

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

STREAM: Lane Creek (U-41)
 BASIN: South Umpqua River
 SURVEY TYPE: Pre and Post-Tx
 DATE: October 27, 2003
 REPORT PREPARED BY: Paul Jacobsen

The Lane Creek restoration project extended approximately 1,600 meters, with about 500 meters of the project being monitored for pre- and post-treatment conditions. Fifteen habitat structures were created and 85 key pieces (according to the ODF Large Wood Placement Guide) were used. In addition, 40 large boulders were added to provide additional structure to the stream. The intended goals of the project included increasing stream complexity, improved interaction with the floodplain, gravel retention, increased pool area, and enhanced salmonids spawning and rearing habitat. Additionally, it is hoped that this project will help increase water in the stream during low flows. In the first seasons after restoration activities, large wood pieces and volume are increased as expected. In addition, pool area and complex pools are greater, as is riffle gravel.

	ODFW	Benchmark	Winter Pre	Summer Pre	Winter Post	Summer Post	
Habitat Variable	Desirable	Undesirable	3/8/00	6/30/00	2/21/01	6/27/01	
Reach #							
Pool Area	>35	<10	38.4	34.8	47.5	37.8	
Pool Frequency	5-8	>20	4.2	7.6	5.2	4.6	
Residual Pool Depth	>0.5-1.0m	<0.2-0.5m	.43	.46	.39	.33	
Complex Pools/km	>2.5	<1.0	5.6	3.9	12.2	7.8	
Width/Depth Ratio	<15	>30	8.9	8.6	9.7	9.6	
Riffle Gravel % area	>35	<15	44	38	66	43	
Silt-Sand-Organic %	<12	>25	20	19	23	25	
Shade %	>70	< 60		50		71	
LWD - pieces/100m	>20	<10	10.2	9.6	12.7	15.9	
LWD - Volume/100m	>30	<20	6.4	3.8	18.3	13.0	
LWD - Key pieces/ 100m	>3	<1	0.4	0.0	0.2	0.0	
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.

The crew noted eleven habitat structures.

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

STREAM: Lane Creek (U-41)
BASIN: Umpqua River
SURVEY TYPE: Post-Tx
DATE: June 27, 2001
SURVEY CREW: Andrea Mull, Doug Garletts
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 6.6 km²
USGS MAPS: Canyonville, Nickel Mtn
ECOREGION: Coast Range Umpqua Valleys

GENERAL DESCRIPTION:

The Lane Creek habitat survey extended 484 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 5.6 (range: 1.5 – 12.0). Land use for the reach was second growth (15-30 cm dbh) trees and agriculture. The average unit gradient was 4.0 percent. Riffles (54%) and scour pools (37%) dominated stream habitat. Gravel (35%) and sand (32%) dominated stream substrate. Wood volume was low at 13.0 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

T30S-R6W-S11SE

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 avg: 5.6 range: 1.5-12.0

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	484	813	0
Secondary	32	44	4

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>	<u>Floodprone</u>	<u>First Terrace</u>
Width	1.7	5.1	10.1	10.8
Depth	0.21	0.6	1.1	2.8
		W:D ratio 9.6	Entrenchment 1.8	

Stream Flow Type: LF Water Temp: 14.0-14.0°C
 Avg. Unit Gradient: 4.0% Habitat Units/100m: 9.9

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	14%	Reach avg: 71%
Undercut Banks	7%	Range: 28-100

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ($\geq 3m \times 0.15m$)	77	15.9
Volume (m ³)	63	13.0
Key pieces ($\geq 10m \times 0.6m$)	0	0.0

REACH 1

T30S-R6W-S11SE

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
DRY UNITS	3	19	1.3	0.00	27	0	10	55	30	5	0	0
POOL-BACKWATER	1	2	1.4	0.20	3	0	46	31	21	2	0	0
POOL-LATERAL SCOUR	19	172	1.8	0.37	305	4	25	40	26	8	0	1
POOL-PLUNGE	1	4	3.3	0.55	13	0	21	47	26	5	0	0
POOL-STRAIGHT SCOUR	1	3	1.3	0.20	3	0	30	30	30	10	0	0
PUDDLED CHANNEL	1	3	2.2	0.22	6	0	30	40	30	0	0	0
RAPID/BOULDERS	2	19	1.1	0.07	18	0	8	18	53	23	0	0
RIFFLE	19	284	1.5	0.11	459	29	2	23	43	29	1	1
STEP/COBBLE	4	12	1.8	0.04	22	1	4	16	45	35	0	0
Total:	51	516	1.7	0.21	857	34	Avg:14	32	35	18	0	1

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Area Percent	Large Boulders Number	Boulders #/100m ²
Dammed & BW Pools	1	2	1.4	0.20	3	0.33	0	0.0
Scour Pools	21	178	1.8	0.37	321	37.49	4	1.2
Glides	0	0	-	-	0	0.00	0	0.0
Riffles	19	284	1.5	0.11	459	53.59	29	6.3
Rapids	2	19	1.1	0.07	18	2.15	0	0.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	4	12	1.8	0.04	22	2.61	1	4.5
Dry	4	21	1.6	0.06	33	3.84	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	22	42.7
Pools ≥1m deep:	0	0.0
Complex pools (LWD pieces ≥3):	4	7.8
Pool Frequency (channel widths/pool):	4.6	
Residual pool depth (avg)	0.33m	

STREAM SUMMARY

LANE CREEK POST-TX (#41)

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	
51	516	1.7	0.21	857	14	32	35	18	0	1	34

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	321	37.5
Backwater Pools	3	0.3
Glide	0	0.0
Riffle	459	53.6
Rapid	18	2.1
Cascade	0	0.0
Step	22	2.6
Dry	33	3.8

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	691
Total conifers/1000 ft	61
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	4.0	0.3	2.3	0.0	1.7	0.3	8.0
15-30cm	0.0	0.3	0.3	0.7	0.0	1.3	0.3	2.3
30-50cm	0.0	0.3	0.0	0.7	0.3	0.0	0.3	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 ²	0.0	4.7	0.7	3.7	0.3	3.0	0.3	3.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	48		23		37	
Shrub cover	29		15		30	
Grass/forb cover	59		82		70	

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	50		50		17	
Low terrace	0		0		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 (%)	21		9		6	

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	691
Total conifers/1000 ft	61
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	8.0
15-30cm	0.3	2.3
30-50cm	0.3	1.0
50-90cm	0.0	0.0
>90cm	0.0	0.0

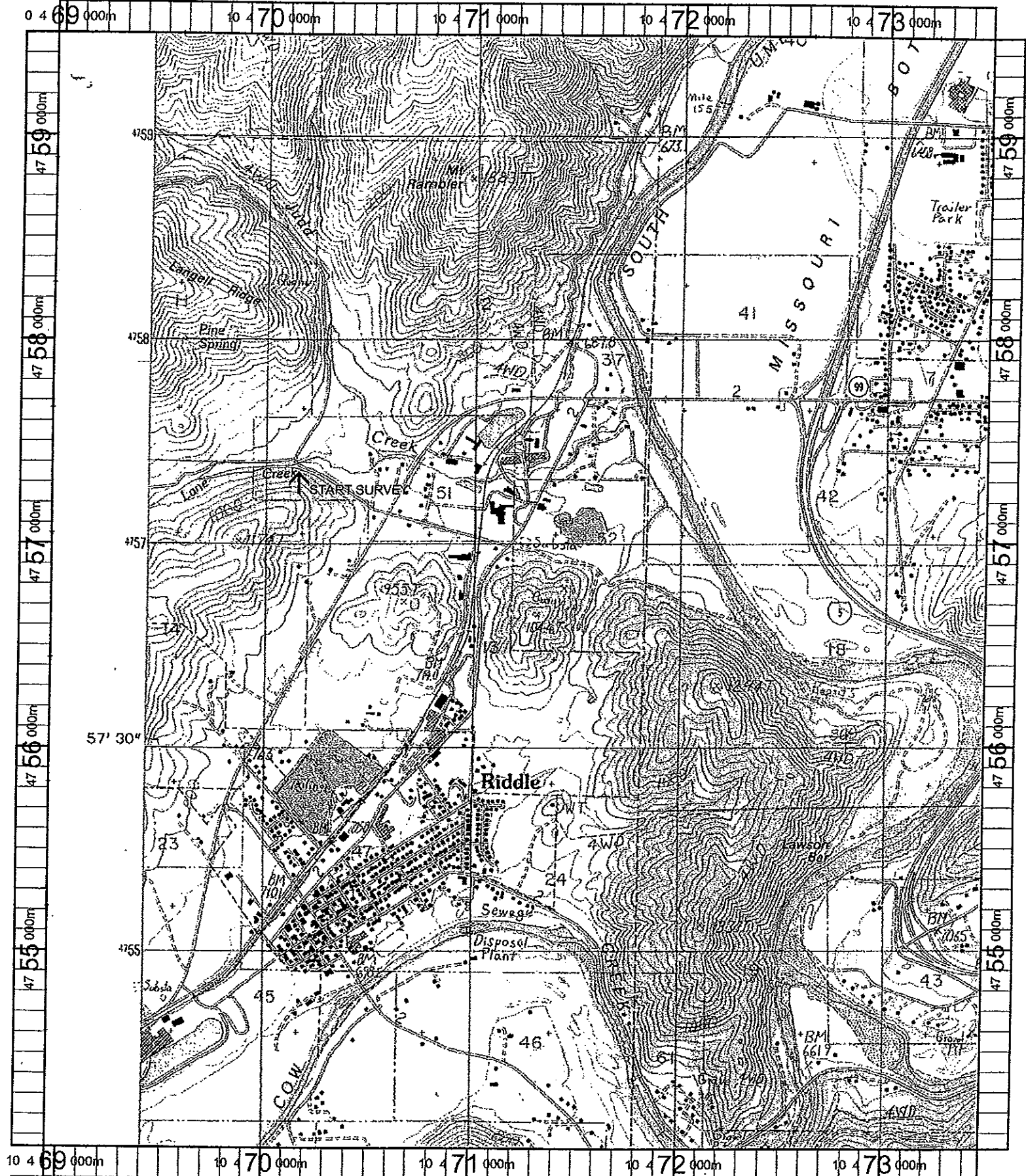
RIPARIAN ZONE VEGETATION

Reach 1

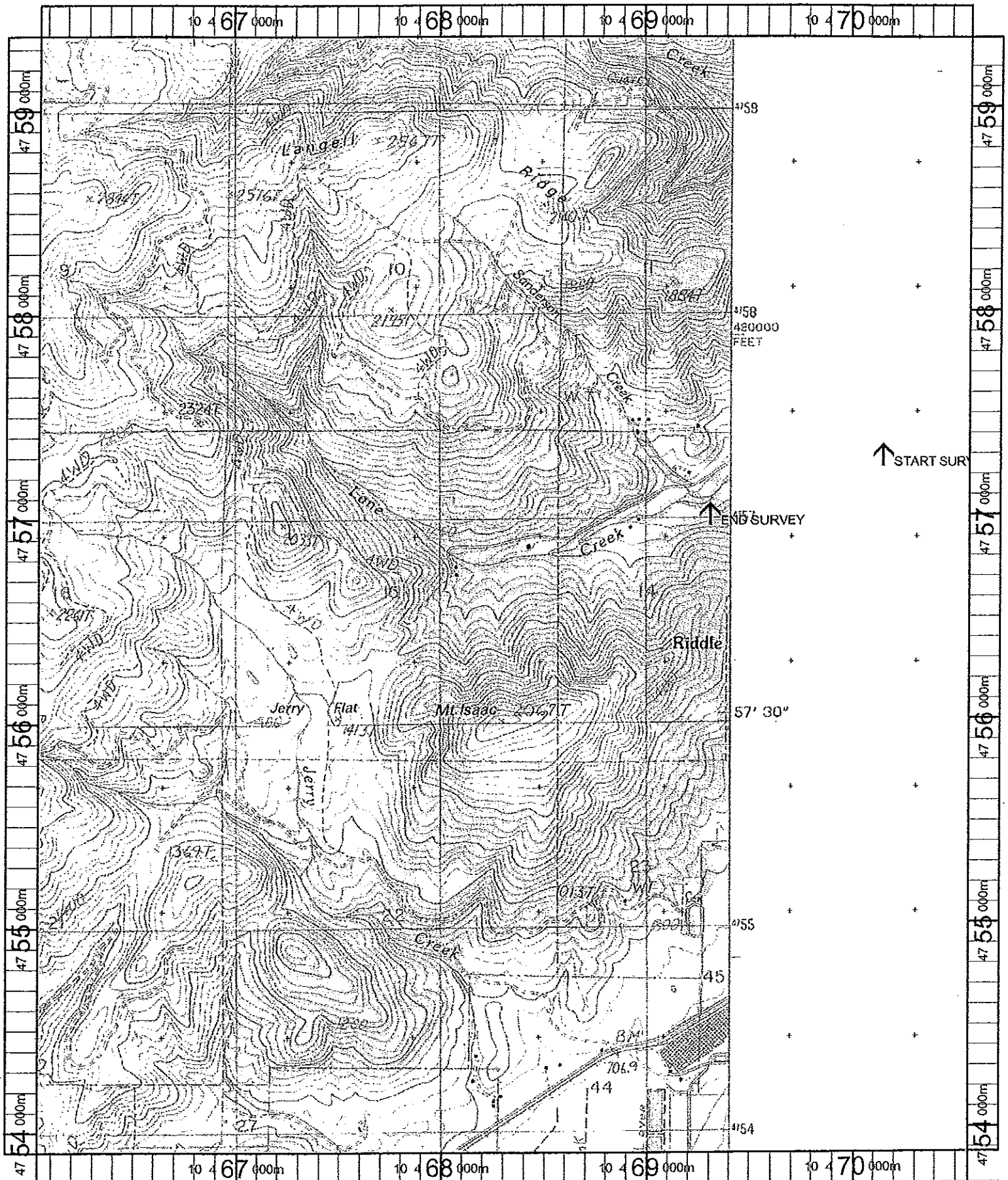
Reach 1

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		
14	LF	1	HS	20.0	60	25	75	Conifer	0	0	0	0	0	
								Hardwood	5	0	0	0	0	BIG LEAF MAPLE
14	LF	2	HS	19.0	75	0	100	Conifer	1	1	0	0	0	
								Hardwood	3	0	0	0	0	CEDAR, BIG LEAF MAP
14	LF	3	HS	18.0	75	0	100	Conifer	0	0	1	0	0	
								Hardwood	2	0	0	0	0	CEDAR, BIG LEAF MAP
14	RT	1	HT	3.0	20	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
14	RT	2	HT	4.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
14	RT	3	HS	8.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
26	LF	1	HS	28.0	80	45	10	Conifer	0	0	0	0	0	
								Hardwood	2	0	1	0	0	BAY LAUREL, ALDER,
26	LF	2	HS	4.0	15	30	70	Conifer	0	0	0	0	0	
								Hardwood	4	0	0	0	0	ASH, BIG LEAF MAPLE
26	LF	3	HS	2.0	70	100	0	Conifer	0	0	0	0	0	
								Hardwood	3	0	0	0	0	ASH
26	RT	1	HT	3.0	50	25	50	Conifer	0	0	0	0	0	
								Hardwood	3	1	0	0	0	ALDER
26	RT	2	HT	1.0	0	0	80	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
26	RT	3	HS	4.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
46	LF	1	HS	70.0	60	50	50	Conifer	0	0	0	0	0	
								Hardwood	2	0	0	0	0	BIG LEAF MAPLE, POI
46	LF	2	HS	25.0	50	60	40	Conifer	0	0	0	0	0	
								Hardwood	0	0	2	0	0	OAK
46	LF	3	HS	4.0	75	80	20	Conifer	0	0	0	0	0	
								Hardwood	0	4	0	0	0	OAK
46	RT	1	HT	0.0	20	30	70	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
46	RT	2	HT	0.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	2	0	0	0	APPLE TREES?
46	RT	3	HT	0.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	



Name: CANYONVILLE Date: 11/7/100 Scale: 1 inch equals 2000 feet	Location: 10 471122 E 4756745 N Caption: LANE CREEK RESTORATION SITE - SOUTH UMPQUA BASIN
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Name: NICKEL MT
 Date: 11/7/100
 Scale: 1 inch equals 2000 feet

Location: 10 468211 E 4756605 N
 Caption: LANE CREEK RESTORATION SITE - SOUTH UMPQUA BASIN