

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

STREAM: Little South Fork Hunter Creek (SC-45)
 BASIN: Hunter Creek
 SURVEY TYPE: Pre and Post-Tx
 DATE: October 27, 2003
 REPORT PREPARED BY: Paul Jacobsen

The Little South Fork Hunter Creek restoration project extended approximately 320 meters, with about 500 meters being surveyed for pre- and post-treatment conditions. Six habitat structures were created and 16 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, gravel retention, increased pool area, and enhanced salmonids spawning and rearing habitat. In the first seasons after restoration activities, winter large wood pieces, volume and key pieces are increased as expected. In addition pool area, complex pools, and riffle gravel are higher.

	ODFW	Benchmark	Winter Pre	Summer Pre	Winter Post	Summer Post	
Habitat Variable	Desirable	Undesirable	2/9/00	7/29/00	2/20/01	7/3/01	
Reach #							
Pool Area	>35	<10	19.5	24.5	21.6	25.8	
Pool Frequency	5-8	>20	4.0	5.3	5.7	5.4	
Residual Pool Depth	>0.5-1.0m	<0.2-0.5m	.47	.44	.48	.42	
Complex Pools/km	>2.5	<1.0	4.8	12.7	11.2	10.4	
Width/Depth Ratio	<15	>30	18.9	15.7	14.6	26.0	
Riffle Gravel % area	>35	<15	31	37	44	56	
Silt-Sand-Organic %	<12	>25	14	12	10	34	
Shade %	>70	< 60		91		54	
LWD - pieces/100m	>20	<10	14.3	26.2	25.1	24.0	
LWD - Volume/100m	>30	<20	12.2	20.8	37.8	18.6	
LWD - Key pieces/ 100m	>3	<1	0.0	1.5	2.5	0.4	
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.

The crew noted eight habitat structures.

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

STREAM: Little South Fork Hunter Creek (SC-45)
BASIN: Hunter Creek
SURVEY TYPE: Post-Tx
DATE: July 3, 2001
SURVEY CREW: Franklin Wall, John Blanchard
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 4.4 km²
USGS MAPS: Sundown Mtn
ECOREGION: Coast Range Sitka Spruce

GENERAL DESCRIPTION:

The Little South Fork Hunter Creek habitat survey extended 250 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 1.3 (range: 1.0 – 2.0). Land use for the reach was young (3-15 cm dbh) trees and light grazing. The average unit gradient was 3.0 percent. Rapids (46%) and scour pools (26%) dominated stream habitat. Gravel (39%) and cobble (26%) dominated stream substrate. Wood volume was low at 18.6 m³/100m.

COMMENTS:

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

The crew noted one habitat structure during the survey.

REACH 1

T37S-R13W-S27NW

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: 1.3 range: 1.0-2.0

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	250	1,160	0
Secondary	40	47	2

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	4.1	Width	10.6	13.4	16.2
Depth	0.26	Height	0.4	0.9	1.0
		W:D ratio	26.0	Entrenchment	1.3

Stream Flow Type: LF Water Temp: 14.5-14.5°C
 Avg. Unit Gradient: 3.0% Habitat Units/100m: 6.2

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	LG
Riparian Vegetation:	D3	S

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	2%	Reach avg: 54%
Undercut Banks	7%	Range: 40- 81

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces ($\geq 3m \times 0.15m$)	60	24.0
Volume (m ³)	46	18.6
Key pieces ($\geq 10m \times 0.6m$)	1	0.4

REACH 1 T37S-R13W-S27NW 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	1	27	1.2	0.00	32	0	16	26	47	11	0	0
GLIDE	1	14	5.8	0.15	81	0	5	20	60	15	0	0
POOL-LATERAL SCOUR	4	49	4.7	0.55	245	5	6	33	34	20	3	5
POOL-STRAIGHT SCOUR	1	14	4.8	0.55	66	6	5	40	30	10	10	5
PUDDLED CHANNEL	1	13	1.1	0.20	14	3	15	20	40	20	0	5
RAPID/BOULDERS	6	136	4.2	0.17	559	37	0	16	44	30	5	6
RIFFLE	1	21	6.5	0.15	137	1	6	28	56	11	0	0
STEP/BEDROCK	1	1	2.5	0.15	3	1	0	10	20	60	10	0
STEP/COBBLE	2	15	4.0	0.13	68	6	0	20	25	45	8	3
Total:	18	289	4.1	0.26	1,206	59	Avg: 4	23	39	26	4	4

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Percent	Large Boulders Number	#/100m ²
Dammed & BW Pools	0	0	-	-	0	0.00	0	0.0
Scour Pools	5	63	4.7	0.55	311	25.80	11	3.5
Glides	1	14	5.8	0.15	81	6.73	0	0.0
Riffles	1	21	6.5	0.15	137	11.38	1	0.7
Rapids	6	136	4.2	0.17	559	46.37	37	6.6
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	3	16	3.5	0.13	71	5.87	7	9.9
Dry	2	40	1.2	0.10	47	3.86	3	6.5

POOL SUMMARY

All Pools	<u>Total</u>	5	<u>#/Km</u>	17.3
Pools ≥1m deep:		0		0.0
Complex pools (LWD pieces ≥3):		3		10.4
Pool Frequency (channel widths/pool):		5.4		
Residual pool depth (avg)				0.42m

STREAM SUMMARY

L SF HUNTER CR POST-TX (#45)

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	
18	289	4.1	0.26	1,206	4	23	39	26	4	4	59

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	311	25.8
Backwater Pools	0	0.0
Glide	81	6.7
Riffle	137	11.4
Rapid	559	46.4
Cascade	0	0.0
Step	71	5.9
Dry	47	3.9

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	874
Total conifers/1000 ft	81
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	2.7	0.0	3.3	0.7	0.3	0.7	6.3
15-30cm	0.0	1.3	0.0	1.0	0.7	1.7	0.7	4.0
30-50cm	0.0	2.0	0.0	0.0	0.0	1.3	0.0	3.3
50-90cm	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m ²	0.0	6.0	0.0	4.3	1.3	4.0	0.4	4.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	40		33		42	
Shrub cover	48		22		21	
Grass/forb cover	27		32		37	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	83		67		83
High terrace	17		0		0	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		33		17	
Riprap	0		0		0	
Surface slope (%)	40		29		37	

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	874
Total conifers/1000 ft	81
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	0.7	6.3
15-30cm	0.7	4.0
30-50cm	0.0	3.3
50-90cm	0.0	0.7
>90cm	0.0	0.0

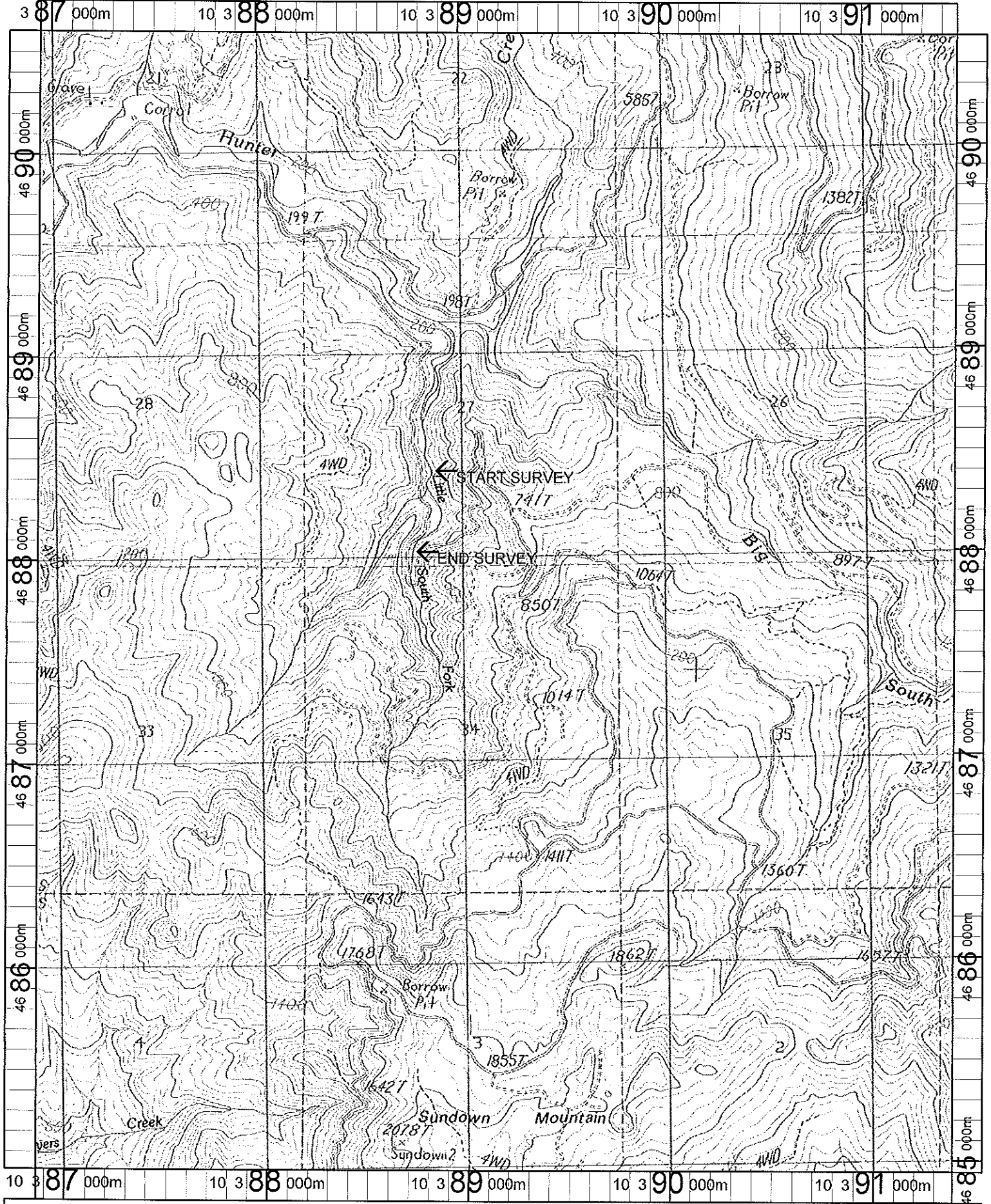
RIPARIAN ZONE VEGETATION

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	
7	LF	1	HS	55.0	60	15	50	Conifer	0	0	0	0	0	
								Hardwood	0	0	3	0	0	
7	LF	2	HS	55.0	60	35	40	Conifer	0	0	0	0	0	
								Hardwood	3	1	0	0	0	
7	LF	3	HS	55.0	65	20	70	Conifer	1	0	0	0	0	
								Hardwood	0	1	3	1	0	GRAND FIR
7	RT	1	HS	10.0	20	60	30	Conifer	0	0	0	0	0	
								Hardwood	0	3	0	0	0	RED ALDER
7	RT	2	HS	20.0	40	40	20	Conifer	0	0	0	0	0	
								Hardwood	6	0	0	0	0	
7	RT	3	RB	0.0	0	5	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
11	LF	1	HT	5.0	45	80	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	2	0	0	
11	LF	2	HS	50.0	40	40	60	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
11	LF	3	HS	55.0	50	10	50	Conifer	0	1	0	0	0	
								Hardwood	0	1	0	1	0	
11	RT	1	HS	25.0	30	30	40	Conifer	0	0	0	0	0	
								Hardwood	5	0	0	0	0	
11	RT	2	RB	0.0	0	0	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
11	RT	3	HS	65.0	0	10	20	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	CLEAR CUT HILLSLOPE
15	LF	1	HS	80.0	55	30	20	Conifer	0	0	0	0	0	
								Hardwood	0	1	1	0	0	
15	LF	2	HS	50.0	60	15	70	Conifer	0	0	0	0	0	
								Hardwood	1	2	0	0	0	
15	LF	3	HS	40.0	75	20	60	Conifer	0	1	0	0	0	
								Hardwood	0	2	1	0	0	
15	RT	1	HS	65.0	30	70	10	Conifer	0	0	0	0	0	
								Hardwood	3	0	0	0	0	
15	RT	2	RB	0.0	0	0	0	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
15	RT	3	HS	5.0	60	60	10	Conifer	1	0	0	0	0	
								Hardwood	1	1	0	0	0	



Name: SUNDOWN MT
 Date: 1/10/2002
 Scale: 1 inch equals 2000 feet

Location: 10 389168 E 4687774 N
 Caption: LITTLE SOUTH FORK HUNTER CREEK
 RESTORATION SITE - HUNTER BASIN