

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

STREAM: Horse Creek (MC-336)  
BASIN: Alsea River  
SURVEY TYPE: Pre-Tx  
DATE: February 13, 2006  
SURVEY CREW: Scott Venables, Seth Ring  
REPORT PREPARED BY: Paul Jacobsen  
BASIN AREA: 10.6 km<sup>3</sup>  
USGS MAPS: Toledo South  
ECOREGION: Coast Range Coastal Uplands

**GENERAL DESCRIPTION:**

The Horse Creek habitat survey extended 4,374 meters. The channel was unconstrained in a broad valley floor. The average valley width index was 10.3 (range: 2.6-30.0). Land use for the reach was second growth (15-30 cm dbh) and mature (50-90 cm dbh) trees. The average unit gradient was 0.5 percent. Scour pools (60%) and riffles (27%) dominated stream habitat. Gravel (43%) dominated stream substrate. Wood volume was low at 12.4 m<sup>3</sup>/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

T12S-R10W-S14NE

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	10.3	VWI Range:	2.6 - 30

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 Channel	4,374	23,327	0
Secondary Channel	238	475	2
Off-Channel Units	460	799	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 10	<u>First Terrace</u> n = 10
Width: 4.3	Width: 8.0	22.1 ( 12.9 - 35.2 )	34.5 ( 19.6 - 65 )
Depth: 0.58	Height: 0.7	1.4 ( 1.2 - 1.5 )	2.5 ( 1.5 - 4.9 )

W:D ratio: 11.9  
 Stream Flow Type: MF  
 Average Unit Gradient: 0.5%  
 Water temperature (°C): 8.0 - 8.0

Entrenchment (ACW:FPW ratio): 2.8  
 Habitat Units/100m (total channel length): 5.7  
 Habitat Units/100m (primary channel length): 6.6

**Riparian, Bank, and Wood Summary**

	<u>Primary</u>	<u>Secondary</u>
Land Use:	ST	MT
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):	742	17.0
Volume (m <sup>3</sup> ):	543	12.4
Key pieces (>=12m x 0.60m):	10	0.2

OREGON DEPT OF FISH AND WILDLIFE

HORSE CREEK PRE-TX (2-MC, 336)

HABITAT INVENTORY

Report Date: 12/6/2006

Survey Date:

2/13/2006

REACH 1		T12S-R10W-S14NE					REACH 1					
HABITAT DETAIL												
Habitat Type	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Total Area (m <sup>2</sup> )	Large Boulders (#>0.5m)	Substrate Percent Wetted Area					
							S/O	Snd	Grvl	Cbl	Bldr	Bdrk
CASCADE/BOULDERS	3	36	2.5	0.18	83	0	0	8	13	39	34	7
GLIDE	1	10	2.4	0.40	23	0	10	60	30	0	0	0
POOL-ALCOVE	4	19	1.5	0.24	32	0	96	1	2	0	0	0
POOL-BACKWATER	21	147	2.6	0.48	375	0	51	14	15	13	7	0
POOL-BEAVER DAM	3	144	10.6	0.88	2,312	0	93	3	3	0	0	0
POOL-ISOLATED	4	17	2.1	0.39	36	0	73	4	24	0	0	0
POOL-LATERAL SCOUR	166	2,931	4.8	0.83	14,773	0	12	23	46	13	4	2
POOL-PLUNGE	1	12	3.7	0.75	44	0	5	15	20	40	20	0
PUDDLED UNIT	2	41	0.7	0.05	28	0	50	25	25	0	0	0
RAPID/BOULDERS	1	17	6.2	0.30	106	0	0	5	5	9	73	9
RIFFLE	71	1,637	3.6	0.19	6,506	0	9	11	55	19	3	3
RIFFLE W/ POCKETS	1	50	3.6	0.30	180	0	0	5	11	26	58	0
STEP/BEAVER DAM	3	3	10.5	0.08	52	0	72	6	22	0	0	0
STEP/BOULDERS	1	1	2.5	0.15	3	0	0	0	0	10	90	0
STEP/COBBLE	2	5	4.2	0.10	35	0	35	10	13	35	8	0
STEP/LOG	6	3	2.9	0.08	13	0	19	8	60	13	0	0
<b>Total:</b>	290	5,072	4.3	0.58	24,601	0	<b>Avg:</b> 18	18	43	14	5	2

HABITAT SUMMARY								
Habitat Group	Number Units	Total Length (m)	Avg Width (m)	Avg Depth (m)	Wetted Area		Large Boulders	
					(m <sup>2</sup> )	Percent	Number	(# / 100m <sup>2</sup> )
Dammed & BW Pools	32	326	3.2	0.47	2,755	11.20%	0	0.0
Scour Pools	167	2,942	4.8	0.83	14,816	60.23%	0	0.0
Glides	1	10	2.4	0.40	23	0.09%	0	0.0
Riffles	72	1,687	3.6	0.19	6,686	27.18%	0	0.0
Rapids	1	17	6.2	0.30	106	0.43%	0	0.0
Cascades	3	36	2.5	0.18	83	0.34%	0	0.0
Step/Falls	12	13	5.0	0.09	104	0.42%	0	0.0
Dry	2	41	0.7	0.05	28	0.11%	0	0.0
Culverts	0	0			0	0.00%	0	0.0

POOL SUMMARY

	<u>Total</u>	Total of all Channel Lengths <u># / Km</u>	Primary Channel Length <u># / Km</u>
All Pools:	199	39.2	45.5
Pools >=1m deep:	44	8.7	10.1
Complex pools (LWD pieces>=3):	84	16.6	19.2
Pool frequency (channel widths/pool):	3.2		
Residual pool depth (avg):	0.68		

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# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC**      SITE ID: **336**      HORSE CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	LP	00	65	CC, HS		5 LOGS, DOUBLE CULVERT
2	LP	00	84.8			CARCASS, TWO SMALL FISH
5	LP	00	149.2	SS/, DJ		CARCASS
8	IP	10	195			T = 8.0
12	LP	00	220			THREE SMALL FISH
13	LP	00	231	HS		8 LOGS
14	LP	00	240.4			ONE 3 INCH FISH
20	LP	00	330.7	HS		8 LOGS
25	LP	01	481.9	/TJ		
26	RI	11	481.9			T = 8.5
28	LP	00	520.6			CARCASS
31	LP	00	553.7	HS		5 LOGS
38	LP	00	696.6	BC		1000 LINE
39	LP	00	720.9	DJ		
46	LP	01	807.2	TJ		
48	LP	11	807.2			CARCASS
53	LP	00	882.8	SS/		T = 6.5
54	LP	01	905	TJ/		
55	CB	11	905	HS		T = 6.0, 4 LOGS
60	LP	00	1045.7	HS		3 LOGS
65	LP	01	1148.2	HS		7 LOGS

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UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
67	RI	01	1162.9		CARCASS	
73	LP	01	1246.5	TJ/		
74	RI	11	1246.5		T = 7.0, ACW = 1.1 m	
75	RI	01	1261.3	HS	4 LOGS	
78	LP	01	1294.1		CARCASS	
79	LP	02	1294.1		ACW = 4.2	
80	LP	02	1294.1	DJ		
81	LP	03	1294.1		ACW = 5.6	
83	LP	00	1333.8		BEDROCK = HARDPAN	
85	LP	00	1362.6		HARDPAN	
86	LP	01	1388.1		CARCASS	
89	LP	00	1437.6		HARDPAN	
90	LP	00	1450.9		HARDPAN	
92	LP	00	1512.1		HARDPAN	
95	LP	00	1569.8		HARDPAN	
97	LP	01	1608.2	HS	3 LOGS	
100	LP	00	1637.4		HARDPAN	
101	RI	01	1672	/SS, /SS		
105	LP	00	1698.3	HS	3 LOGS	
106	RI	00	1739		ADULT FEMALE COHO	
107	LP	00	1761.1	HS	9 LOGS	

# Comment Summary

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UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
113	LP	02	1885.3		ACW = 1.5	
118	RI	02	1933.8		ACW = 5.5	
119	SB	00	1935		H = 0.3	
120	LP	00	1945.3	DJ		
123	RI	02	1974.4		ACW = 2.4	
124	LP	01	2006.7	TJ/		
125	RI	11	2006.7		T = 8.0, ACW = 0.9	
126	SC	11	2006.7		H = 0.8	
127	SL	00	2007.1		H = 0.35	
128	LP	00	2044.2		HARDPAN	
130	RI	00	2077.6		CARCASS	
131	LP	01	2106.3		HARDPAN	
133	LP	02	2106.3		ACW = 2.4	
139	LP	00	2248	HS	8 LOGS	
140	LP	01	2264.1	TJ/		
141	RI	11	2264.1		T = 8.0, ACW = 1.8 m	
143	LP	00	2334.6		T = 5.0,	
148	PD	02	2379.7		ACW = 3.2	
149	LP	00	2415.4		CARCASS	
156	RI	01	2597.8	SS/, TJ/		
157	CB	11	2597.8		T = 8.0, ACW = 2.1	

# Comment Summary

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UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
158	LP	00	2609	HS	5 LOGS	
159	LP	00	2613.5		CARCASS	
160	LP	01	2627.9	/TJ	DEER CR, T = 5.0	
161	GL	11	2627.9	CC	1.4 m hi x 2.4 m wide	
167	LP	00	2700	HS	6 LOGS, TWO 3 IN. FISH	
172	RI	02	2749.5		TWO CARCASSES	
173	LP	00	2757.3	HS	9 LOGS	
176	RI	01	2891.7	CC	2.2 m hi x 3.7m wide	
179	RP	01	2948	SS/, HS	5 LOGS	
183	RI	00	3029.7	/SS		
185	LP	00	3066		HRDPAN	
187	LP	00	3103.3	/SS		
188	LP	01	3138.4	/TJ, /SS		
190	RI	11	3138.4		T = 8.0, ACW = 1.4	
191	SL	11	3138.4		H = 0.3	
192	LP	00	3154.2	HS	2 LOGS	
194	LP	00	3174		CARCASS	
197	RI	00	3220.3		HARDPAN	
198	LP	01	3230	SS/, TJ/		
199	RI	11	3230	SS/	T = 7.5, ACW = 0.8	
200	PD	02	3230		ACW = 2.2	



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UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
201	LP	00	3251.2	HS	4 LOGS, HARDPAN	
202	SL	00	3252.7		H = 0.4	
206	LP	00	3292.4		HARDPAN	
208	LP	00	3310.5		CARCASS	
209	LP	00	3326.2		HARDPAN	
210	RI	00	3341.1		CARCASS	
216	LP	00	3402.8		HARDPAN	
218	LP	01	3436.4	/TJ	HARDPAN	
219	RI	11	3436.4		T = 7.0, ACW = 2.8	
221	LP	00	3458.7	HS	2 LOGS	
225	RI	02	3492.5		SUBTERRANEAN	
231	LP	01	3593.2		HARDPAN	
236	SD	01	3619.4	BD	H = 0.4	
237	BP	01	3639.9	BV	CARCASS	
238	LP	01	3658.7		HARDPAN	
239	SL	02	3658.7		H = 0.5	
240	RI	02	3658.7		HARDPAN	
241	SD	00	3660.6	BD	H = 1.1	
242	BP	01	3755.1	HS, BV, TJ	CARCASSES	
243	BW	10	3755.1	BV	BEAVER RUN	
244	LP	02	3755.1		ACW = 4.2	

# Comment Summary

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MONITORING AREA: **2-MC**      SITE ID: **336**      HORSE CREEK PRE-TX

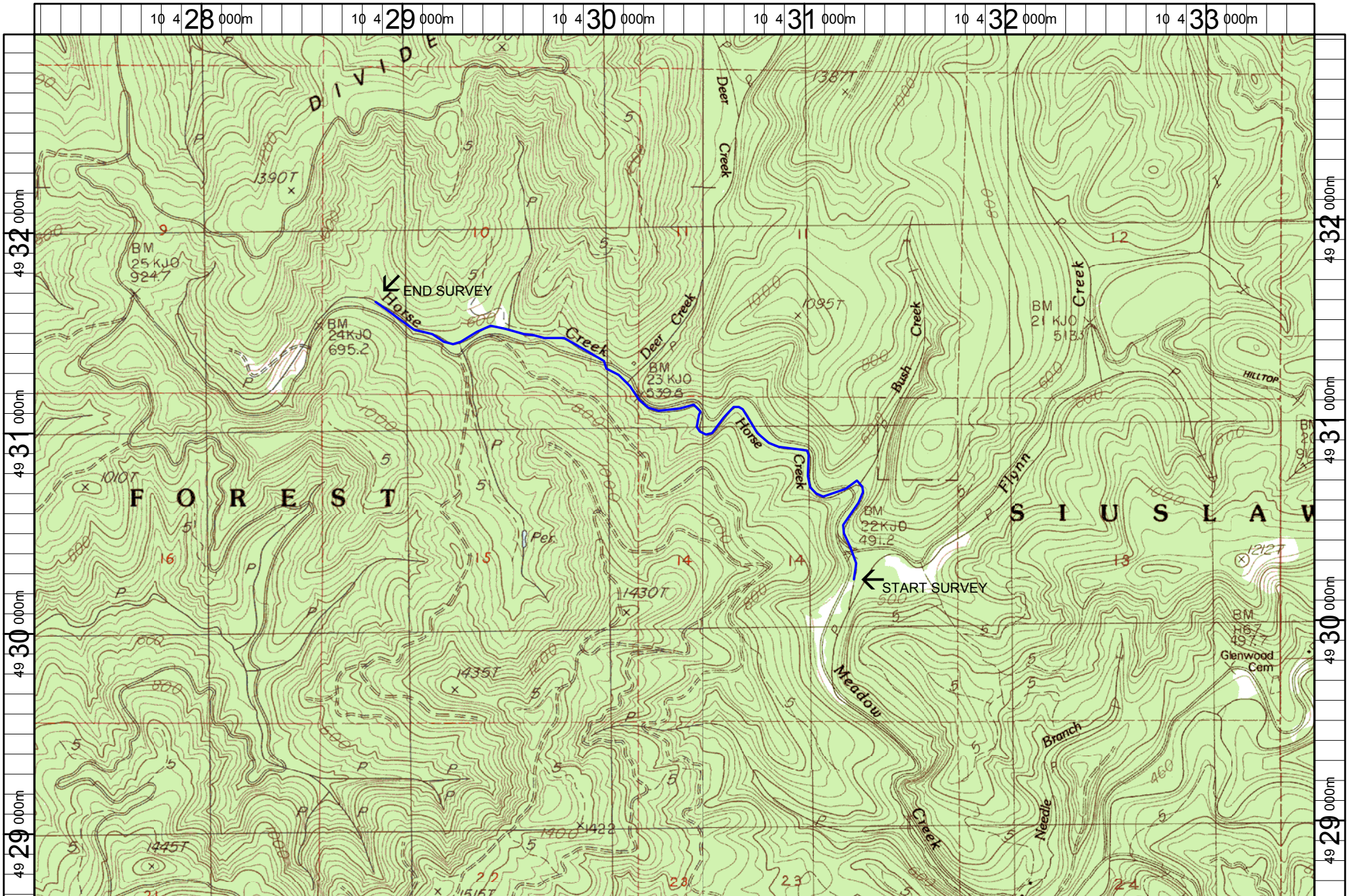
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
245	LP	11	3755.1	/SS	ACW = 2.1, T = 7.0	
246	LP	11	3755.1		ACW = 1.9	
248	SD	01	3756.05	BD	H = 0.65	
249	BP	01	3784.75	BV		
250	RI	03	3784.75		ACW = 1.4	
251	RI	01	3804.65	TJ/	T = 5.0	
252	RI	11	3804.65		T = 4.5, ACW = 3.6	
253	LP	00	3814.15		HARDPAN	
255	LP	00	3829.95		HARDPAN	
257	LP	00	3847.65		HARDPAN	
262	LP	01	3980.45	TJ/		
263	RI	11	3980.45		ACW = 1.1, HARDPAN	
264	SL	11	3980.45		H = 0.4, T = 6.5	
265	LP	00	3989.95	SS/		
268	RI	01	4069.75	TJ/		
269	BW	10	4069.75		HARDPAN	
270	RI	11	4069.75		ACW = 1.25, T = 6.5	
272	RI	00	4096.85		HARDPAN	
273	LP	01	4102.35	HS	5 LOGS	
276	LP	00	4142.85	HS, /SS	2 LOGS	
278	LP	00	4181.75	HS	5 LOGS	

# Comment Summary

## Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC**      SITE ID: **336**      HORSE CREEK PRE-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
280	LP	00	4230.55		HARDPAN	
281	LP	00	4240.85	HS	3 LOGS, HARDPAN	
282	RI	01	4293.05		SIGN-START REARNG SITE MC-1522	
284	LP	00	4296.25	HS	3 LOGS, ACW = 7.3	
285	SL	02	4296.25		H = 0.35	
287	LP	00	4303.25		HARDPAN	
288	RI	00	4366.05	HS	2 LOGS	
289	LP	01	4374.05	/TJ		
290	RI	11	4374.05		T = 8.0, ACW = 2.6	



Name: ELK CITY  
 Date: 1/19/2006  
 Scale: 1 inch equals 2000 feet

Location: 10 430329 E 4930796 N  
 Caption: HORSE CREEK RESTORATION SITE - ALSA BASIN