

**ODFW AQUATIC INVENTORY PROJECT
RESTORATION MONITORING
STREAM HABITAT REPORT**

STREAM: NORTH FORK MOLALLA RIVER
 GCG: 8-W
 SITE ID: 423
 BASIN: MOLALLA
 TREATMENT DATE: 2010
 SURVEY DATE: 3/9/2010
 SURVEY CREW: Andrew Walch / Josh Williams
 USGS MAPS: FERNWOOD
 ECOREGION: Willamette River and Tributaries Gallery Forest
 REPORT PREPARED BY: Sharon Tippery / Charles Stein

REACH: 1 LOCATION: T05S-R03E-S36SW

SURVEY DESCRIPTION:

Channel morphology: Constrained by hillslopes
 Dominant landuse(s): Young forest trees (3-15 cm dbh)
 Dominant riparian vegetation: Deciduous trees: size class 15-30cm dbh
 Primary channel length (meters) and area (m²): 3,233 : 49,549
 Secondary channel length (meters) and area (m²): 375 : 2,263
 VWI average: 1.4 VWI Range: 1 - 2 Average Gradient: 2.9%
 Pieces LWD per 100m: 1.9 Wood Volume (m³) per 100m: 2.6
 Percent pools: 12% Complex pools (LWD pieces>=3): 0 Pools >=1m deep: 1
 Percent substrate (avg):

	<u>Silt / organics</u>	<u>Sand</u>	<u>Gravel</u>	<u>Cobble</u>	<u>Boulder</u>	<u>Bedrock</u>
All units	1	3	13	54	28	1
Pool units	1	7	15	58	18	1
Fast water units	0	1	12	55	32	0

SURVEY COMMENTS:

This is a pre-treatment restoration survey. There were no potential barriers to upstream fish migration in the surveyed length. Beaver dens, an old beaver dam, and one redd were observed during the survey.

Survey Date: 3/9/2010

Report Date: 5/13/2010

T05S-R03E-S36SW

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	1.4	VWI Range:	1 - 2

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	3,233	49,549	0
Secondary	375	2,263	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 8	<u>First Terrace</u> n = 4
Width: 12.1	Width: 21.2	30.8 (22 - 56.6)	40.6 (23.8 - 64.6)
Depth: 0.69	Height: 1.0	2.0 (1.6 - 2.2)	2.4 (2 - 2.5)

W:D ratio: 22.3

Stream Flow Type: MF

Average Unit Gradient: 2.9%

Water temperature (°C): 4.0 - 4.0

Entrenchment (ACW:FPW ratio): 1.4

Habitat Units/100m (total channel length): 1.5

Habitat Units/100m (primary channel length): 1.7

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	YT	LT
Riparian Vegetation:	D15	M30

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	0%	Reach avg: 89%
Undercut Banks:	0%	Range: 53 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	62	1.9
Volume (m ³):	85	2.6
Key pieces (>=12m x 0.60m):	1	0.0

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T05S-R03E-S36SW

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/BOULDERS	12	465	10.1	0.36	6,356	967	0	0	11	53	36	0
GLIDE	2	97	13.7	0.58	1,345	41	0	3	27	57	13	0
POOL-BACKWATER	2	10	6.0	0.58	64	11	8	25	8	8	34	18
POOL-ISOLATED	1	8	1.5	0.30	12	0	15	0	20	60	0	5
POOL-LATERAL SCOUR	5	174	16.6	1.56	3,046	95	0	9	16	52	21	1
POOL-PLUNGE	1	17	21.0	1.80	357	7	0	18	18	59	6	0
POOL-STRAIGHT SCOUR	6	184	12.7	1.68	2,878	111	2	4	13	62	18	1
RAPID/BOULDERS	12	984	12.5	0.49	12,055	2,115	0	1	13	53	33	0
RIFFLE	5	956	18.6	0.33	17,643	1,250	0	2	15	63	21	0
RIFFLE W/ POCKETS	7	708	10.0	0.47	8,040	527	0	1	9	59	32	0
STEP/BOULDERS	1	1	6.2	0.50	8	5	0	0	5	14	81	0
STEP/COBBLE	1	3	2.3	0.05	7	5	0	0	20	80	0	0
Total:	55	3,608	12.1	0.69	51,812	5,134	Avg: 1	3	13	54	28	1

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	3	18	4.5	0.48	76	0.15%	11	14.5
Scour Pools	12	375	15.0	1.64	6,281	12.12%	213	3.4
Glides	2	97	13.7	0.58	1,345	2.60%	41	3.0
Riffles	12	1,664	13.6	0.41	25,683	49.57%	1,777	6.9
Rapids	12	984	12.5	0.49	12,055	23.27%	2,115	17.5
Cascades	12	465	10.1	0.36	6,356	12.27%	967	15.2
Step/Falls	2	4	4.3	0.28	15	0.03%	10	65.8
Dry	0	0			0	0.00%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

NORTH FORK MOLALLA RIVER
GCG: 8-W SITE ID: 423

Survey Date: 3/9/2010

Report Date: 5/13/2010

T05S-R03E-S36SW

REACH 1

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	15	4.2	4.6
Pools >=1m deep:	11	3.0	3.4
Complex pools (LWD pieces>=3):	0	0.0	0.0
Pool frequency (channel widths/pool):	11.3		
Residual pool depth (avg):	1.16		

Survey Date 3/9/2010

**RIPARIAN ZONE
VEGETATION SUMMARY**

REACH 1

Report Date: 5/13/2010

Summary of Riparian Zone (0-30m) 6 transects

Total hardwoods/1000	721
Total conifers/1000 ft	366
Total conifers >20" dbh/1000 f	20
Total conifers >35" dbh/1000 f	0

Average number of trees in a 5-meter wide band

Diameter class (cm)	Zone 1		Zone 2		Zone 3		Zones 1-3	
	<u>0-10 meters</u>		<u>10 - 20 meters</u>		<u>20 - 30 meters</u>		<u>0-30 meters</u>	
	<u>Conifer</u>	<u>Hardwood</u>	<u>Conifer</u>	<u>Hardwood</u>	<u>Conifer</u>	<u>Hardwood</u>	<u>Conifer</u>	<u>Hardwood</u>
3-15cm	0.7	4.2	0.5	2.3	1.2	1.5	2.3	8.0
15-30cm	0.3	2.0	0.8	1.3	1.8	0.3	3.0	3.7
30-50cm	0.3	0.2	0.0	0.0	0.0	0.0	0.3	0.2
50-90cm	0.0	0.0	0.2	0.0	0.2	0.0	0.3	0.0
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	1.3	6.3	1.5	3.7	3.2	1.8	2.0	3.9

Canopy closure and ground cover

	Zone 1		Zone 2		Zone 3	
	<u>0-10 meters</u>		<u>10 - 20 meters</u>		<u>20 - 30 meters</u>	
	(%)		(%)		(%)	
Canopy closure	59		56		60	
Shrub cover	32		28		23	
Grass/forb cover	28		31		33	

Predominant landform in each zone

	Zone 1		Zone 2		Zone 3	
	<u>0-10 meters</u>		<u>10 - 20 meters</u>		<u>20 - 30 meters</u>	
	(%)		(%)		(%)	
Hillslope	50		67		67	
High terrace	33		17		8	
Low terrace	8		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	8		17		25	
Riprap	0		0		0	
Surface slope (%)	32		32		25	

Summary of Riparian Zone (0-30m) for all reaches**6 transects****Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream**

Total hardwoods/1000	721
Total conifers/1000 ft	366
Total conifers >20" dbh/1000 f	20
Total conifers >35" dbh/1000 f	0

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	2.3	8.0
15-30cm	3.0	3.7
30-50cm	0.3	0.2
50-90cm	0.3	0.0
>90cm	0.0	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		
8	LT	1	HS	35	40	35	35	Conifer							30% BEDROCK
								Hardwood	4						
8	LT	2	HS	40	20	15	55	Conifer							30% BEDROCK
								Hardwood							
8	LT	3	HS	35	55	15	55	Conifer	1	1					30% BEDROCK
								Hardwood	1						
8	RT	1	HS	55	85	25	20	Conifer	1						55% BARE
								Hardwood		2					
8	RT	2	HS	50	80	15	15	Conifer							70% BARE
								Hardwood		1					
8	RT	3	HS	45	80	10	25	Conifer							65% BARE
								Hardwood							
15	LT	1	HS	90	65	25	35	Conifer	1		1				40% BARE
								Hardwood	4						
15	LT	2	HS	35	40	30	55	Conifer	3	1					15% BARE
								Hardwood							
15	LT	3	HS	25	15	25	50	Conifer	2						25% BARE
								Hardwood	1						
15	RT	1	HT	0	70	65	30	Conifer							5% BARE
								Hardwood		2	1				
15	RT	2	HT	0	75	65	30	Conifer					1		5% BARE
								Hardwood	1						
15	RT	3	HT	0	80	65	30	Conifer	1				1		5% BARE
								Hardwood		1					
21	LT	1	HS	50	55	60	20	Conifer	2	2	1				20% BARE
								Hardwood							
21	LT	2	RB	0	0	10	15	Conifer							75% GRAVEL ROAD
								Hardwood							
21	LT	3	HS	20	15	10	70	Conifer							20% BARE, REPLANTED CLEARCUT
								Hardwood							
21	RT	1	HS	35	70	35	40	Conifer							25% BARE DUFF
								Hardwood	2	2					
21	RT	2	HS	55	70	30	30	Conifer							40% BARE DUFF
								Hardwood	3						
21	RT	3	RB	0	65	5	10	Conifer							85% GRAVEL ROAD
								Hardwood							
28	LT	1	HS	120	15	5	10	Conifer							85% BARE BEDROCK
								Hardwood							
28	LT	2	HS	40	35	40	20	Conifer							40% BARE
								Hardwood	2						

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		
28	LT	3	HS	30	60	35	25	Conifer		2					40% BARE
								Hardwood	1						
28	RT	1	HT	0	75	50	25	Conifer							25% BARE
								Hardwood	3	1					
28	RT	2	HS	20	75	35	30	Conifer			1				35% BARE
								Hardwood	2	1					
28	RT	3	RB	0	80	30	30	Conifer			1				40% BARE
								Hardwood	5						GRAVEL ROAD
34	LT	1	LT	0	65	15	20	Conifer							65% BARE
								Hardwood	12						
34	LT	2	HS	60	80	30	40	Conifer							30% DUFF
								Hardwood	3						
34	LT	3	HS	40	100	45	30	Conifer	2	4					25% DUFF
								Hardwood							
34	RT	1	HT	0	75	30	45	Conifer							25% DUFF
								Hardwood		4					
34	RT	2	RB	0	25	15	20	Conifer			1				65% GRAVEL
								Hardwood			1				
34	RT	3	RB	0	15	0	0	Conifer							100% OLD GRAVEL PIT
								Hardwood							
42	LT	1	HT	0	75	30	40	Conifer							30% BARE
								Hardwood							
42	LT	2	HT	0	75	25	25	Conifer							50% BARE
								Hardwood	1	3					
42	LT	3	HS	30	65	20	15	Conifer			1				65% DUFF
								Hardwood	1	1					
42	RT	1	RB	0	20	5	10	Conifer							85% GRAVEL
								Hardwood			1				
42	RT	2	HS	80	95	20	40	Conifer			2				40% BARE
								Hardwood	2	2					
42	RT	3	HS	70	95	20	50	Conifer	1	2					30% BARE
								Hardwood							

OREGON DEPT OF FISH AND WILDLIFE
HABITAT INVENTORY

OREGON PLAN MONITORING SITE
SURVEY DATE: 3/9/2010

COMMENT SUMMARY

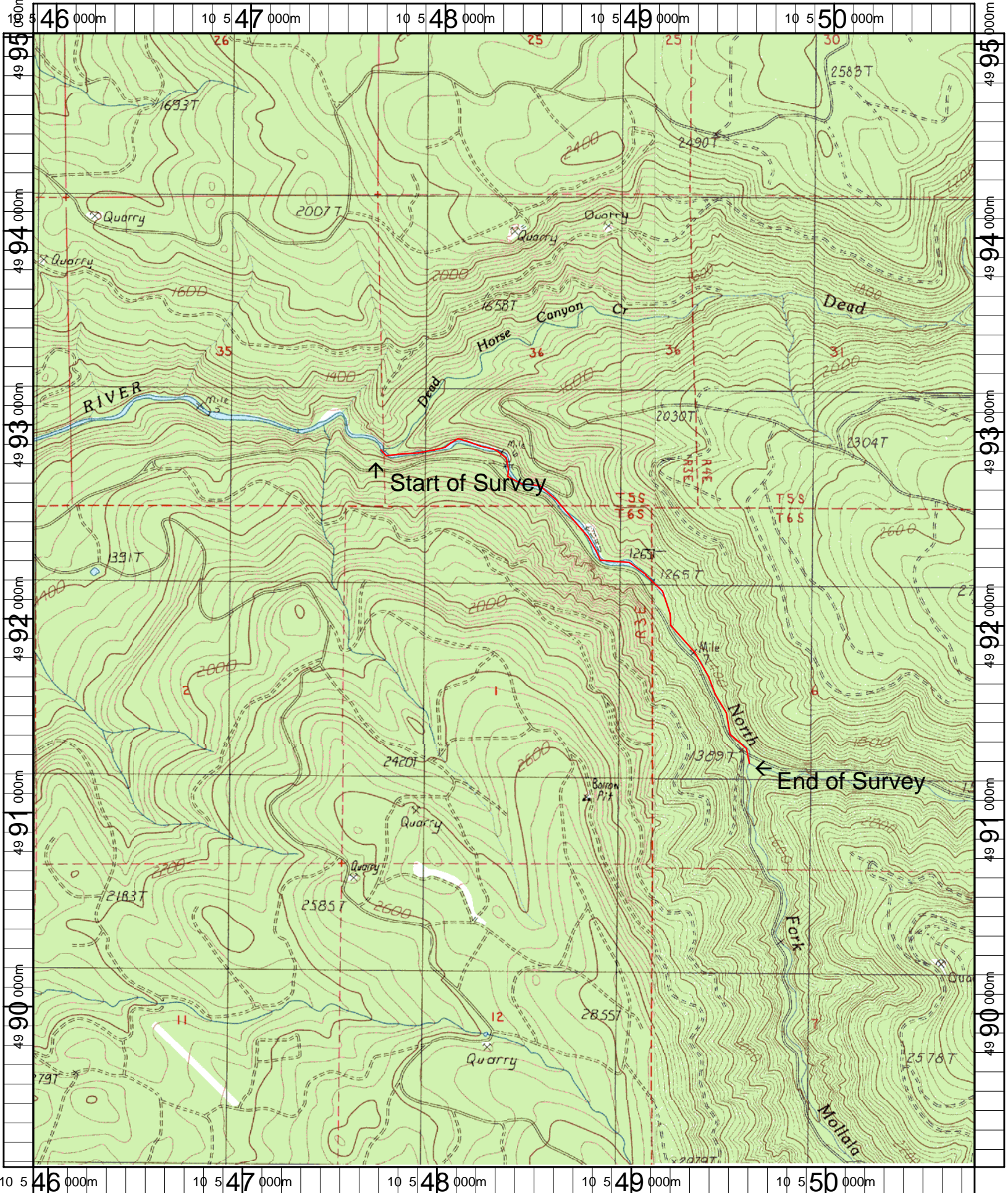
MONITORING AREA: 8-W SITE ID: 423 STREAM: NORTH FORK MOLALLA RIVER

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	1	CB	00	118.5	/SS,LI/	CH/MV-M15-YT, T=4C
1	2	RP	00	149.5	/SS	
1	4	SP	01	192.4	/TJ	
1	5	CB	11	192.4		ACW=8M
1	8	LP	00	304.2		CH/MV-D15/C15-YT/LT
1	9	CB	00	327.9	BV	
1	10	RB	01	455.3	BV,TJ/	
1	11	GL	01	494.7	BV	BEAVER DEN
1	13	RP	03	494.7	BV	ACW=10M
1	14	RB	01	595.2	BV	BEAVER DEN
1	15	SP	01	659.2	BV	CH/MV-D15/D30-YT/LT
1	18	RB	01	756.8		END SPAWNING SURVEY 3145
1	21	RB	00	966		CH/MV-D15/M30-YT/LT
1	23	RB	01	1098.7	TJ/	
1	24	CB	11	1098.7		ACW=2.3M
1	25	RI	01	1216	/TJ	
1	26	CB	11	1216		ACW=1.2M
1	27	LP	00	1261.7	/SS	
1	28	RI	00	1356.2		CH/MV-M30-YT/LT
1	32	RB	00	1815.9	/CE	
1	34	CB	01	1922.6	TJ/	CH/MV-D15/D3-LT
1	39	RI	00	2138.5	/SS	
1	41	SP	00	2214.5		2 REDDS
1	42	RI	00	2517.8	BV,CE	OLD BEAVER DAM, CH/MV-D15/S-LT
1	45	CB	11	2647.1		ACW=1.5M

COMMENT SUMMARY

MONITORING AREA: 8-W SITE ID: 423 STREAM: NORTH FORK MOLALLA RIVER

REACH	UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	52	RB	00	3117.1	/CS	BOULDER RIPRAP
1	55	LP	00	3232.6		CH/MV-C15/S-YT/LT, T=5C



Name: SOOSAP PEAK
 Date: 1/14/2010
 Scale: 1 inch equals 2000 feet

Location: 10 0548322 E 4992114 N
 Caption: W-423 North Fork Molalla River - USGS Map: Fernwood

8-W-423 NF Molalla River - Restoration 2010 Winter

