

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

STREAM: Bales Creek (MC-1)
BASIN: Yaquina River
SURVEY TYPE: Pre-Tx
DATE: July 17, 2000
SURVEY CREW: Lisa Krentz, LaNoah Babcock
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 8.3 km²
USGS MAPS: Nortons
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Bales Creek habitat survey extended 471 meters. The channel was single channel unconstrained in a broad valley floor. The average valley width index was 5.7 (range: 4.2 – 7.0). Land use for the reach was agriculture. The average unit gradient was 0.7 percent. Scour pools (68%) and riffles (20%) dominated stream habitat. Gravel (51%) and cobble (20%) dominated stream substrate. Wood volume was moderate at 21.4 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.

February 8, 2001

Russ Glascock
190 Hutchcroft Road
Eddyville, OR 97343

Dear Mr. Glascock,

Enclosed is a copy of the stream habitat survey report that you requested for fieldwork we completed in 2000 on Bales Creek. The report includes a reach, unit and riparian summary plus a map showing the location at which the survey took place.

The purpose of the survey was to collect stream characteristics over a specified length of stream before restoration took place. As a follow up, we will be conducting a winter and summer habitat survey over the same length of stream this year to note changes that have taken place in the short term since structure placement.

From a habitat point of view, the stream survey suggests that although Bales Creek has very desirable levels of pool area and riffle gravel, it has undesirably high levels of fine sediments plus low amounts of wood volume and key pieces of wood in the stream channel. This is in part due to a relative lack of large riparian conifers that are important contributors of large wood to the stream over time. Therefore, this site was a good candidate for large structure placement.

If you require additional information, you may refer to our website at:

<http://osu.orst.edu/Dept/ODFW/freshwater/inventory/methods/step.pdf>

If you have any questions or comments regarding this report, please feel free to contact the ODFW District Office (Newport 541-867-4741), the Aquatic Inventories project leader, Kim Jones (541-757-4263, ext. 260) or me (Paul Jacobsen ext. 254; email jacobsenp@fsl.orst.edu)

Sincerely,

Paul Jacobsen
ODFW Aquatic Inventory Project

REACH 1

T10S-R9W-26SE

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: 5.7 range: 4.2-7.0

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0	Single Channel	100
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	471	2,011	0
Secondary	13	33	0

Channel Dimensions (m)

<u>Wetted</u>		<u>Active</u>		<u>Floodprone</u>	<u>First Terrace</u>
Width	3.9	Width	8.7	38.7	9.9
Depth	0.42	Height	0.6	1.2	0.9
		W:D ratio	14.1	Entrenchment	4.6

Stream Flow Type: MF Water Temp: 13.0-13.0°C
Avg. Unit Gradient: 0.7% Habitat Units/100m: 7.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	AG	
Riparian Vegetation:	P	D30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding	9%	Reach avg: 55%
Undercut Banks	18%	Range: 28- 72

Large Woody Debris

	<u>Total</u>	<u>Total/100m</u>
All pieces (≥3m x 0.15m)	29	6.2
Volume (m ³)	101	21.4
Key pieces (≥10m x 0.6m)	5	1.1

REACH 1

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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	1	37	6.1	0.20	225	0	0	10	80	10	0	0
POOL-BACKWATER	1	1	0.7	0.30	1	0	75	0	5	20	0	0
POOL-LATERAL SCOUR	19	317	4.5	0.66	1,385	10	19	21	41	13	1	6
RIFFLE	11	119	3.4	0.11	413	0	0	3	69	28	0	0
STEP/COBBLE	2	10	2.0	0.10	20	0	0	0	55	45	0	0
Total:	34	484	3.9	0.42	2,044	10	Avg:13	13	51	20	0	3

HABITAT SUMMARY

Habitat Group	No. Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area (m ²)	Percent	Large Number	Boulders #/100m ²
Dammed & BW Pools	1	1	0.7	0.30	1	0.04	0	0.0
Scour Pools	19	317	4.5	0.66	1,385	67.79	10	0.7
Glides	1	37	6.1	0.20	225	10.99	0	0.0
Riffles	11	119	3.4	0.11	413	20.23	0	0.0
Rapids	0	0	-	-	0	0.00	0	0.0
Cascades	0	0	-	-	0	0.00	0	0.0
Step/Falls	2	10	2.0	0.10	20	0.96	0	0.0
Dry	0	0	-	-	0	0.00	0	0.0

POOL SUMMARY

All Pools	<u>Total</u>	<u>#/Km</u>
	20	41.3
Pools ≥1m deep:	0	0.0
Complex pools (LWD pieces ≥3):	4	8.3
Pool Frequency (channel widths/pool):	2.8	
Residual pool depth (avg)	0.54m	

STREAM SUMMARY

BALES CREEK (PRE-TX)

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	
34	484	3.9	0.42	2,044	13	13	51	20	0	3	10

Wetted Area

Habitat Group	(m ²)	Percent
Scour Pool	1,385	67.8
Backwater Pools	1	**.*
Glide	225	11.0
Riffle	413	20.2
Rapid	0	0.0
Cascade	0	0.0
Step	20	1.0
Dry	0	0.0

REACH 1

RIPARIAN ZONE VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000 ft	691
Total conifers/1000 ft	0
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	0.0	0.3	0.0	0.3	0.0	4.7
15-30cm	0.0	2.0	0.0	1.7	0.0	1.0	0.0	4.7
30-50cm	0.0	1.3	0.0	0.7	0.0	0.0	0.0	2.0
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	7.3	0.0	2.7	0.0	1.3	0.0	3.8

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	(%)		(%)		(%)	
Canopy closure	43		37		22	
Shrub cover	16		26		12	
Grass/forb cover	78		69		74	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10-20 meters		Zone 3 20-30 meters	
	Hillslope	0		33		33
High terrace	0		0		0	
Low terrace	67		33		33	
Floodplain	33		33		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		17	
Roadbed/Railroad	0		0		17	
Riprap	0		0		0	
Surface slope (%)	0		5		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	
Total conifers >20" dbh/1000 ft	0

Average number of trees in a 5-meter wide band

Diameter <u>class (cm)</u>	Zones 1-3	
	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.0	4.7
15-30cm	0.0	4.7
30-50cm	0.0	2.0
50-90cm	0.0	0.0
>90cm	0.0	0.0

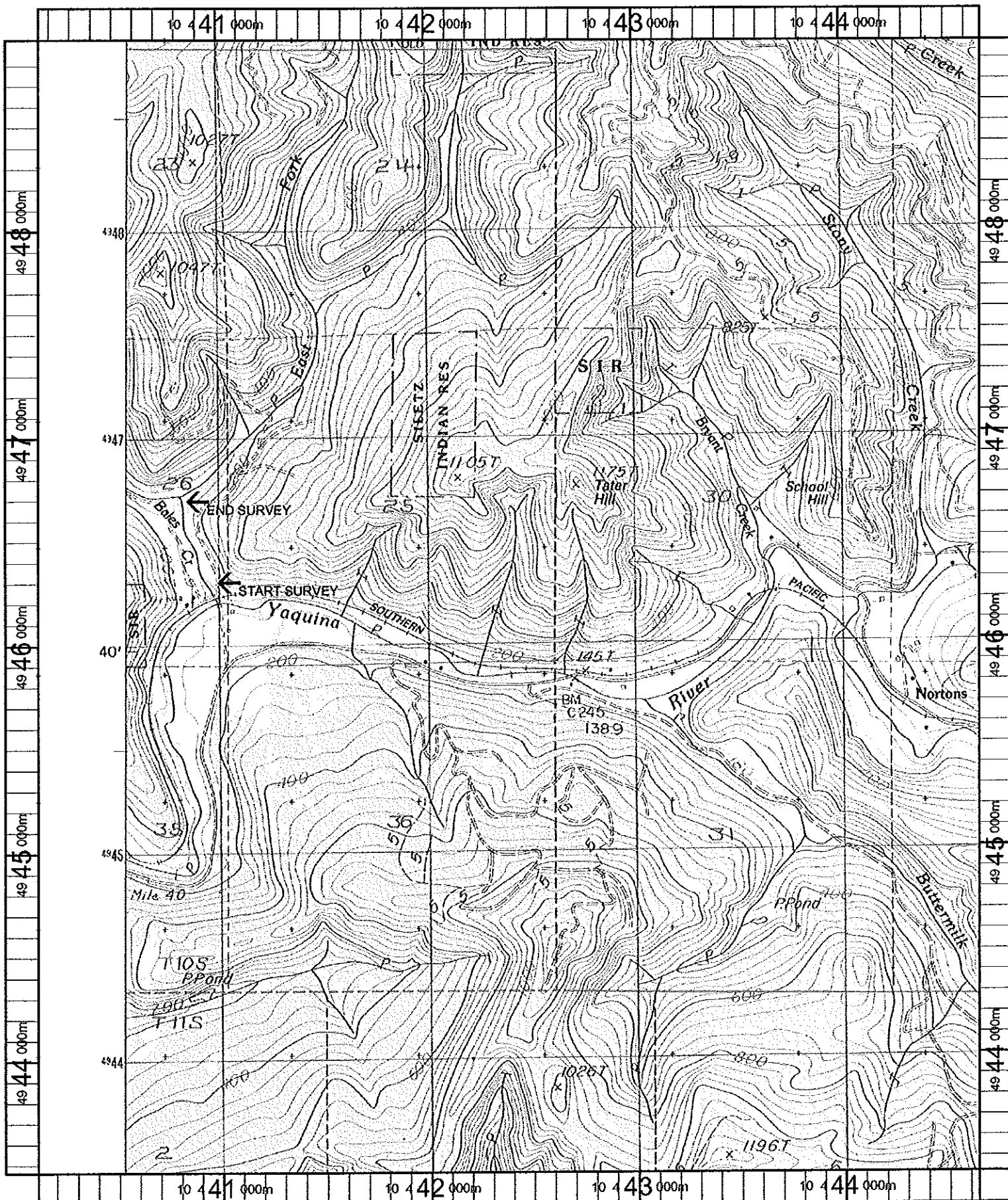
RIPARIAN ZONE VEGETATION

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	
11	LF	1	FP	0.0	5	5	95	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	ESTIMATED
11	LF	2	FP	0.0	100	5	95	Conifer	0	0	0	0	0	
								Hardwood	1	4	1	0	0	ALDER
11	LF	3	SC	0.0	90	10	30	Conifer	0	0	0	0	0	
								Hardwood	1	2	0	0	0	60% WATER
11	RT	1	FP	0.0	20	0	100	Conifer	0	0	0	0	0	
								Hardwood	3	0	0	0	0	THISTLE
11	RT	2	FP	0.0	5	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
11	RT	3	HS	30.0	0	5	95	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
18	LF	1	LT	0.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
18	LF	2	LT	0.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
18	LF	3	LT	0.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
18	RT	1	LT	0.0	70	10	90	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
18	RT	2	HS	10.0	10	90	10	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
18	RT	3	RB	0.0	0	5	80	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	15% BARE
29	LF	1	LT	0.0	70	70	10	Conifer	0	0	0	0	0	
								Hardwood	6	1	0	0	0	ASH, ALDER
29	LF	2	HS	20.0	10	0	90	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	10% GROUND
29	LF	3	HS	5.0	0	0	100	Conifer	0	0	0	0	0	
								Hardwood	0	0	0	0	0	
29	RT	1	LT	0.0	95	10	70	Conifer	0	0	0	0	0	
								Hardwood	3	5	4	0	0	ALDER
29	RT	2	LT	0.0	95	60	20	Conifer	0	0	0	0	0	
								Hardwood	0	1	1	0	0	ALDER, YOUNG CEDARS
29	RT	3	LT	0.0	40	50	40	Conifer	0	0	0	0	0	
								Hardwood	0	1	0	0	0	ALDER, 10% GROUND



Name: NORTONS
 Date: 10/23/100
 Scale: 1 inch equals 2000 feet

Location: 10 442293 E 4946159 N
 Caption: BALES CREEK RESTORATION SITE - YAQUINA BASIN