

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

STREAM: Headrick Creek (MC-88)
BASIN: Alsea River
SURVEY TYPE: Post-Tx
DATE: June 23, 2006
SURVEY CREW: Sharon Crowley, Brian Bangs, Charlie Stein
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 2.0 km²
USGS MAPS: Prairie Peak
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Headrick Creek habitat survey extended 443 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 15.5 (range: 10.0-20.0). Land use for the reach was second growth (15-30 cm dbh) and large (30-50 cm dbh) trees. The average unit gradient was 1.1 percent. Scour pools (74%) and riffles (22%) dominated stream habitat. Silt (36%), sand (34%) and gravel (25%) dominated stream substrate. Wood volume was moderate at 29.4 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.

Stream Headrick Creek (MC-88)

Basin Alsea River

Treatment Large Wood

	ODFW Benchmark		Pre 6/15/98	Post 6/23/99	Post 6/23/06		
Habitat Variable	Desirable	Undesirable					
% Pool Area	>35%	<10%	73.6	65.8	74.5		
Number of Pools			37	23	28		
Deep Pools/km (>1.0 m)			1.8	0.0	2.2		
% Off-Channel			1.4	5.6	3.0		
LWD – Pieces/100m	>20	<10	10.6	9.8	14.0		
LWD – Volume/100m	>30	<20	14.9	26.8	29.4		
LWD – Key Pieces/100m	>3	<1	0.9	3.8	0.5		
Large Wood Jams/km			0.0	14.4	2.3		
% Riffle Fines	<10	>20	42	58	53		
% Riffle Gravel	>35	<15	58	42	46		
% Bedrock			0	0	5		

Bold is noticeable change

Comments: Since the treatment was large wood assembled in complex jams, it is no surprise that there was a general increase in parameters. Through time, wood pieces and volume appears to be increasing, but key pieces and wood jams are decreasing. Deep pools were variable, but that may be a symptom of stream flows rather than an actual change. Since the reach was pool-rich, it is unlikely that pool area will increase substantially. Substrate numbers remained nearly constant.

REACH 1

T14S-R07W-S08NW

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	15.5	VWI Range:	10 - 20

Channel Morphology (Percent Reach Length)

<u>Constrained</u>		<u>Unconstrained</u>	
Hillslope	0%	Single Channel	0%
Bedrock	0%	Multiple Channel	0%
Terrace	100%	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	443	765	0
Secondary Channel	8	11	2
Off-Channel Units	10	13	0

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 4	<u>First Terrace</u> n = 4
Width: 1.6	Width: 2.6	4.3 (2.6 - 6.1)	6.4 (3.8 - 9.6)
Depth: 0.34	Height: 0.4	0.8 (0.7 - 0.94)	1.3 (1.14 - 1.7)

W:D ratio: 6.1
 Stream Flow Type: LF
 Average Unit Gradient: 1.1%
 Water temperature (°C): 14.0 - 14.0

Entrenchment (ACW:FPW ratio): 1.7
 Habitat Units/100m (total channel length): 11.7
 Habitat Units/100m (primary channel length): 12.2

Riparian, Bank, and Wood Summary

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

Bank Condition and Shade

<u>Bank Status</u>	<u>Percent Reach Length</u>	<u>Shade (% of 180)</u>
Actively Eroding:	14%	Reach avg: 93%
Undercut Banks:	8%	Range: 61 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	62	14.0
Volume (m ³):	130	29.4
Key pieces (>=12m x 0.60m):	2	0.5

OREGON DEPT OF FISH AND WILDLIFE

HEADRICK CREEK POST-TX (2-MC, 88)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

6/23/2006

REACH 1		T14S-R07W-S08NW					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
CULVERT CROSSING	1	15	0.5	0.05	8	0	30	30	40	0	0	0
DRY UNIT	1	5	2.0	0.00	11	0	40	60	0	0	0	0
POOL-LATERAL SCOUR	25	262	2.0	0.47	495	0	46	39	13	0	0	2
POOL-PLUNGE	1	8	2.1	0.95	17	0	50	30	10	0	0	10
POOL-STRAIGHT SCOUR	2	18	3.9	0.79	75	0	66	32	2	0	0	0
PUDDLED UNIT	1	3	0.2	0.01	1	0	40	60	0	0	0	0
RIFFLE	17	141	1.3	0.21	176	0	21	32	46	0	0	1
STEP/BEDROCK	2	1	0.9	0.02	1	0	6	0	0	0	0	94
STEP/COBBLE	2	6	0.7	0.06	4	0	8	18	73	0	0	3
STEP/LOG	1	3	1.1	0.03	3	0	80	0	0	0	0	20
STEP/STRUCTURE	1	0	0.5	0.05	0	0	30	30	40	0	0	0
Total:	54	462	1.6	0.34	789	0	Avg: 36	34	25	0	0	5

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	28	288	2.1	0.51	588	74.48%	0	0.0	
Glides	0	0			0	0.00%	0	0.0	
Riffles	17	141	1.3	0.21	176	22.24%	0	0.0	
Rapids	0	0			0	0.00%	0	0.0	
Cascades	0	0			0	0.00%	0	0.0	
Step/Falls	6	9	0.8	0.04	7	0.93%	0	0.0	
Dry	2	8	1.1	0.01	11	1.41%	0	0.0	
Culverts	1	15	0.5	0.05	8	0.95%	0	0.0	

POOL SUMMARY			
	<u>Total</u>	Total of all Channel Lengths	Primary Channel Length
		<u># / Km</u>	<u># / Km</u>
All Pools:	28	60.7	63.2
Pools >=1m deep:	1	2.2	2.3
Complex pools (LWD pieces>=3):	7	15.2	15.8
Pool frequency (channel widths/pool):	6.5		
Residual pool depth (avg):	0.46		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

HEADRICK CREEK POST-TX
GCG: 2-MC SITE ID: 88

Survey Date 6/23/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

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

Total hardwoods/1000	1341
Total conifers/1000 ft	386
Total conifers >20" dbh/1000 ft	20
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	4.7	0.3	2.0	0.0	6.0	0.3	12.7
15-30cm	0.0	2.0	0.7	1.3	2.0	3.3	2.7	6.7
30-50cm	0.0	0.7	0.7	0.0	2.3	2.0	3.0	2.7
50-90cm	0.0	0.0	0.0	0.0	0.3	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	0.0	7.3	1.7	3.3	4.7	11.3	2.1	7.3

Canopy closure and ground cover

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Canopy closure	70		80		83	
Shrub cover	48		27		38	
Grass/forb cover	48		45		33	

Predominant landform in each zone

	Zone 1 0-10 meters		Zone 2 10 - 20 meters		Zone 3 20 - 30 meters	
	(%)		(%)		(%)	
Hillslope	17		17		33	
High terrace	83		67		67	
Low terrace	0		0		0	
Floodplain	0		0		0	
Wetland/meadow	0		0		0	
Stream channel	0		0		0	
Roadbed/Railroad	0		17		0	
Riprap	0		0		0	
Surface slope (%)	27		7		11	

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	1341
Total conifers/1000 ft	386
Total conifers >20" dbh/1000 ft	20
Total conifers >35" dbh/1000 ft	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	0.3	12.7
15-30cm	2.7	6.7
30-50cm	3.0	2.7
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		
20	LF	2	RB	5	65	10	70	Conifer							15% RB GRAVEL
								Hardwood							
20	RT	3	HT	0	80	75	20	Conifer							20% DUFF
								Hardwood	1						
20	RT	2	HT	0	85	70	20	Conifer							10% DUFF
								Hardwood	2						
20	LF	3	HS	50	85	35	60	Conifer		1	2				5% DUFF
								Hardwood	13						
20	LF	1	HS	65	85	60	35	Conifer							5% DUFF: 454220, 4912821 (2D)
								Hardwood	1						10% DUFF
20	RT	1	HT	0	60	80	10	Conifer							
								Hardwood	3						
36	LF	2	HT	0	85	15	15	Conifer		1	2				NO GPS
								Hardwood							
36	LF	3	HT	0	75	70	5	Conifer				1			
								Hardwood	1	1					
36	RT	1	HT	23	70	55	40	Conifer							
								Hardwood	5	1	2				
36	RT	2	HS	22	80	35	15	Conifer	1	1					
								Hardwood	1	2					
36	RT	3	HS	7	80	10	40	Conifer				3	1		
								Hardwood							
36	LF	1	HT	39	85	45	55	Conifer							TRANS.
								Hardwood	4	5					
50	LF	3	HT	9	85	30	65	Conifer							TRANS.
								Hardwood	3	9	6				
50	LF	1	HT	13	60	20	80	Conifer							TRANS.;
								Hardwood							0454375, 4912933
50	LF	2	HT	0	85	10	80	Conifer							
								Hardwood	1	2					
50	RT	1	HT	21	60	30	70	Conifer							TRANS
								Hardwood	1						
50	RT	2	HT	12	80	20	70	Conifer							
								Hardwood	2						
50	RT	3	HT	0	90	10	10	Conifer			5	1			
								Hardwood							

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **88** HEADRICK CREEK POST-TX

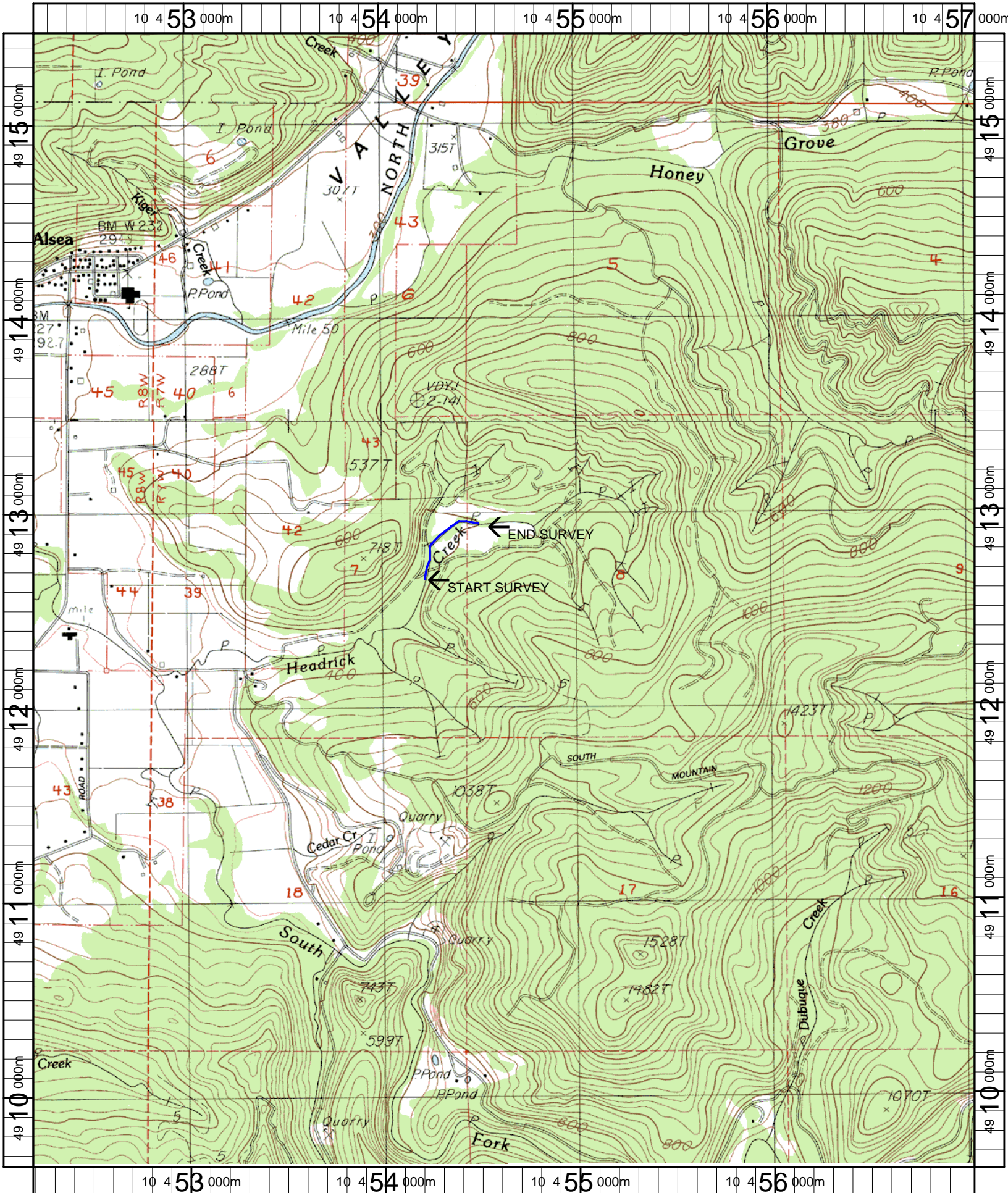
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
1	SP	00	7.9	HS, WL	HS 4; START SIGN LB ALDER START AT BANGS/CORN	
2	RI	00	12.6			CRAYFISH, RACCOON, R
3	LP	00	21.2	HS	RSN	BEDROCK= HARDPAN; US
4	RI	00	26.2	HS		HS SPANS UNITS 3, 4, 5
5	LP	00	36.5	HS	HS #5	
6	SP	00	46.7			UT= 4"
7	SS	00	46.8		H=0.3	
8	CC	00	61.8	CC		D=1.5 X 1.5 METAL- GOOD
13	DU	02	81.9	HS		
14	LP	00	92.1	HS		HS IN UNIT 13 & 14; RSN
18	LP	00	112.3	WL		BEDROCK=HARDPAN; DE
20	LP	01	125.1	TJ/	WL GROUSE; END 6-23-06	
21	RI	11	125.1		6-26-06	BANGS START; TRIB T=12
22	RI	00	139.6			T= 14C
30	SC	00	184.9			BEDROCK = HARDPAN
31	LP	00	200.3			RSN; UT= 4"
35	LP	00	242.6			RSN
36	LP	00	256.2		VWI=20+	RSN
38	LP	00	268.2	HS		HS= 2 LOGS; IN UNITS 38,
39	RI	00	293.3	HS, /SS		
41	RI	00	310.4	/SS		

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **2-MC** SITE ID: **88** HEADRICK CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
42	PP	00	318.6			BEDROCK= HARDPAN
43	SR	00	319.4		H=0.3	HARDPAN
44	RI	00	331.9			HARDPAN
46	SR	00	337.3	/SS	H=0.2	HARDPAN
47	LP	00	347.2			RSN
49	LP	00	369			RSN
50	LP	00	388	/SS	VWI=20+	HARDPAN
52	LP	00	417.2	HS, BV		HARDPAN; HS IN UNITS 52
53	SL	00	419.8	HS	H=0.8	
54	LP	00	443.3	HS, BV		



Name: PRAIRIE PEAK
 Date: 5/22/2006
 Scale: 1 inch equals 2000 feet

Location: 10 454626 E 4912545 N
 Caption: HEADRICK CREEK RESTORATION SITE - ALSEA BASIN