8

REACH 2

T41S-R13W-S11NE

REACH 2

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	100	Multiple Terraces	0
Open V-shape	0	Wide Floodplain	0

Valley Width Index avg: 1.8 range: 1.5-2.0

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	100	Single Channel	0
Bedrock	0	Multiple Channel	0
Terrace	0	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	520	2,660	0
Secondary	68	255	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	4.5	Width	8.7	14.1	11.4
Depth	0.43	Height	0.6	1.2	1.3
		W:D ratio	14.5	Entrenchment	1.6

Stream Flow Type: LF Water Temp: 12.0-12.0°C  
Avg. Unit Gradient: 1.0% Habitat Units/100m: 3.7

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D15	GV

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	0%	Reach avg: 98%
Undercut Banks	4%	Range: 92-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	2	0.4
Volume (m <sup>3</sup> )	1	0.1
Key pieces (≥10m x 0.6m)	0	0.0

HABITAT UNIT SUMMARY

REACH 1 T41S-R13W-S11NE REACH 1

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbbl	Bldr	Bdrk
GLIDE	4	110	4.3	0.24	468	0	0	20	58	20	3	0
POOL-LATERAL SCOUR	25	485	6.7	0.91	3,131	4	2	30	46	19	3	0
POOL-STRAIGHT SCOUR	1	10	7.1	1.15	72	0	0	35	45	15	5	0
RIFFLE	13	465	5.7	0.21	2,785	5	0	19	52	25	4	0
RIFFLE W/ POCKETS	2	41	5.1	0.33	209	4	0	30	50	18	3	0
<b>Total:</b>	<b>45</b>	<b>1,111</b>	<b>6.1</b>	<b>0.63</b>	<b>6,665</b>	<b>13</b>	<b>Avg: 1</b>	<b>26</b>	<b>49</b>	<b>21</b>	<b>3</b>	<b>0</b>

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m <sup>2</sup> )	Percent	Large Number	Boulders #/100m <sup>2</sup>
Dammed & BW Pools	0	0	-	-	0	0.00	0	0.0
Scour Pools	26	495	6.7	0.92	3,203	48.06	4	0.1
Glides	4	110	4.3	0.24	468	7.03	0	0.0
Riffles	15	506	5.6	0.23	2,993	44.91	9	0.3
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

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	26	23.4
Pools ≥1m deep:	10	9.0
Complex pools (LWD pieces ≥3):	5	4.5
Pool Frequency (channel widths/pool):	3.3	
Residual pool depth (avg)	0.73m	

HABITAT UNIT SUMMARY

REACH 2

T41S-R13W-S11NE

REACH 2

HABITAT DETAIL

Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbbl	Bldr	Bdrk
CASCADE/BOULDERS	2	28	1.4	0.13	43	3	0	20	48	20	13	0
POOL-LATERAL SCOUR	8	162	5.1	0.80	866	32	1	25	36	26	11	2
RIFFLE	8	288	4.9	0.26	1,463	60	0	19	38	29	14	0
RIFFLE W/ POCKETS	2	101	5.1	0.30	517	51	0	13	40	30	18	0
STEP/BOULDERS	2	10	2.6	0.08	27	1	0	13	33	30	25	0
<b>Total:</b>	<b>22</b>	<b>588</b>	<b>4.5</b>	<b>0.43</b>	<b>2,915</b>	<b>147</b>	<b>Avg: 0</b>	<b>20</b>	<b>37</b>	<b>27</b>	<b>14</b>	<b>1</b>

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m <sup>2</sup> )	Percent	Large Boulders Number	#/100m <sup>2</sup>
Dammed & BW Pools	0	0	-	-	0	0.00	0	0.0
Scour Pools	8	162	5.1	0.80	866	29.70	32	3.7
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	10	389	5.0	0.27	1,980	67.91	111	5.6
Rapids	0	0	-	-	0	0.00	0	0.0
Cascades	2	28	1.4	0.13	43	1.48	3	7.0
Step/Falls	2	10	2.6	0.08	27	0.91	1	3.8
Dry	0	0	-	-	0	0.00	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	8	13.6
Pools ≥1m deep:	2	3.4
Complex pools (LWD pieces ≥3):	0	0.0
Pool Frequency (channel widths/pool):	8.5	
Residual pool depth (avg)	0.60m	

STREAM SUMMARY

JACK CREEK (PRE-TX)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Substrate Percent Wetted Area						Total Large Boulder
					S/O	Sand	Grvl	Cbbl	Bldr	Bdrk	
67	1,699	5.6	0.56	9,580	1	24	45	23	7	0	160

Habitat Group	Wetted Area	
	(m <sup>2</sup> )	Percent
Scour Pool	4,069	42.5
Backwater Pools	0	0.0
Glide	468	4.9
Riffle	4,973	51.9
Rapid	0	0.0
Cascade	43	0.4
Step	27	0.3
Dry	0	0.0

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) (2 transects)

Total hardwoods/1000 ft	1,463
Total conifers/1000 ft	91
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	1.5	0.0	5.5	0.0	7.5	0.0	14.5
15-30cm	0.0	4.5	0.0	2.5	1.5	0.5	1.5	7.5
30-50cm	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.5
50-90cm	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m <sup>2</sup>	0.0	6.0	0.0	10.0	1.5	8.0	0.5	8.0

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	88		75		91	
Shrub cover	26		19		13	
Grass/forb cover	63		81		43	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	75		0		100
High terrace	0		0		0	
Low terrace	25		25		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		75		0	
Riprap	0		0		0	
Surface slope (%)	15		0		26	

REACH 2

RIPARIAN ZONE VEGETATION SUMMARY

REACH 2

Summary of Riparian Zone (0-30m) (2 transects)

Total hardwoods/1000 ft	1,737
Total conifers/1000 ft	183
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	0.5	0.0	5.0	1.0	9.0	1.0	14.5
15-30cm	0.5	7.0	0.5	3.5	1.0	2.5	2.0	13.0
30-50cm	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0
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/100m <sup>2</sup>	0.5	8.5	0.5	8.5	2.0	11.5	1.0	9.5

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	96		89		85	
Shrub cover	15		28		10	
Grass/forb cover	64		68		53	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	75		75		75
High terrace	0		0		0	
Low terrace	25		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		25		25	
Riprap	0		0		0	
Surface slope (%)	33		34		35	



Summary of Riparian Zone (0-30m) for all reaches ( 4 transects)

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

Total hardwoods/1000 ft	1,600
Total conifers/1000 ft	137
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	0.5	14.5
15-30cm	1.8	10.3
30-50cm	0.0	1.3
50-90cm	0.0	0.3
>90cm	0.0	0.0

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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	
27	LF	1	HS	20.0	100	10	60	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	ALDER
27	LF	2	RB	0.0	50	20	80	Conifer	0	0	0	0	0	
								Hardwood	7	1	0	0	0	MYRTLE, VINE MAPLE
27	LF	3	HS	25.0	85	15	85	Conifer	0	0	0	0	0	
								Hardwood	5	0	0	0	0	CASCARA
27	RT	1	LT	0.0	80	15	85	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	ALDER
27	RT	2	LT	0.0	85	30	70	Conifer	0	0	0	0	0	
								Hardwood	1	0	3	0	0	ALDER
27	RT	3	HS	25.0	100	0	20	Conifer	0	0	0	0	0	
								Hardwood	8	0	0	0	0	VINE MAPLE
38	LF	1	HS	15.0	75	55	30	Conifer	0	0	0	0	0	
								Hardwood	2	5	0	0	0	ALDER
38	LF	2	RB	0.0	70	10	90	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	ALDER
38	LF	3	HS	20.0	80	0	15	Conifer	0	3	0	0	0	
								Hardwood	1	0	0	0	0	DOUG FIR , MYRTLE
38	RT	1	HS	25.0	95	25	75	Conifer	0	0	0	0	0	
								Hardwood	1	0	0	0	0	ALDER
38	RT	2	RB	0.0	95	15	85	Conifer	0	0	0	0	0	
								Hardwood	3	2	0	1	0	MAPLE, ALDER
38	RT	3	HS	35.0	100	35	50	Conifer	0	0	0	0	0	
								Hardwood	1	1	0	0	0	ALDER

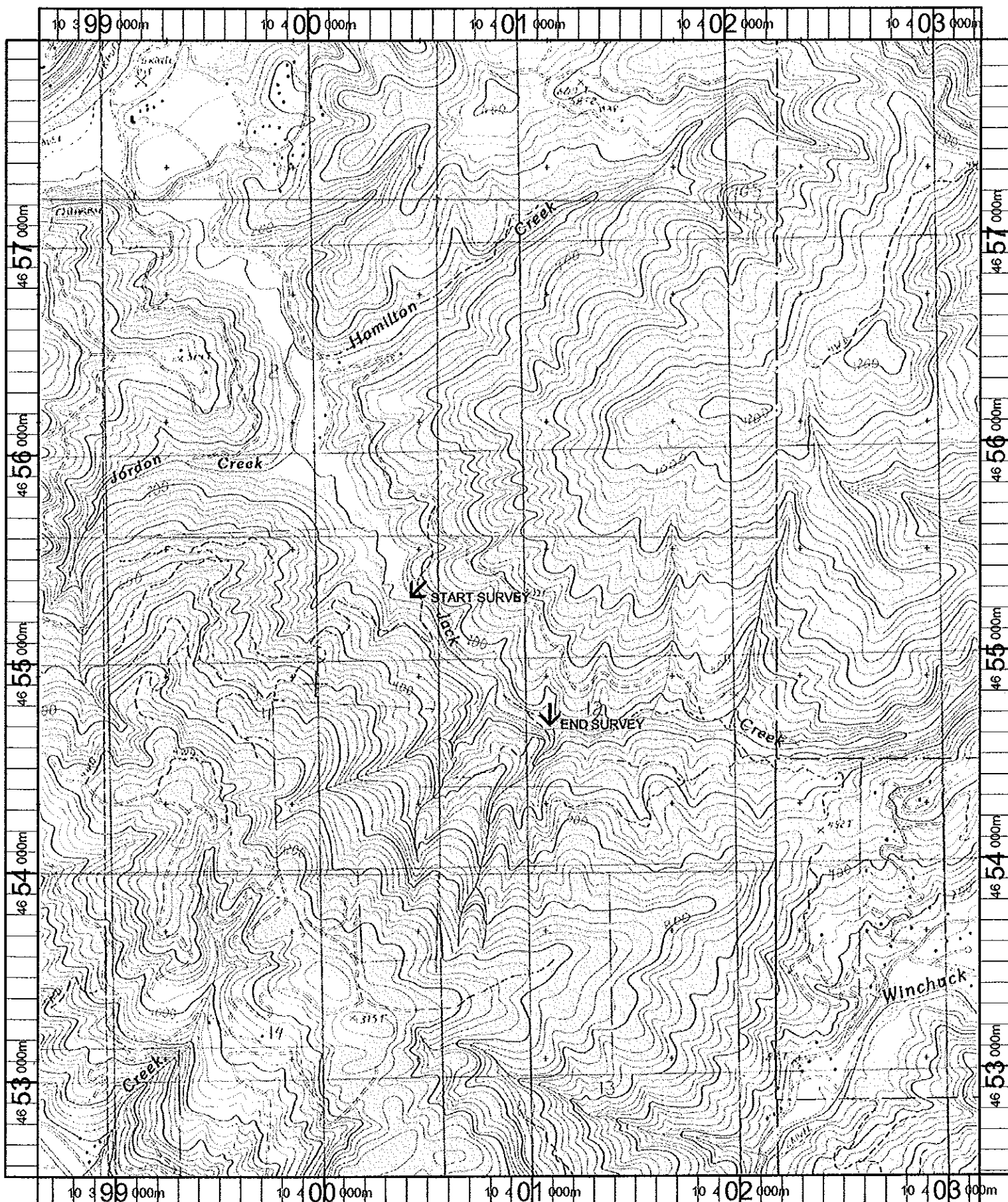
RIPARIAN ZONE VEGETATION

Reach 2

Reach 2

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	
50	LF	1	HS	35.0	100	10	40	Conifer	0	0	0	0	0	
								Hardwood	0	5	2	0	0	ALDER, MYRTLE
50	LF	2	RB	0.0	65	10	90	Conifer	0	1	0	0	0	
								Hardwood	5	0	0	0	0	DOUG FIR, WILLOW
50	LF	3	HS	50.0	90	5	30	Conifer	1	2	0	0	0	
								Hardwood	5	0	0	0	0	DOUG FIR, CASCARA
50	RT	1	HS	50.0	100	15	50	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	ALDER
50	RT	2	HS	50.0	90	30	50	Conifer	0	0	0	0	0	
								Hardwood	1	2	0	0	0	VINE MAPLE
50	RT	3	HS	50.0	85	35	50	Conifer	0	0	0	0	0	
								Hardwood	5	4	0	0	0	ALDER
63	LF	1	HS	45.0	90	20	80	Conifer	0	1	0	0	0	
								Hardwood	0	3	0	0	0	DOUG FIR, ALDER
63	LF	2	HS	45.0	100	20	80	Conifer	0	0	0	0	0	
								Hardwood	3	2	0	0	0	ALDER, CHERRY
63	LF	3	RB	0.0	65	0	100	Conifer	1	0	0	0	0	
								Hardwood	7	0	0	0	0	DOUG FIR, ALDER
63	RT	1	LT	0.0	95	15	85	Conifer	0	0	0	0	0	
								Hardwood	1	4	0	0	0	ALDER
63	RT	2	HS	40.0	100	50	50	Conifer	0	0	0	0	0	
								Hardwood	1	3	0	0	0	MAPLE, CASCARA
63	RT	3	HS	40.0	100	0	30	Conifer	0	0	0	0	0	
								Hardwood	1	1	0	0	0	CASCARA, ALDER



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