

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

STREAM: Elk Creek (MS-285)
BASIN: Millicoma River
SURVEY TYPE: Post-Tx
DATE: July 11, 2006
SURVEY CREW: Lisa Biggs, Peter Cole
REPORT PREPARED BY: Paul Jacobsen
BASIN AREA: 17.6 km²
USGS MAPS: Elk Peak
ECOREGION: Coast Range Sedimentary

GENERAL DESCRIPTION:

The Elk Creek habitat survey extended 2,177 meters. The channel was constrained by terraces in a broad valley floor. The average valley width index was 4.8 (range: 1.5-8.0). Land use for the reach was mature (50-90 cm dbh) and young (3-15 cm dbh) trees. The average unit gradient was 0.7 percent. Scour pools (71%) dominated stream habitat. Gravel (49%) dominated stream substrate. Wood volume was high at 43.3 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.

REACH 1

T23S-R11W-S25NE

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	4.8	VWI Range:	1.5 - 8

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	2,177	11,920	0
Secondary Channel	28	77	0
Off-Channel Units	241	725	1

Channel Dimensions (m)

<u>Wetted</u>	<u>Active</u>	<u>Floodprone</u> n = 9	<u>First Terrace</u> n = 8
Width: 4.4	Width: 11.5	23.1 (10 - 36)	26.7 (11 - 44)
Depth: 0.44	Height: 0.7	1.3 (1.1 - 1.5)	1.7 (1.4 - 2.4)

W:D ratio: 17.1

Entrenchment (ACW:FPW ratio): 2.1

Stream Flow Type: LF

Habitat Units/100m (total channel length): 6.6

Average Unit Gradient: 0.7%

Habitat Units/100m (primary channel length): 7.4

Water temperature (°C): 14.0 - 14.0

Riparian, Bank, and Wood Summary

	<u>Primary</u>	<u>Secondary</u>
Land Use:	MT	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:	9%	Reach avg: 81%
Undercut Banks:	13%	Range: 49 - 100

Large Wood Debris

	<u>Total</u>	<u>Total / 100m primary channel</u>
All pieces (>=3m x 0.15m):	359	16.5
Volume (m ³):	943	43.3
Key pieces (>=12m x 0.60m):	71	3.3

OREGON DEPT OF FISH AND WILDLIFE

ELK CREEK POST-TX (3-MS, 285)

HABITAT INVENTORY

Report Date: 3/5/2007

Survey Date:

7/11/2006

REACH 1		T23S-R11W-S25NE					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	16	2.3	0.15	38	30	5	15	70	5	5	0
GLIDE	1	29	6.2	0.25	179	0	0	5	9	5	0	82
POOL-ALCOVE	1	5	0.7	0.15	4	0	50	50	0	0	0	0
POOL-BACKWATER	19	158	3.8	0.54	613	4	39	30	16	4	1	11
POOL-BEAVER DAM	1	35	5.1	1.00	177	3	18	14	59	5	5	0
POOL-ISOLATED	1	10	3.4	1.00	34	0	76	19	5	0	0	0
POOL-LATERAL SCOUR	65	1,463	5.9	0.77	9,083	132	17	19	34	9	3	18
PUDDLED UNIT	1	20	0.6	0.15	12	1	0	5	52	38	5	0
RAPID/BOULDERS	1	20	0.3	0.01	6	0	0	30	70	0	0	0
RIFFLE	31	491	3.8	0.11	1,934	59	1	7	75	15	2	1
RIFFLE W/ POCKETS	2	33	3.2	0.22	112	27	0	13	28	40	18	3
STEP/BEAVER DAM	1	0	4.1	0.01	1	3	0	10	90	0	0	0
STEP/BOULDERS	1	3	5.0	0.20	14	20	0	5	15	5	75	0
STEP/COBBLE	35	163	3.1	0.10	517	15	0	5	78	13	1	3
Total:	161	2,446	4.4	0.44	12,722	294	Avg: 13	15	49	10	3	10

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	22	208	3.7	0.56	828	6.51%	7	0.8	
Scour Pools	65	1,463	5.9	0.77	9,083	71.40%	132	1.5	
Glides	1	29	6.2	0.25	179	1.41%	0	0.0	
Riffles	33	524	3.8	0.12	2,045	16.08%	86	4.2	
Rapids	1	20	0.3	0.01	6	0.05%	0	0.0	
Cascades	1	16	2.3	0.15	38	0.30%	30	79.5	
Step/Falls	37	166	3.2	0.10	531	4.18%	38	7.2	
Dry	1	20	0.6	0.15	12	0.09%	1	8.5	
Culverts	0	0			0	0.00%	0	0.0	

POOL SUMMARY			
	Total	Total of all Channel Lengths # / Km	Primary Channel Length # / Km
All Pools:	87	35.6	40.0
Pools >=1m deep:	12	4.9	5.5
Complex pools (LWD pieces>=3):	35	14.3	16.1
Pool frequency (channel widths/pool):	2.4		
Residual pool depth (avg):	0.70		

OREGON DEPARTMENT OF FISH AND WILDLIFE
HABITAT INVENTORY

ELK CREEK POST-TX
GCG: 3-MS SITE ID: 285

Survey Date 7/11/2006
Report Date: 3/5/2007

RIPARIAN ZONE
VEGETATION SUMMARY

REACH 1

Summary of Riparian Zone (0-30m) 5 transects

Total hardwoods/1000	573
Total conifers/1000 ft	37
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	0.2	0.4	0.0	1.2	0.0	0.6	0.2	2.2
15-30cm	0.0	1.6	0.0	1.2	0.4	0.8	0.4	3.6
30-50cm	0.0	0.8	0.0	2.2	0.0	0.0	0.0	3.0
50-90cm	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6
>90cm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total/100m2	0.2	3.4	0.0	4.6	0.4	1.4	0.2	3.1

Canopy closure and ground cover

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Canopy closure	56	50	43
Shrub cover	71	71	66
Grass/forb cover	18	24	19

Predominant landform in each zone

	Zone 1 0-10 meters (%)	Zone 2 10 - 20 meters (%)	Zone 3 20 - 30 meters (%)
Hillslope	20	40	60
High terrace	60	50	20
Low terrace	20	10	0
Floodplain	0	0	0
Wetland/meadow	0	0	0
Stream channel	0	0	0
Roadbed/Railroad	0	0	20
Riprap	0	0	0
Surface slope (%)	8	12	17

Summary of Riparian Zone (0-30m) for all reaches

5 transects

Summary of riparian zone (0-100 feet) extrapolated to 1,000 feet along stream

Total hardwoods/1000	573
Total conifers/1000 ft	37
Total conifers >20" dbh/1000 ft	0
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	0.2	2.2
15-30cm	0.4	3.6
30-50cm	0.0	3.0
50-90cm	0.0	0.6
>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		
31	LF	3	HS	10	0	100	0	Conifer							NO TREES
								Hardwood							
31	RT	1	HS	30	20	90	5	Conifer							NO TREES
								Hardwood							
31	RT	2	HS	40	30	95	5	Conifer							NO TREES
								Hardwood							
31	RT	3	HS	50	70	90	5	Conifer							NO TREES
								Hardwood							
31	LF	1	HT	5	65	90	10	Conifer							ALDERS, HT/HS
								Hardwood				2			
31	LF	2	HS	10	15	100	0	Conifer							ALDERS
								Hardwood	1	1					
61	RT	1	LT	0	60	20	30	Conifer							NO TREES
								Hardwood							
61	LF	2	HS	30	85	30	65	Conifer							HS/RB
								Hardwood	2		2				
61	LF	3	RB	0	65	0	50	Conifer							NO TREES, FRESH COYOTE
								Hardwood							
61	RT	2	HT	0	80	40	40	Conifer							
								Hardwood	1	1	5				
61	LF	1	HT	0	95	60	30	Conifer							NO AMPHIBIANS
								Hardwood	1	3		1			
61	RT	3	HS	30	80	60	30	Conifer							NO TREES
								Hardwood							
91	LF	2	HT	0	90	70	20	Conifer							
								Hardwood		1	2				
91	LF	3	HT	0	80	80	10	Conifer							
								Hardwood		1					
91	RT	1	HT	0	90	60	30	Conifer							
								Hardwood			1				
91	RT	2	HT	0	90	30	60	Conifer							
								Hardwood			2				
91	RT	3	HS	30	90	40	50	Conifer							
								Hardwood			3				
91	LF	1	HT	5	90	60	30	Conifer							
								Hardwood		4	2				

120	LF	2	LT	0	30	95	5	Conifer						
								Hardwood						1
120	RT	2	HT	0	30	80	20	Conifer						
								Hardwood	2					
120	LF	3	HT	0	15	100	0	Conifer						
								Hardwood	2	1				
120	RT	3	HS	30	30	70	20	Conifer						
								Hardwood	1					
120	LF	1	LT	0	70	90	5	Conifer						
								Hardwood	1	1	1			
120	RT	1	HT	0	20	80	20	Conifer						NO TREES
								Hardwood						
150	RT	3	HS	20	0	90	10	Conifer						NO TREES
								Hardwood						
150	RT	2	HT	5	0	90	10	Conifer						NO TREES
								Hardwood						
150	RT	1	HT	5	20	80	10	Conifer	1					
								Hardwood						
150	LF	3	RB	0	0	30	10	Conifer						RB IS GRAVEL
								Hardwood						
150	LF	1	HS	30	30	80	10	Conifer						NO TREES
								Hardwood						
150	LF	2	HS	30	50	80	10	Conifer						
								Hardwood		1	1			

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS** SITE ID: **285** ELK CREEK POST-TX

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
1	LP	00	32.8	HS	CH-MV,ST-S	T=13.0C AT 9:30AM, PHOT
3	LP	00	96.1	WL		ELK TRACKS
5	LP	00	150.3	WL		ELK TRACKS
9	LP	00	214.3	/SS, LI/		6X6M
11	LP	00	232.6	HS		
13	LP	00	290.8	WL, BV		RACOON, ELK, BV SIGN/T
17	LP	00	364.5	WL		DEER, RACOON, ELK TRA
19	LP	00	385.4	HS	CA-MV,ST-MT, TOP OF UNIT	
22	LP	00	437.5	HS		
25	BW	10	465	WL		RSN
27	LP	00	488.3			CRAYFISH
28	SC	00	491.5	WL		/ELK TRAIL
34	LP	00	578.8	WL		DEAD YOUNG POSSUM IN
36	LP	00	607.4			HUGE RED HUCKLEBERR
39	LP	00	682.8	/SS, WL		FRESH BEAR, ELK, DEER
40	SC	00	686.5		CA-CT	
41	GL	01	715.4	HS		
47	BW	10	758.9	WL		15 RSN
48	RI	00	767.5		COYOTES HOWLING!	
49	LP	00	792.2	WL		COYOTES HOWLING
53	LP	00	845.8	WL		OTTER OR BEAVER DEN

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS** SITE ID: **285** ELK CREEK POST-TX

UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
57	LP	00	916.5	HS		LARGE COHO FRY, 6" CUT
60	BW	10	926.4	WL		COYOTE TRACKS
61	SC	00	932.9		CT-CT	T=14.0C AT 2:00PM
62	LP	00	945.7	HS		
64	LP	01	974	WL		/TRAIL
67	LP	00	997.5	HS, BV		BV STICKS IN WATER
69	LP	01	1014.6	WL		ELK TRACKS
70	SC	01	1016		GRAVEL BAR INBW HIGHER	
73	LP	00	1041.3	HS,BV,WL	FRESH BV ACTIVITY	2 RSN
75	IP	10	1047.8	WL		4 RSN, DEEP UNDERCUT
76	LP	00	1051.4	HS		
78	LP	00	1087.2	BV,HS,WL		ELK, DEER TRACKS
80	LP	01	1118.1	TJ/	TJ/	
81	RI	11	1118.1		ACW=7.4M	T=11.5C AT 3:00PM
82	CB	11	1118.1		FISH FRIENDLY CC @ END	
84	LP	01	1136.3	HS		
85	BW	10	1136.3	WL		SEVERAL RSN
87	LP	00	1180.9	DJ		SMALL DJ, TEMP LOGGER
90	LP	00	1234.1			T=14.0C AT 3:30PM
91	SC	00	1235.3			T=13.5C AT 9:30AM
92	LP	00	1252.9	HS		RAINING TODAY

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS** SITE ID: **285** ELK CREEK POST-TX

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
95	RI	00	1286	BC	BC	SPUR OFF 9000 RD XING,
97	BW	10	1299.6			SALMONIDS PRESENT
98	RI	00	1321.3	WL		RSN
99	LP	01	1339.1	HS		
102	LP	00	1373.3	HS		NICE OYSTER MUSHROO
104	LP	00	1419.7	HS		
107	LP	00	1442.9	WL, HS		ELK, DEER TRACKS
109	LP	00	1503.6	BV, HS		BEGINNING OF BD ON LE
110	SC	00	1511.1			TEMP LOGGER OUT OF W
112	BW	10	1533.5	HS, WL		RSN
114	BW	10	1545.8	WL		6 RSN
115	RI	01	1556.8	/LI		FAR SIDE 20M HIGH 12M
116	BW	10	1556.8	HS, WL		1 RSN
117	LP	00	1572.8	HS, WL		RSN
119	LP	00	1607.2	BV, WL		RSN
120	SC	00	1609.2	WL		VERY FRESH BEAR TRAC
121	LP	00	1627.3			T=13.5C AT 11:50, COHO &
122	SC	00	1628.5	WL		DEER, ELK TRACK
125	LP	01	1666	HS, WL		RSN, LOTS OF DUCKWEE
126	BW	10	1666	BV, HS		
127	RI	00	1695.8	WL		RSN

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: **3-MS** SITE ID: **285** ELK CREEK POST-TX

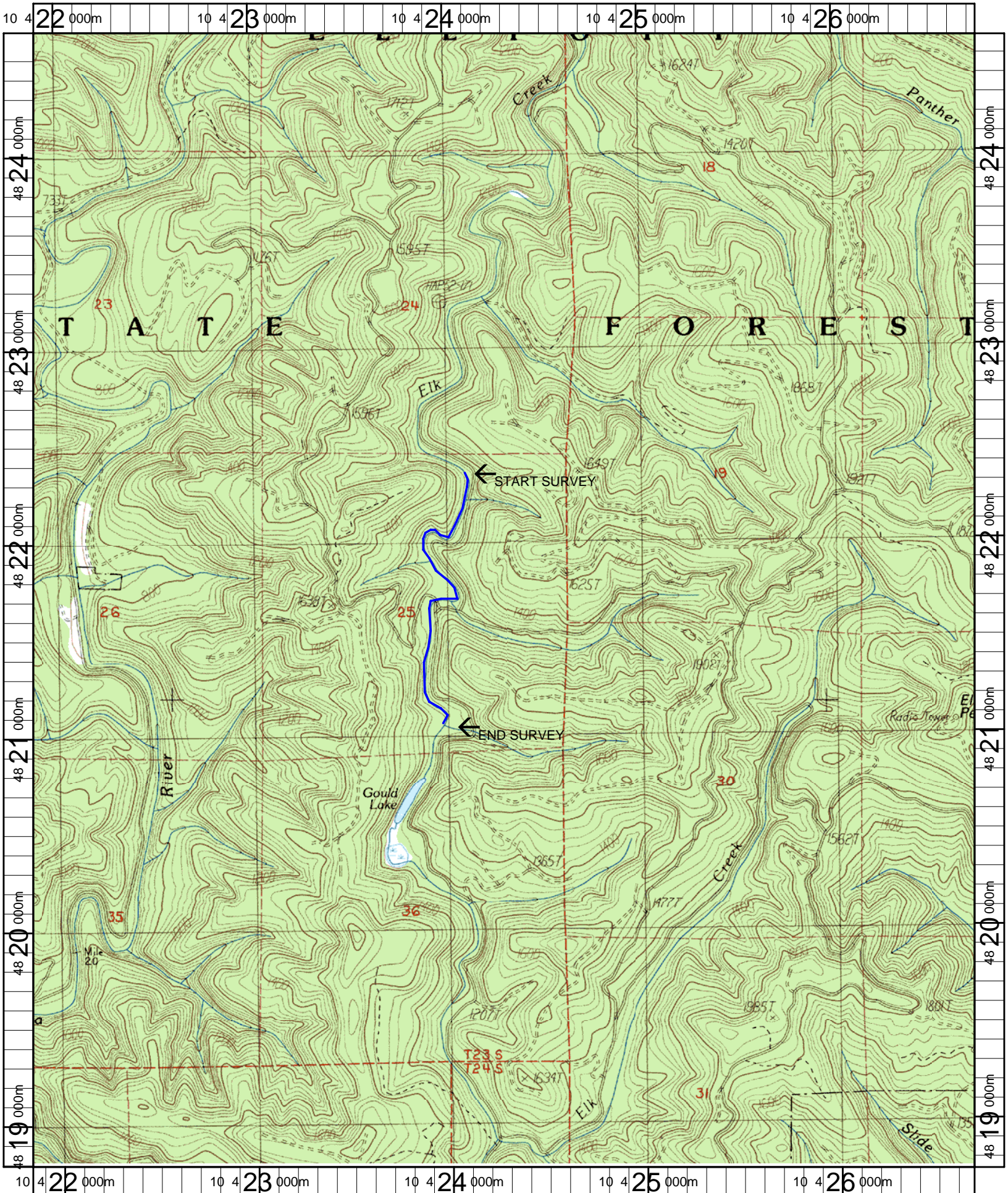
UNIT#	TYPE	CHAN	DIST. (m)	COMMENTS	NOTE ESTIMATOR	NOTE NUMERATOR
128	LP	01	1735.4	/TJ, BV		/TRAIL, RSN, DEER
130	BW	10	1735.4	HS, WL		RSN
131	SD	00	1735.7	BD	H=0.30M	
132	BP	01	1770.5	BV, HS		2 RSN
133	BW	10	1770.5	WL		/TRAIL, RSN
135	LP	00	1791.1	WL		1 RSN
137	LP	00	1826.2	HS		6" CUTTHROAT
138	SC	00	1830	BV		
139	LP	01	1855	HS		
142	LP	00	1890.6	/SS, BV		
144	LP	01	1910.2	WL		/TRAIL
145	BW	10	1910.2	HS, WL		RSN
146	SC	00	1913.3	BV		START OF DAM
147	LP	01	1939.8	HS, WL		ELK TRACKS, 2 RSN
148	BW	10	1939.8	WL		6 RSN
150	LP	00	1981.3	BV, WL		FROG CROAKING
151	RI	00	1996.7	BV		T=13.5C AT 1:25PM
152	LP	00	2043.7	BV, WL		SMALL BV DAM STARTED,
154	LP	00	2102.7	HS		
158	LP	00	2153.2	SS/		
160	LP	01	2176.6	TJ/, WL		RSN

Comment Summary

Restoration Monitoring Sites 2006

MONITORING AREA: 3-MS SITE ID: 285 ELK CREEK POST-TX

<u>UNIT#</u>	<u>TYPE</u>	<u>CHAN</u>	<u>DIST. (m)</u>	<u>COMMENTS</u>	<u>NOTE ESTIMATOR</u>	<u>NOTE NUMERATOR</u>
161	PD	11	2176.6		ACW=3.3M	FRY IN POOLS W/SUBSUR



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

Location: 10 424289 E 4821693 N
 Caption: ELK CREEK #285 RESTORATION SITE - MILLICOMA BASIN