

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

STREAM: Foster Creek Lower (L-214)
BASIN: Clackamas River
SURVEY TYPE: Post-Tx
DATE: July 22, 2003
SURVEY CREW: Carmen Vandyke, Brock Jonasson
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 9.0 km²
USGS MAPS: Damascus
ECOREGION: Willamette Valley Foothills

GENERAL DESCRIPTION:

The Foster Creek habitat survey extended 456 meters. The channel was alternately constrained by hillslopes and terraces in a broad valley floor. The average valley width index was 7.3 (range: 1.0-20.0). Land use for the reach was rural residential. The average unit gradient was 3.3 percent. Rapids (42%) and scour pools (23%) dominated stream habitat. Cobble (31%) and boulders (31%) dominated stream substrate. Wood volume was moderate at 26.3 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

T02S-R03E-S41NW

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	7.3	VWI Range:	1 - 20

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	456	1,738	1
Secondary	0		0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	3.4	Width	7.0	9.1	7.2
Depth	0.28	Height	0.6	1.2	2.2
		W:D ratio	13.0	Entrenchment	1.4

Stream Flow Type:	LF	Water temp (C):	-
Avg. Unit Gradient:	3.3%	Habitat Units/100m:	8.1

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	RR	
Riparian Vegetation:	M15	M30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	5%	Reach avg: 98%
Undercut Banks:	0%	Range: 72 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m</u>
All pieces (>=3m x 0.15m):	80	17.5
Volume (m ³):	120	26.3
Key pieces (>=10m x 0.60m):	15	3.3

OREGON DEPARTMENT OF FISH AND WILDLIFE

FOSTER CREEK LOWER POST-TX (L-214)

HABITAT INVENTORY

Report Date: 12/18/03

Survey Date:

7/22/03

REACH 1		T02S-R03E-S41NW					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
CASCADE/BEDROCK	1	8	8.5	0.10	71	0	10	0	10	5	5	70
CULVERT CROSSING	1	33	11.0	0.05	359	16	10	10	20	30	30	0
DRY UNIT	1	7	8.3	0.00	55	0	0	0	20	50	30	0
POOL-LATERAL SCOUR	11	100	3.1	0.52	334	0	5	5	23	32	33	2
POOL-TRENCH	4	44	1.7	0.79	69	2	4	5	23	20	16	32
RAPID/BEDROCK	1	19	1.8	0.15	35	2	0	0	10	10	10	70
RAPID/BOULDERS	13	214	3.0	0.06	689	10	1	2	20	39	37	2
RIFFLE	3	27	5.4	0.08	123	1	2	3	23	20	25	27
STEP/COBBLE	1	3	0.7	0.05	2	0	0	0	10	40	50	0
STEP/STRUCTURE	1	1	0.6	0.05	0	0	5	5	20	30	35	5
Total:	37	456	3.4	0.28	1,738	31	Avg 3	3	20	31	31	11

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	0	0			0	0.00%	0	0.0
Scour Pools	15	145	2.7	0.59	404	23.23%	2	0.5
Glides	0	0			0	0.00%	0	0.0
Riffles	3	27	5.4	0.08	123	7.07%	1	0.8
Rapids	14	233	2.9	0.07	724	41.67%	12	1.7
Cascades	1	8	8.5	0.10	71	4.11%	0	0.0
Step/Falls	2	4	0.7	0.05	2	0.14%	0	0.0
Dry	1	7	8.3	0.00	55	3.15%	0	0.0
Culverts	1	33	11.0	0.05	359	20.64%	16	4.5

POOL SUMMARY		
	<u>Total</u>	<u># / Km</u>
All Pools:	15	32.9
Pools >=1m deep:	1	2.2
Complex pools (LWD pieces>=3):	6	13.1
Pool frequency (channel widths/pool):	4.4	
Residual pool depth (avg):	0.54	

STREAM SUMMARY

FOSTER CREEK LOWER POST-TX (L-214)

Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m ²)	Substrate Percent Wetted Area						Large Boulders (>0.5m)
					S/O	Snd	Grvl	Cbl	Bldr	Bdrk	
37	456	3.4	0.28	1,738	3	3	20	31	31	11	31

Habitat Group	Wetted Area	
	(m ²)	Percent
Dammed & BW Pools	0	0.00%
Scour Pools	404	23.23%
Glides	0	0.00%
Riffles	123	7.07%
Rapids	724	41.67%
Cascades	71	4.11%
Step/Falls	2	0.14%
Dry	55	3.15%
Culverts	359	20.64%

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

REACH 1

Summary of Riparian Zone (0-30m)

3 transects

Total hardwoods/1000	935
Total conifers/1000 ft	549
Total conifers >20" dbh/1000 ft	20
Total conifers >35" dbh/1000 ft	20

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	3.7	1.0	1.3	1.0	2.0	2.0	7.0
15-30cm	1.3	1.7	1.3	1.7	1.7	1.7	4.3	5.0
30-50cm	1.0	1.3	0.3	0.7	1.0	1.3	2.3	3.3
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	0.3	0.0	0.3	0.0
Total/100m2	2.3	6.7	2.7	3.7	4.0	5.0	3.0	5.1

Canopy closure and ground cover

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Canopy closure	90	83	80
Shrub cover	7	8	9
Grass/forb cover	80	89	90

Predominant landform in each zone

	Zone 1	Zone 2	Zone 3
	0-10 meters (%)	10 - 20 meters (%)	20 - 30 meters (%)
Hillslope	33	50	67
High terrace	50	50	33
Low terrace	0	0	0
Floodplain	17	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	0
Riprap	0	0	0
Surface slope (%)	23	25	35

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

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

Total hardwoods/1000	935
Total conifers/1000 ft	549
Total conifers >20" dbh/1000 ft	20
Total conifers >35" dbh/1000 ft	20

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	2.0	7.0
15-30cm	4.3	5.0
30-50cm	2.3	3.3
50-90cm	0.0	0.0
>90cm	0.3	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		
12	RT	2	HT	0	95	5	95	Conifer							
								Hardwood		2	2				
12	LF	1	HS	90	95	0	100	Conifer							
								Hardwood	2	3	2				
12	LF	2	HT	0	60	0	100	Conifer							
								Hardwood							
12	RT	3	HS	45	90	0	100	Conifer		1	1				
								Hardwood		1	1				
12	LF	3	HT	0	65	0	100	Conifer		3	1				
								Hardwood							
12	RT	1	HT	0	95	5	95	Conifer							
								Hardwood							
19	RT	3	HS	45	95	40	60	Conifer	1					1	
								Hardwood	3						
19	RT	2	HS	30	95	30	60	Conifer							
								Hardwood							
19	RT	1	FP	0	95	20	7	Conifer							
								Hardwood	3		1				
19	LF	3	HT	0	50	5	90	Conifer	1						
								Hardwood	2	3					
19	LF	1	HT	0	70	5	95	Conifer		2					
								Hardwood	3	2					
19	LF	2	HT	0	60	0	100	Conifer	1	2					
								Hardwood	3	2					
30	RT	2	HS	30	95	5	90	Conifer	2	2	1				
								Hardwood	1	1					
30	RT	1	HS	45	95	5	90	Conifer		2	3				
								Hardwood	1						
30	LF	3	HS	90	90	10	90	Conifer							
								Hardwood			3				
30	LF	2	HS	90	90	10	90	Conifer							
								Hardwood							
30	LF	1	HT	0	90	5	90	Conifer							
								Hardwood	2		1				
30	RT	3	HS	30	90	0	100	Conifer	1	1	1				
								Hardwood	1	1					

Comment Summary

Oregon Plan Monitoring Sites 2003

MONITORING AREA: 7-L SITE ID: 214 FOSTER CREEK LOWER POST-TX (L

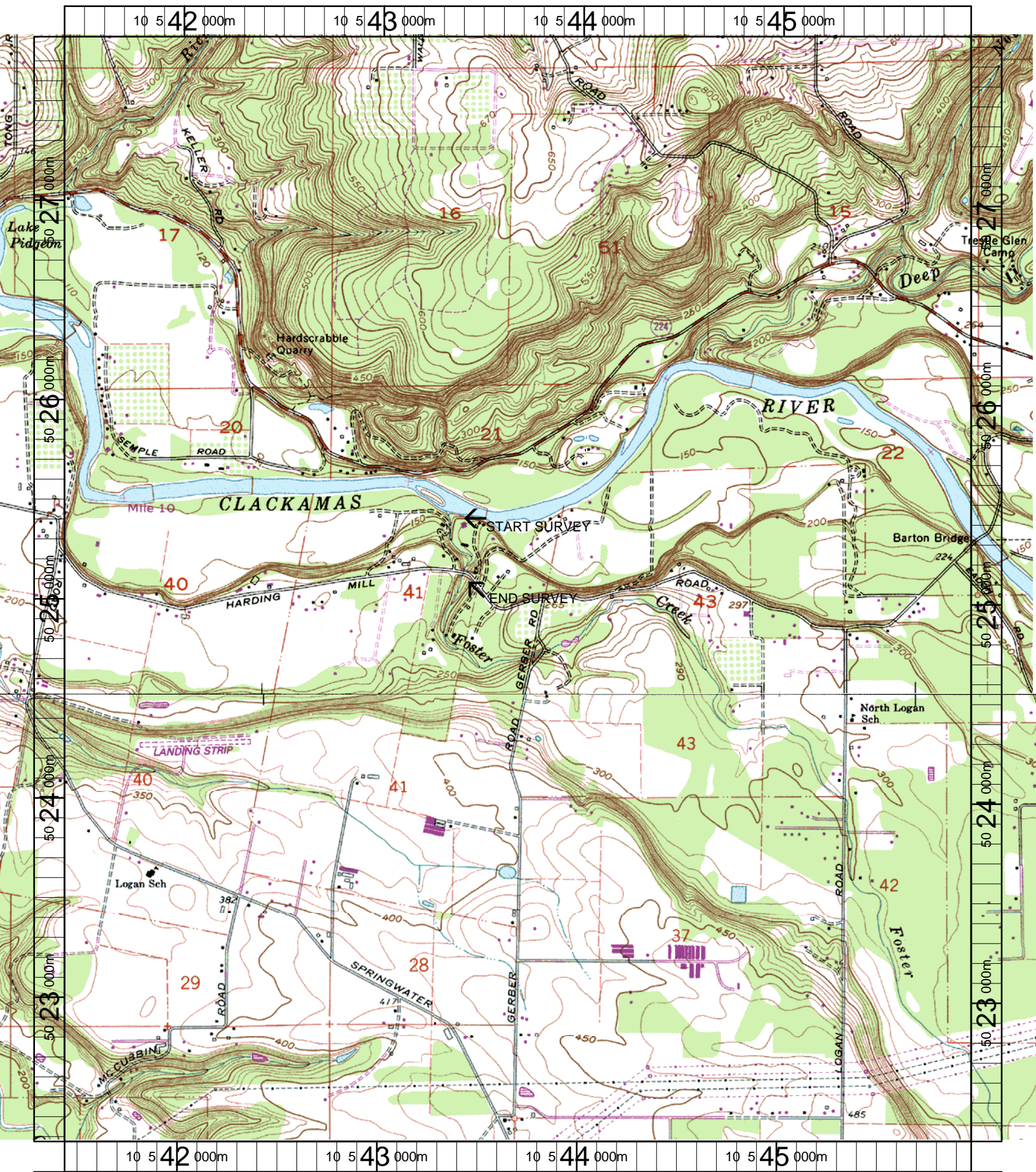
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	TP	00	16.9		START @ MOUTH	START
2	RB	00	21.3		VERY ENTRENCHED	
4	SS	00	30.6		H=.2 CONCRETE SLAB	
5	TP	00	35.8		CONCRETE BLOCKS	
7	TP	00	63	WL		FISH
8	CR	00	71.4			.7, 1.5,.3,.5M STEPS, HARDP
10	TP	00	89.2	SS/		
11	RR	00	108.5	HS	HS	
12	RB	00	137.6	BC	BC	FOOT BRIDGE
13	LP	00	143.7	HS, WL	HS	FROG
14	RI	00	150		HS	
15	LP	00	155.2	HS		
18	LP	00	197.6	HS	DJ	TRACTOR TIRES
21	LP	00	241.7		.5M TAILOUT	
22	SC	00	244.5		H= .45	
24	RB	00	261	/LA		
27	LP	00	307.2			.3M POCKET 8M TO LEFT
29	LP	00	326.3		HS	
30	RB	00	350.9	HS	HS	
31	LP	00	369.2	HS	HS	
32	RB	00	376.9	WL		FRG

Comment Summary

Oregon Plan Monitoring Sites 2003

MONITORING AREA: 7-L SITE ID: 214 FOSTER CREEK LOWER POST-TX (L

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
34	LP	00	391.8			HARDPAN
35	RB	00	416.8		2M SUBSURFACE	2M SUBSURFACE FLOW
37	CC	00	456.4	CC	H=6M W=11M	END



Name: DAMASCUS
 Date: 12/17/2003
 Scale: 1 inch equals 2000 feet

Location: 10 543682 E 5025068 N
 Caption: FOSTER CREEK LOWER RESTORATION SITE -
 CLACKAMAS BASIN