

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

STREAM: Horse Creek (MC-336)
BASIN: Alsea River
SURVEY TYPE: Post-Tx
DATE: February 26, 2008
SURVEY CREW: Ryan Jacobsen, Matt Strickland
REPORT PREPARED BY: Sharon Tippery
BASIN AREA: 10.6 km²
USGS MAPS: Elk City, Toledo South
ECOREGION: Coast Range Coastal Uplands

GENERAL DESCRIPTION:

Reach 1 of the Horse Creek habitat survey extended 1,302 meters. The channel was alternately constrained by terrace and hillslope in a broad valley floor. The average valley width index was 7.6 (range: 4.5-14). Land use for the reach was second growth timber (15-30cm dbh) and young trees (3-15cm dbh). The average unit gradient was 0.7 percent. Scour pools (76%) and riffles (17%) dominated stream habitat. Gravel (40%) and sand (35%) dominated stream substrate. Wood volume was 38.7m³/100m.

Reach 2 of the Horse Creek habitat survey extended 684 meters. The channel was constrained by hillslopes in a moderate V-shaped valley. The average valley width index was 1.8 (range: 1.5-2.5). Land use for the reach was second growth timber (15-30cm dbh) and young trees (3-15cm dbh). The average unit gradient was 1.6 percent. Scour pools (44%) and riffles (33%) dominated stream habitat. Gravel (30%), sand (28%), and cobble (24%) dominated stream substrate. Wood volume was 14.3m³/100m.

Reach 3 of the Horse Creek habitat survey extended 1,285 meters. The channel was alternately constrained by terrace and hillslope in a broad valley floor. The average valley width index was 5.7 (range: 4.5-8). Land use for the reach was second growth timber (15-30cm dbh) and young trees (3-15cm dbh). The average unit gradient was 1.6 percent. Scour pools (45%) and riffles (26%) dominated stream habitat. Gravel (47%) and sand (26%) dominated stream substrate. Wood volume was 71.4m³/100m.

COMMENTS:

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

The crew noted several habitat structures during the survey.

Beaver activity, juvenile Coho, redds, and rough-skinned newts were observed during the survey.

**OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY**

**HORSE CREEK
GCG: 2-MC SITE ID: 336**

Survey Date: 2/26/2008

Report Date: 5/8/2008

T12S-R10W-S14SW

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	7.6	VWI Range:	4.5 - 14

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	1,302	6,522	0
Secondary	108	219	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 4
Width: 4.5	Width: 6.2	9.6 (6.6 - 12)	11.6 (10 - 15)
Depth: 0.61	Height: 0.4	0.8 (0.7 - 0.8)	1.2 (1.1 - 1.25)

W:D ratio: 16.7

Stream Flow Type: MF

Average Unit Gradient: 0.7%

Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 1.6

Habitat Units/100m (total channel length): 6.2

Habitat Units/100m (primary channel length): 6.8

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	176	13.5
Volume (m ³):	505	38.7
Key pieces (>=12m x 0.60m):	27	2.1

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T12S-R10E-S14NE

REACH 2

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	1.8	VWI Range:	1.5 - 2.5

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	684	2,831	0
Secondary	24	47	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 3	<u>First Terrace</u> n = 0
Width: 4.0	Width: 5.8	7.2 (7 - 7.3)	(-)
Depth: 0.45	Height: 0.3	0.7 (0.6 - 0.7)	(-)

W:D ratio: 17.7

Stream Flow Type: MF

Average Unit Gradient: 1.6%

Water temperature (°C): 7.0 - 7.0

Entrenchment (ACW:FPW ratio): 1.3

Habitat Units/100m (total channel length): 5.5

Habitat Units/100m (primary channel length): 5.7

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	59	8.6
Volume (m ³):	98	14.3
Key pieces (>=12m x 0.60m):	1	0.1

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**HORSE CREEK
GCG: 2-MC SITE ID: 336**

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T12S-R10W-S10SW

REACH 3

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	5.7	VWI Range:	4.5 - 8

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	1,285	4,426	0
Secondary	214	324	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 5	<u>First Terrace</u> n = 5
Width: 2.8	Width: 5.2	6.5 (4.8 - 8.1)	9.9 (7.8 - 12)
Depth: 0.40	Height: 0.3	0.5 (0.5 - 0.5)	0.9 (0.7 - 1.2)

W:D ratio: 21.0

Stream Flow Type: MF

Average Unit Gradient: 1.6%

Water temperature (°C): 9.0 - 9.0

Entrenchment (ACW:FPW ratio): 1.2

Habitat Units/100m (total channel length): 8.6

Habitat Units/100m (primary channel length): 10.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	YT
Riparian Vegetation:	D30	S

Bank Condition and Shade

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

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	153	11.9
Volume (m ³):	917	71.4
Key pieces (>=12m x 0.60m):	51	4.0

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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	1	11	0.6	0.02	6	0	16	58	26	0	0	0
CULVERT CROSSING	1	19	7.4	0.25	141	0	15	65	20	0	0	0
POOL-BACKWATER	5	36	3.1	0.75	120	0	18	44	36	0	2	0
POOL-LATERAL SCOUR	47	980	5.2	0.89	5,116	0	10	40	35	8	5	2
POOL-PLUNGE	1	8	3.8	0.85	32	0	0	20	30	25	25	0
PUDDLED UNIT	1	16	0.8	0.02	13	0	10	30	55	5	0	0
RAPID/BOULDERS	4	34	1.6	0.15	54	0	0	15	32	35	18	0
RIFFLE	22	292	4.0	0.24	1,179	0	5	27	54	10	3	1
STEP/BOULDERS	2	5	3.3	0.28	17	0	0	5	23	33	38	0
STEP/COBBLE	2	4	6.4	0.13	25	0	3	15	73	10	0	0
STEP/LOG	2	5	5.9	0.18	39	0	3	45	40	13	0	0
Total:	88	1,410	4.5	0.61	6,741	0	Avg: 8	35	40	10	6	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	5	36	3.1	0.75	120	1.78%	0	0.0
Scour Pools	48	988	5.2	0.89	5,147	76.36%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	22	292	4.0	0.24	1,179	17.49%	0	0.0
Rapids	4	34	1.6	0.15	54	0.80%	0	0.0
Cascades	1	11	0.6	0.02	6	0.09%	0	0.0
Step/Falls	6	14	5.2	0.19	81	1.20%	0	0.0
Dry	1	16	0.8	0.02	13	0.19%	0	0.0
Culverts	1	19	7.4	0.25	141	2.09%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	53	37.6	40.7
Pools >=1m deep:	15	10.6	11.5
Complex pools (LWD pieces>=3):	18	12.8	13.8
Pool frequency (channel widths/pool):	4.3		
Residual pool depth (avg):	0.68		

OREGON DEPARTMENT OF FISH AND WILDLIFE

HORSE CREEK

HABITAT INVENTORY

GCG: 2-MC

SITE ID: 336

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T12S-R10E-S14NE

REACH 2

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	1	28	3.1	0.35	87	0	0	15	20	40	25	0
CULVERT CROSSING	2	26	2.9	0.15	74	0	3	50	25	18	5	0
POOL-DAMMED	2	30	4.1	0.75	112	0	5	50	20	13	13	0
POOL-LATERAL SCOUR	18	281	4.4	0.69	1,282	0	1	34	29	19	14	3
RAPID/BOULDERS	3	88	3.9	0.23	349	0	0	14	24	36	22	3
RIFFLE	11	253	3.4	0.18	958	0	0	20	37	28	12	2
STEP/COBBLE	1	1	3.6	0.15	4	0	0	10	48	33	10	0
STEP/LOG	1	1	7.8	0.25	11	0	0	10	30	30	30	0
Total:	39	708	4.0	0.45	2,878	0	Avg: 1	28	30	24	14	2

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	2	30	4.1	0.75	112	3.89%	0	0.0
Scour Pools	18	281	4.4	0.69	1,282	44.57%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	11	253	3.4	0.18	958	33.30%	0	0.0
Rapids	3	88	3.9	0.23	349	12.13%	0	0.0
Cascades	1	28	3.1	0.35	87	3.02%	0	0.0
Step/Falls	2	2	5.7	0.20	15	0.50%	0	0.0
Dry	0	0			0	0.00%	0	0.0
Culverts	2	26	2.9	0.15	74	2.59%	0	0.0

POOL SUMMARY

	Total of all Channel Lengths		Primary Channel Length
	<u>Total</u>	<u># / Km</u>	<u># / Km</u>
All Pools:	20	28.3	29.2
Pools >=1m deep:	1	1.4	1.5
Complex pools (LWD pieces>=3):	2	2.8	2.9
Pool frequency (channel widths/pool):	6.1		
Residual pool depth (avg):	0.49		

OREGON DEPT OF FISH AND WILDLIFE

HORSE CREEK

HABITAT INVENTORY

GCG: 2-MC SITE ID: 336

Survey Date: 2/27/2008

Report Date: 5/8/2008

T12S-R10W-S10SW

REACH 3

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	2	15	0.8	0.16	11	0	23	30	30	18	0	0
POOL-ALCOVE	2	8	2.1	0.18	19	0	100	0	0	0	0	0
POOL-BACKWATER	1	3	1.8	0.25	5	0	20	45	35	0	0	0
POOL-BEAVER DAM	3	124	6.5	0.97	987	0	62	25	13	0	0	0
POOL-DAMMED	1	19	4.0	0.80	76	0	15	40	35	10	0	0
POOL-ISOLATED	3	11	2.0	0.65	28	0	77	17	7	0	0	0
POOL-LATERAL SCOUR	49	571	3.1	0.65	1,903	0	10	29	50	9	1	1
POOL-PLUNGE	7	52	4.6	0.95	272	0	11	32	39	6	1	11
PUDDLED UNIT	1	44	1.2	0.05	53	0	35	40	15	10	0	0
RAPID/BEDROCK	1	11	0.8	0.15	9	0	0	0	0	0	0	100
RAPID/BOULDERS	4	26	1.6	0.11	40	0	6	25	45	19	5	0
RIFFLE	32	549	2.3	0.11	1,194	0	4	22	57	13	1	3
RIFFLE W/ POCKETS	3	39	2.4	0.23	73	0	7	34	46	14	0	0
STEP/BEAVER DAM	3	3	4.9	0.09	17	0	23	32	33	12	0	0
STEP/BEDROCK	1	1	0.9	0.10	1	0	0	0	0	0	0	100
STEP/COBBLE	10	20	2.7	0.09	53	0	0	20	64	15	1	0
STEP/LOG	6	4	2.2	0.10	10	0	6	32	45	16	2	0
Total:	129	1,499	2.8	0.40	4,750	0	Avg: 12	26	47	10	1	3

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	10	165	3.5	0.63	1,115	23.48%	0	0.0
Scour Pools	56	623	3.3	0.69	2,176	45.80%	0	0.0
Glides	0	0			0	0.00%	0	0.0
Riffles	35	588	2.3	0.12	1,266	26.66%	0	0.0
Rapids	5	37	1.4	0.11	49	1.03%	0	0.0
Cascades	2	15	0.8	0.16	11	0.23%	0	0.0
Step/Falls	20	28	2.8	0.09	80	1.69%	0	0.0
Dry	1	44	1.2	0.05	53	1.11%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

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HORSE CREEK
GCG: 2-MC SITE ID: 336

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T12S-R10W-S10SW

REACH 3

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	66	44.0	51.4
Pools >=1m deep:	12	8.0	9.3
Complex pools (LWD pieces>=3):	12	8.0	9.3
Pool frequency (channel widths/pool):	4.3		
Residual pool depth (avg):	0.59		

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 336 STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
1	LP	00	35	HS	LOGS
2	CC	00	54	CC	FLYNN CR. RD. DOUBLE CULVERT, NO STEP.
3	RI	01	67	CS/	RIP RAP.
4	BW	10	67	CS/	RIP RAP.
5	LP	00	102	CS/	RIP RAP.
7	LP	00	159	SS/	
14	LP	00	251.2	HS	LOGS
16	LP	00	278.7	HS	LOGS
20	LP	01	314.7	HS	LARGE GRAVEL BUILD-UP ALONG SIDES/MIDDLE. LOGS
21	BW	10	314.7		JUVENILE COHO OBSERVED.
31	LP	01	483.4	/TJ	BUSH CREEK.
32	RI	11	483.4		ACW=2.9M TEMPERATURE=7.5C
33	RI	00	499.4	HS	VALLEY INFLUENCED BY BUSH CREEK VALLEY. LOGS
37	LP	00	548.4	HS	LOGS EXTEND TO UNIT 39.
46	RI	00	701.75	BC	1000 LINE. START HORSE CR 2894 OR PLAN. ADD MC-2894 TO SURVEY HERE.
47	LP	01	719.75	HS	END MC-2894. LOGS
52	RI	00	782.25	HS	LOGS
53	LP	00	813.25		OLDER REDD IN TAILOUT.
55	RI	00	848.25	HS	LOGS
56	LP	00	879.25		JUVENILE COHO OBSERVED.
70	LP	01	1002.85	TJ/	
71	CB	11	1002.85		ACW=1.1M TEMPERATURE=10C

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 336 STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
73	LP	00	1054.85	HS	LOGS
80	LP	00	1180.75		OLDER REDD IN TAILOUT.
85	LP	01	1239.25	TJ/	
86	RB	11	1239.25		ACW=2.3M TEMPERATURE=10C
89	RI	00	1319.25		COORDINATES TAKEN FOR END OF REACH 1.
94	LP	00	1457.75	SS/	FRESH REDDS IN TAILOUT.
98	RB	00	1569.75	SS/	
100	SL	00	1581.65	HS	LOGS
102	LP	01	1608.45	/TJ	DEER CREEK.
103	CC	11	1608.45	CC	TEMPERATURE=9C ACW=2.7M CONSTRAINED BY CULVERT. 1000 LINE.
104	LP	00	1624.45	SS/	
117	CC	00	1774.85	CC	1000 LINE.
123	LP	00	1905.55	LA/	
124	CB	00	1933.55	DJ	DJ AT TOP OF UNIT.
125	DP	00	1953.55	HS	LOGS
128	SC	00	1989.25		START OF REACH 3, END REACH 2.
133	RI	00	2077.95	SS/ /SS	
134	PP	01	2096.95	/TJ	LONG POOL, BUT HAS PLUNGE CHARACTERISTICS AT HEAD OF POOL.
135	CB	11	2096.95		ACW=1.3M TEMPERATURE=8C
137	DP	00	2116.45	BV	
139	LP	00	2138.85	BV	
144	LP	01	2208.65	BV,HS,TJ/	LOGS. OLDER BEAVER COMPLEX AREA.

COMMENT SUMMARY

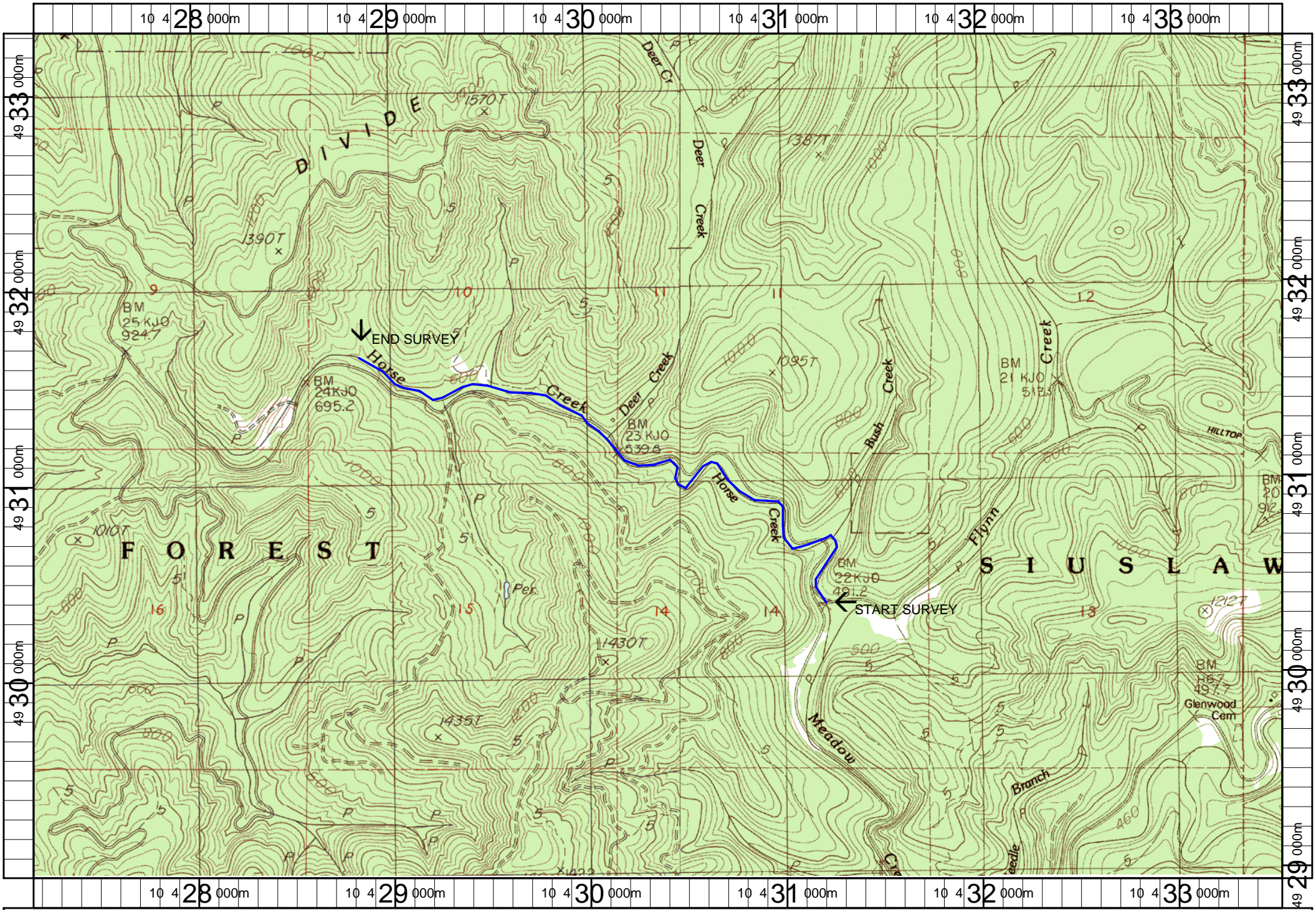
MONITORING AREA: 2-MC SITE ID: 336 STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
145	RI	11	2208.65		ACW=1.5M TEMPERATURE=8C
148	LP	00	2229.75	HS	LOGS
149	LP	00	2237.75	BV	
151	LP	00	2267.55	BV	WHOLE AREA IS AN OLDER BEAVER COMPLEX. COHO JUVENILES OBSERVED.
153	LP	00	2282.65	HS	LOGS
156	RI	00	2309.55	HS	LOGS
157	LP	00	2319.55	HS,LA/	LOG
160	LP	01	2347.55	HS	LOGS
167	SD	01	2381.65	BV,BD	BEAVER DAM.
169	BP	01	2445.65	BV, BD	LOGS. BEAVER COMPLEX CURRENT/ACTIVE. COHO JUVENILES EVERYWHERE.
170	RI	11	2445.65		ACW=4.1M TEMPERATURE=8C
174	IP	10	2482.65		ROUGH-SKINNED NEWTS ABUNDANT.
175	AL	10	2482.65		ROUGH SKINNED NEWTS ABUNDANT.
177	LP	00	2503.75	HS	OLDER REDD IN TAILOUT. LOGS.
181	RI	00	2555.45		LARGE GRAVEL BARS.
182	LP	00	2584.45	HS	COHO JUVENILES. HEAVY ELK GRAZING. BANKS ERODED & INSIZED. LOGS.
185	RP	01	2634.45	HS	LOGS.
187	SR	01	2638.85		HARD PAN CLAY SUBSTRATE.
188	RI	00	2644.85		HARDPAN CLAY SUBSTRATE.
189	SD	02	2644.85	BV,BD	BEAVER DAM.
192	PP	03	2644.85	/SS	HARDPAN SUBSTRATE.
193	SD	03	2644.85	BV,BD	OLDER BEAVER DAM.

COMMENT SUMMARY

MONITORING AREA: 2-MC SITE ID: 336 STREAM: HORSE CREEK

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTES
194	BP	03	2644.85	BV	OLDER BEAVER COMPLEX.
196	RR	03	2644.85		HARDPAN SUBSTRATE.
198	BP	01	2693.85	BV,TJ,HS	ACTIVE BV COMPLEX. COHO CARCASS. JUV COHO/TROUT IN BV POND. LOGS.
199	RB	11	2693.85	BC,/SS	1000 LINE. ACW=2.4M TEMPERATURE=9C
203	LP	00	2726.55	SS/	
206	LP	00	2756.05		OLDER REDD IN TAILOUT.
208	LP	00	2793.05		OLDER REDDS IN TAILOUT.
216	LP	01	2886.05	TJ/ CE/	
217	CB	00	2892.55		ACW=1.2M TEMPERATURE=9C
218	RI	00	2913.55	SS/	
228	LP	01	2986.25	TJ/	
229	RB	11	2986.25		ACW=1.2M TEMPERATURE=10C
233	RI	01	3043.05	/SS	
234	IP	10	3043.05		COHO JUVENILES OBSERVED.
240	RI	00	3088.95	HS	LOGS
241	LP	00	3094.45	HS	LOGS
247	RI	00	3149.45	HS	LOGS
254	LP	00	3206.25	SS/	
255	RI	01	3271.25	/TJ HS	LOGS
256	RI	11	3271.25		ACW=1.9M TEMPERATURE=9C



Name: TOLEDO SOUTH
 Date: 5/22/2006
 Scale: 1 inch equals 2000 feet

Location: 10 430362 E 4931129 N
 Caption: HORSE CREEK RESTORATION SITE - ALSA BASIN