APPENDIX E

List of Diversions in Pine Creek Subbasin

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

STREAM DIVERSIONS FOR DITCHES, PIPELINES AND PUMPING SITES
(4-28-99 draft)

PURPOSE OF TABLE: To list all stream diversions (other than dams for reservoirs on the reservoir list) that are located on fish-bearing streams, former fish-bearing streams, or that have a major influence on fish-bearing streams.

TABLE ORGANIZATION: Stream diversions are listed by subwatershed, then from upstream to downstream for each stream segment. There are 15 subwatersheds in the Pine Creek watershed; two of them (Upper Pine Creek & Deer Creek) do not contain major stream diversions. The four Pine Creek subwatersheds are Upper Pine Creek (headwaters to McMullen's Slough inflow), Pine Creek-Mile 15 (McMullen's Slough inflow to East Pine Creek inflow), Pine Creek-Mile 8 (East Pine Creek inflow to North Pine Creek inflow), and Lower Pine Creek (North Pine Creek inflow to Snake River).

SOURCES OF INFORMATION:
Ditch Name: list of 53 ditches prepared by Baker County Watermaster; Pine Creek Decree maps; site maps associated with water right certificates; OWRD Powder Basin map; USFS special use permits and dam inventory forms. Names for many ditches on the Watermaster's list could not be found on the Pine Creek Decree maps, or other water right maps.
Diversion Right: list of rights for 53 ditches prepared by the Baker County Watermaster; water right certificates.
Stream Name: Pine Creek Decree maps; USGS topographic maps; 1979 OWRD Powder Basin map.
Point of Diversion Location: Pine Creek Decree maps; site maps associated with water right certificates; USGS topographic maps; 1979 OWRD Powder Basin map; USFS special use permits; Tom Rudolph, Assistant Baker County Watermaster; Margaret Durner, Pine Ranger District. According to Tom Rudolph, Tartar's Slough (?), McMullen's Slough, East Channel Clear Creek, West Channel Clear Creek and Melhorn's Slough are not identified as diversions in water rights and/or regulated as stream diversions, even if stream flow into them is controlled by diversion structures.

CAUTION TO USER: <u>This is a preliminary list</u> of about 250 possible steam diversions.

ADDITIONAL WORK NEEDED: All information on this list must be validated by the Baker County Watermaster, Eagle Valley SWCD, ditch companies, Forest Service, etc. Corrections, additions and deletions are needed before the list can be used by the Powder Basin Watershed Council for planning purposes. In 1998 the Baker County Watermaster staff began field verification and GPS mapping of irrigation diversions in the Pine Creek watershed; the mapping project will take a few years. Input is needed from the Baker County Watermaster staff to match ditch names (without locations) with unnamed ditches (with locations).

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

SUBWATERSHED	DITCH NAME	DIVERSION RIGHT (cfs)	NAME OF STREAM DIVERTED	POINT OF DIVERSION LOCATION (township, range, sec, 40)	COMMENTS
Upper Pine Creek (01)	abandoned pipeline	1.33	E Fk Pine Creek	T6S, R45E, Sec 23, NW SW	mining (Cert 20684)
Upper Pine Creek (01)	Panter	3.00	Pine Creek	T6S, R45E, Sec 34, SE SW	shown on adj map; irrig &mining (D10435)
Upper Pine Creek (01)	unnamed	8.00	Pine Creek	T7S, R45E, Sec 3, NE NW	mining (Cert 12098)
Upper Pine Creek (01)	unnamed	3.00	Boulder Creek	T7S, R45E, Sec 3, SW SW	mining (Cert 11493)
Upper Pine Creek (01)	unnamed	5.00	Boulder Creek	T7S, R45E, Sec 10, NE NW	mining (Cert 3886)
Upper Pine Creek (01)	unnamed	2.23	Pine Creek	T7S, R45E, Sec 15, NW NE	mining (Cert 48423)
Upper Pine Creek (01)	unnamed	0.5	Turner Gulch	T7S, R45E, Sec 15, NW NW	mining (Cert 11017)
Upper Pine Creek (01)	unnamed	0.5	McKinnon Creek	T7S, R45E, Sec 15, SE SW	mining (Cert 11017)
Upper Pine Creek (01)	McKinnon	0.15	Pine Creek	T7S, R45E, Sec 15, SE NE	UPC POD #1; shown on adj map (Certs 1644 & 10391)
Upper Pine Creek (01)	Curry	13.07	Pine Creek	T7S, R45E, Sec 15, NE SE	UPC POD #2; shown on adj map
Upper Pine Creek (01)	Moore	2.87	Pine Creek	T7S, R45E, Sec 15, NE SE	UPC POD #3; shown on adj map

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Upper Pine Creek (01)	unnamed		Pine Creek	T7S, R46E, Sec 15, NE SE	UPC POD #4; see adj map below Moore
Upper Pine Creek (01)	Posey Valley	27.7	Pine Creek	T7S, R45E, Sec 22, NE NE	UPC POD #5; shown on adj map
Upper Pine Creek (01)	Steele	11.66	Pine Creek	T7S, R45E, Sec 23, SE NW	UPC POD #6; shown on adj map
Upper Pine Creek (01)	Foothills	41.97	Pine Creek	T7S, R45E, Sec 23, SW SE	UPC POD #7; shown on adj map
Upper Pine Creek (01)	Steele	11.66	Pine Creek	T7S, R45E, Sec 23, SE NW	UPC POD #8; shown on adj map
Upper Pine Creek (01)	Gaylord	3.96	Pine Creek	T7S, R45E, Sec 26, NW NE	UPC POD #9; shown on adj map
Upper Pine Creek (01)	Tarter		Pine Creek	T7S, R45E, Sec 26, NW NE	UPC POD #10; shown on adj map
Upper Pine Creek (01)	Mills	3.45	Pine Creek	T7S, R45E, Sec 26, NE NE	UPC POD #11; shown on adj map
Upper Pine Creek (01)	Tarters Slough, plus Duff (?)	3.17	Pine Creek	T7S, R45E, Sec 25, NW SW	UPC POD #12a; shown on adj map; div to west into Tarters Slough & (?) Duff
Upper Pine Creek (01)	unnamed		Tarters Slough	T7S, R45E, Sec 25, NE SW	UPC POD #12b; shown on adj map
Upper Pine Creek (01)	J. S. Curry		Tarters Slough	T7S, R45E, Sec 25, SE SW	UPC POD #12c; shown on adj map
Upper Pine Creek (01)	Perry	0.53	Tarters Slough	T7S, R45E, Sec 36, NE NE	UPC POD #12d; shown on adj map
Upper Pine Creek (01)	Gravel Flat	10.10	Tarters Slough	T7S, R45E, Sec 36, NW SE NE	UPC POD #12e; shown on adj map

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Upper Pine Creek (01)	unnamed ditch		Tarters Slough	T7S, R45E, Sec 36, NE SE NE	UPC POD #12f; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Tarters Slough	T7S, R45E, Sec 36, NE SE NE	UPC POD #12g; shown on adj map
Upper Pine Creek (01)	unnamed		Pine Creek	T7S, R46E, Sec 31, SW NW	UPC POD #13; shown on adj map
Upper Pine Creek (01)	McMullen Slough	29.8	Pine Creek	T7S, R46E, Sec 31, NW SW	UPC POD #14; shown on adj map
Upper Pine Creek (01)	Morrison	1.44	Pine Creek	T7S, R46E, Sec 31, NE SW	UPC POD #15; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Pine Creek	T7S, R46E, Sec 31, NW SE SW	UPC POD #16; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Pine Creek	T7S, R46E, Sec 31, SE SE SW	UPC POD #17; shown on adj map
Upper Pine Creek (01)	Gotchy	2.25	Pine Creek	T8S, R46E, Sec 5, NW SW	UPC POD #18; shown on adj map
Upper Pine Creek (01)	A. E. Carlson ?		Pine Creek	T8S, R46E, Sec 31, SW SW	UPC POD #19; shown on adj map
Upper Pine Creek (01)	Thad Leep	4.24	Pine Creek	T8S, R46E, Sec 8, NE NW	UPC POD #20; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Pine Creek	T8S, R46E, Sec 8, NW NE	UPC POD #21; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Pine Creek	T8S, R46E, Sec 8, SW NE	UPC POD #22; shown on adj map
Upper Pine Creek (01)	Greener #1	3.63	Pine Creek	T8S, R46E, Sec 9, SW SW	UPC POD #23; shown on adj map

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Upper Pine Creek (01)	Greener #2	2.88	Pine Creek	T8S, R46E, Sec 16, NW SE	UPC POD #24; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Pine Creek	T8S, R46E, Sec 22, NE NE	UPC POD #25; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Pine Creek	T8S, R46E, Sec 23, SW NW	UPC POD #26; shown on adj map
Upper Pine Creek (01)	unnamed ditch		Pine Creek	T8S, R46E, Sec 24, NE NW	UPC POD #27; shown on adj map
Upper Pine Creek (01)	Motley (Meadow Cr?)	2.11		(?)	
Upper Pine Creek (01)	North	0.45		(?)	
Upper Pine Creek (01)	Steele (?)		Dixie Creek	T7S, R45E, Sec 23, NW SE	diverted by Steele or Moore ditch (?)
McMullens Slough (02)	unnamed		McMullens Slou	T8S, R46E, Sec 6, NW NE	MS POD #1; shown on adj map; div to west
McMullens Slough (02)	unnamed		McMullens Slou	T8S, R46E, Sec 6, SE SE	MS POD #2; shown on adj map; div to west
McMullens Slough (02)	Marker	7.40	McMullens Slou	T8S, R46E, Sec 8, NW NW	MS POD #3; shown on adj map; div to west; flume over Sag Creek
McMullens Slough (02)	unnamed		McMullens Slou	T8S, R46E, Sec 8, NE NW	MS POD #4; shown on adj map; div to east
McMullens Slough (02)	unnamed		McMullens Slou	T8S, R46E, Sec 8, NW SE	MS POD #5; shown on adj map; div to east

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

McMullens Slough (02)	unnamed		McMullens Slou	T8S, R46E, Sec 8, SW SE	MS POD #6; shown on adj map; div to south
McMullens Slough (02)	unnamed		McMullens Slou	T8S, R46E, Sec 16, NE NW	MS POD #7; shown on adj map; div to east
McMullens Slough (02)	McMullen (?)		McMullens Slou	T8S, R46E, Sec 16, SW SE	MS POD #8; shown on adj map; div to south; flume over Sag Cr ?
McMullens Slough (02)	unnamed		McMullens Slou	T8S, R46E, Sec 16, SE SE	MS POD #9; shown on adj map; div to south
McMullens Slough (02)	unnamed		Mining Channel	T7S, R45E, Sec 36, NW SW	MC POD #1; shown on adj map (?); also called Lee Creek on one map
McMullens Slough (02)	unnamed		Mining Channel	T8S, R45E, Sec 1, NW NW	MC POD #2; shown on adj map
McMullens Slough (02)	unnamed		Mining Channel	T8S, R45E, Sec 1, NE NW	MC POD #3; shown on adj map
McMullens Slough (02)	Foothill (rediv)		Mining Channel	T8S, R45E, Sec 1, NE SW	MC POD #4; shown on adj map
McMullens Slough (02)	unnamed		Mining Channel	T8S, R46E, Sec 7, NW SE	MC POD #5; shown on adj map; div south
McMullens Slough (02)	unnamed		Mining Channel	T8S, R46E, Sec 7, NW SE	MC POD #6; shown on adj map; div east
McMullens Slough (02)	unnamed		Mining Channel	T8S, R46E, Sec 7, SW NE SE	MC POD #7; shown on adj map; div south
McMullens Slough (02)	unnamed		Mining Channel	T8S, R46E, Sec 7, NW SE SE	MC POD #8; shown on adj map; div south
McMullens Slough (02)	unnamed		Mining Channel	T8S, R46E, Sec 7, SE SE SE	MC POD #9; shown on adj map; div south

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

McMullens Slough (02)	unnamed	2.00	Carson Creek	T7S, R45E, Sec 22, SW NW	mining (Cert 10817); above Curry Ditch
McMullens Slough (02)	Foothills		Carson Creek	T7S, R45E, Sec 26, NW NE	also diverted by Curry & Posey Valley ?
McMullens Slough (02)	Posey Valley		Mining Ch trib	T7S, R45E, Sec 26, SW SE	PV POD #2; headwater of Mining Chan ?
McMullens Slough (02)	Posey Valley		Lee Creek	T7S, R45E, Sec 35, NW NE	PV POD #3; Mining Channel trib; Curry div?
McMullens Slough (02)	Posey Valley		Mining Ch trib	T8S, R45E, Sec 2, SE NE	PV POD #4;
McMullens Slough (02)	Posey Valley		Mining Ch trib	T8S, R45E, Sec 12, SW SE	PV POD #5; City of Halfway municipal wtrshd
McMullens Slough (02)	unnamed		Spring Creek	T8S, R46E, Sec 16, NE NE SW	shown on adj map
McMullens Slough (02)	unnamed		Spring Cr trib	T8S, R46E, Sec 16, NWNE SW	shown on adj map
McMullens Slough (02)	unnamed		Sag Creek	T8S, R46E, Sec 21, SE NW	shown on adj map
McMullens Slough (02)	unnamed		Sag Creek	T8S, R46E, Sec 21, SE NW	shown on adj map
McMullens Slough (02)	unnamed		Sag Creek	T8S, R46E, Sec 21, NE NW	shown on adj map

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Pine Creek-Mile 15 (3)	unnamed		Pine Cr	T8S, R46E, Sec 22, NE NE	shown on adj map
Pine Creek-Mile 15 (3)	Erickson	2.03	Pine Cr	T8S, R46E, Sec 24, NE NW (?)	shown on adj map
Pine Creek-Mile 15 (3)	Crow		Deer Gulch	T8S, R47E, Sec 30, NW SW	shown on adj map
Clear Creek (04)	Motley or Meadow Cr	? 0.20	Meadow Creek	T6S, R45E, Sec 1?	recently reopened; to Holbrook Ditch
Clear Creek (04)	Holbrook	?1.35	Holbrook Creek	T7S, R45E, Sec 13, NW SE	shown on adj map
Clear Creek (04)	Deaderick (Highline)	2.27	Clear Creek	T7S, R46E, Sec 19. NE NE	CC POD #1;shown on adj map
Clear Creek (04)	Ritter	9.01	Clear Creek	T7S, R46E, Sec 19, SE NE	CC POD #2;shown on adj map
Clear Creek (04)	Myers	1.13		T7S, R46E, Sec 19, SE NE	CC POD #3; shown on adj map (see Five Point Dit map for PODs #3 through #7)
Clear Creek (04)	B. Scott	0.38	Clear Creek	T7S, R46E, Sec 19, NE SE	CC POD #4;shown on adj map
Clear Creek (04)	Drake (or Hewitt)	2.88	Clear Creek	T7S, R46E, Sec 19. SE SE	CC POD #5; shown on adj map (1st of 3)
Clear Creek (04)	Akers	3.79	Clear Creek	T7S, R46E, Sec 19, SE SE	CC POD #6; shown on adj map (2nd of 3)
Clear Creek (04)	Crego	2.28	Clear Creek	T7S, R46E, Sec 19, SE SE	CC POD #7; shown on adj map (3rd of 3)
Clear Creek (04)	Clear Creek	2.75			
Clear Creek (04)	Crow	2.05			
Clear Creek (04)	F. Stewart	2.28			

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Clear Creek (04)	Hearn	0.96			
Clear Creek (04)	McNutt	7.56			
Clear Creek (04)	Mitchell	0.50			
Clear Creek (04)	Pindell	2.01			
Clear Creek (04)	Schmidt	2.13			
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 30, SWNE NE	CC POD #8?; diverts to W Channel Clear Cr
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 30, NWSE NE	CC POD #9; shown on adj map; diverts west
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 30, SWSE NE	CC POD #10; see Cert 37671 map; div east
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 30, NW?NESE	CC POD #11; shown on Cert 37671 map; Clear Cr Res water; diverts water into East Channel Clear Cr
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 30, NESE SE	CC POD #12; shown on adj map; diverts west; see Cert 37671 map
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 30, SESE NE	CC POD #13; shown on adj map; diverts west; see Cert 37671 map
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 30, NESE NE	CC POD #14; shown on adj map?; diverts east; see Cert 37671 map
Clear Creek (04)	Irvin/Neet	5.46	Clear Creek	T7S, R46E, Sec 31, SE NE	CC POD #15; shown on adj map; loc on Cert 29930 map/Melhorn Res water

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 32, NWSW SW	CC POD #16; shown on adj map; div west
Clear Creek (04)	unnamed		Clear Creek	T7S, R46E, Sec 32, NESW SW	CC POD #17; shown on adj map; div east
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 5, SE NE NW	CC POD #18; shown on adj map; div east
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 5, SE NE NW	CC POD #19; shown on adj map; div west
Clear Creek (04)	Melhorne	6.78	Clear Creek	T8S, R46E, Sec 9, NW NW NW	CC POD #20; dam not shown on adj map; diversion into Melhorn's Slough (?)
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 9, NW NW	CC POD #21; shown on adj map; div west
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 9, SW NE	CC POD #22; shown on adj map; div west
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 9, NW SE	CC POD #23; shown on adj map; div west
Clear Creek (04)	Greener	2.36	Clear Creel	T8S, R46E, Sec 10, NW SW	CC POD #24; shown on adj map; div east
Clear Creek (04)	Gover	5.33	Clear Creek	T8S, R46E, Sec 15, NW NE	CC POD #25; shown on adj map; div east
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 15, SE NE	CC POD #26; shown on adj map; div west
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 14, SE SW	CC POD #27; shown on adj map; div south
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 14, SW SE	CC POD #28; shown on adj map; div north
Clear Creek (04)	unnamed		Clear Creek	T8S, R46E, Sec 14, SE SE	CC POD #29; shown on adj map; div south
Clear Creek (04)	unnamed		East Channel Clear Creek (ECCC)	T7S, R46E, Sec 30, NE NE SE	ECCC POD #1; shown on adj map; div west

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 30, SE NE SE	ECCC POD #2; shown on adj map; div west
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 29, NWSWSW	ECCC POD #3; shown on adj map; incl Clear Cr Res water; diverts to west
Clear Creek (04)	Lytle	1.18	ECCC	T7S, R46E, Sec 29, NWSWSW	ECCC POD #4; shown on adj map; incl Melhorn Res and Clear Cr Res water; div east
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, NENW NW	ECCC POD #5; shown on Cert 37671; Clear Cr Res water; diverts west
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, SENW NW	ECCC POD #6; see adj map; diverts east
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, SENW NW	ECCC POD #7; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, NWSE NW	ECCC POD #8; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, NWSE NW	ECCC POD #9; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, NWSE NW	ECCC POD #10; see adj map; diverts east
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, SWSE NW	ECCC POD #11; diverts east; shown on Cert 37671; Clear Cr Res water
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, SESE NW	ECCC POD #12; see adj map; diverts east
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, NENE SW	ECCC POD #13; see adj map; diverts west

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, NWNW SE	ECCC POD #14; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T7S, R46E, Sec 32, SWNW SE	ECCC POD #15; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T8S, R46E, Sec 4, SW NW	ECCC POD #16; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T8S, R46E, Sec 4, NWNW SW	ECCC POD #17; see adj map; diverts east
Clear Creek (04)	unnamed		ECCC	T8S, R46E, Sec 4, NENW SW	ECCC POD #18; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T8S, R46E, Sec 4, SE SW	ECCC POD #19; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T8S, R46E, Sec 9, NWNW NE	ECCC POD #20; see adj map; diverts west
Clear Creek (04)	unnamed		ECCC	T8S, R46E, Sec 9, NENW NE	ECCC POD #21; see adj map; diverts west
Clear Creek (04)	unnamed		West Channel Clear Creek (WCCC)	T7S, R46E, Sec 30, SWSE NE	WCCC POD #1a; diverts west, but appears to deliver water to POD #2; see Cert 37671 map; Clear Cr Res water
Clear Creek (04)	Pancake	2.91	WCCC	T7S, R46E, Sec 30, SWSE NE	WCCC POD #1b; see adj map; diverts west
Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 30, NWNE SE	WCCC POD #2; see adj map; diverts west
Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 30, SWNE SE	WCCC POD #3; see adj map; diverts west
Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 30, NWSE SE	WCCC POD #4; see adj map; diverts east
Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 31, NENE NE	WCCC POD #5; see adj map; diverts west
Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 31, NENE NE	WCCC POD #6; see adj map; diverts west

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 31, NENE NE	WCCC POD #7; see adj map; diverts west
Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 31, SENE NE	WCCC POD #8; see adj map; diverts west
Clear Creek (04)	unnamed		WCCC	T7S, R46E, Sec 31, NENE SE	WCCC POD #9; see adj map; diverts west
Clear Creek (04)	unnamed		Melhorn's Slough	T8S, R46E, Sec 9, NW NW	MS POD #1; see adj map; diverts east
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 9, NW SE	MS POD #2; see adj map; diverts south
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 16, NE NE	MS POD #3; see adj map; diverts south
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 15, NE SW	MS POD #4; see adj map; diverts west
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 15, NW SE	MS POD #5; see adj map; diverts east
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 15, SE SE	MS POD #6; see adj map; diverts east
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 15, SE SE	MS POD #7; see adj map; diverts east
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 23, NW NW	MS POD #8; see adj map; diverts N & S
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 23, NE NW	MS POD #9; see adj map; diverts south
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 23, NW NE	MS POD #10; see adj map; diverts south
Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 23, NE NE	MS POD #11; see adj map; diverts north

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Clear Creek (04)	unnamed		Melhorn Slough	T8S, R46E, Sec 24, NW NW	MS POD #12; see adj map; diverts south
Deer Creek (05)					(none shown on ajudication maps)
East Pine Creek (06)	Koopman	3.41	East Pine Creek	T7S, R46E, Sec 3, SW SE	EPC POD #1; shown on adj map
East Pine Creek (06)	Hensley	0.19	East Pine Creek	T7S, R46E, Sec 10, NE NE	EPC POD #2; shown on adj map
East Pine Creek (06)	Robinson 1, 2, 3		East Pine Creek	T7S, R46E, Sec 15, NE NW	EPC POD #3a-#3c; 3 ditches shown on adj map, all in same 40-acre tract
East Pine Creek (06)	Melhorn Mill		East Pine Creek	T7S, R46E, Sec 21, NW NE	EPC POD #4; shown on adj map
East Pine Creek (06)	Five Point	(?)9.40	East Pine Creek	T7S, R46E, Sec 20, SE SW	EPC POD #5; shown on adj map; 16.20 cfs ?
East Pine Creek (06)	Irwin	3.35	East Pine Creek	T7S, R46E, Sec 29, SE SE	EPC POD #6; shown on adj map (Coffenberry-Irwin Ditch)
East Pine Creek (06)	Brook		East Pine Creek	T7S, R46E, Sec 29, SE SE	EPC POD #7; shown on adj map
East Pine Creek (06)	Oliver	(?)3.50	East Pine Creek	T7S, R46E, Sec 32, NE NE	EPC POD #8; shown on adj map; 3.50 cfs from Sugarloaf Reservoir, plus ? cfs from ?
East Pine Creek (06)	unnamed		East Pine Creek	T7S, R46E, Sec 32, NE NE SE	EPC POD #9; shown on adj map; div west
East Pine Creek (06)	unnamed		East Pine Creek	T7S, R46E, Sec 32, NE NE SE	EPC POD #10; shown on adj map; div east

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

East Pine Creek (06)	unnamed		East Pine Creek	T7S, R46E, Sec 32, SE NE SE	EPC POD #11; shown on adj map; div east
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 4, SW NE	EPC POD #12; shown on adj map; div west
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 4, SW SE	EPC POD #13; shown on adj map; div east
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 4, SE SE	EPC POD #14; shown on adj map; div south
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 10, NE NW	EPC POD #15; shown on adj map; div east
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 10, NW SE	EPC POD #16; shown on adj map; div east
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 10, SE SE	EPC POD #17; shown on adj map; div east
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 14, SW NE	EPC POD #18; shown on adj map; div south
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 13, NWSWNE	EPC POD #19; shown on adj map; div south
East Pine Creek (06)	unnamed		East Pine Creek	T8S, R46E, Sec 13, NESW NE	EPC POD #20; shown on adj map; div north
East Pine Creek (06)	Anderson	3.62	East Pine Creek		
East Pine Creek (06)	Curless	2.38	East Pine Creek		
East Pine Creek (06)	Fee	2.23	East Pine Creek		

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

East Pine Creek (06)	Robinson	21.03	East Pine Creek		
East Pine Creek (06)	Stewart	0.86	East Pine Creek		
East Pine Creek (06)	Wheelock	2.00	East Pine Creek		
East Pine Creek (06)	unnamed ditch	1.57	Bear Wallow Gul	T7S, R46E, Sec 33, SW NE	below Five Points Ditch; water from Bear Wallowa Gulch and Bear Wallow Reservoir
Dry Creek (07)	Hensley		Dry Creek	T7S, R46E, Sec 13, SE SW	DC POD #1a; shown on adj map; diverts west; water from ?; moved to POD #1b ?
Dry Creek (07)	Dry Creek (Hensley) (DCDC)	6.50	Dry Creek	T7S, R46E, Sec 24, NE NW	LK POD #1b; (rediv of Lake Fork Cr water); diverts west; see Dry Cr Ditch Co map
Dry Creek (07)	unnamed ditch; FLID		Dry Creek	T7S, R46E, Sec 24, NE NW	DC POD #2; FLID POD #4, rediv of Lake Fork Cr water; diverts east
Dry Creek (07)	unnamed ditch; FLID		Dry Creek	T7S, R46E, Sec 24, SW SW	DC POD #3; FLID POD #5, rediv of Lake Fork Cr water; diverts west
Dry Creek (07)	unnamed ditch; FLID		Dry Creek	T7S, R46E, Sec 24, SW SW	DC POD #4; FLID POD #9, rediv of Lake Fork Cr water; diverts east
Dry Creek (07)	pump site ?; FLID		Dry Creek	T7S, R46E, Sec 25, NE SW	DC POD #5; FLID POD #10,rediv of Lake Fork Cr water
Dry Creek (07)	pump site; FLID		Dry Creek	T7S, R46E, Sec 25, SE SW	DC POD #6; FLID POD #11, rediv of Lake Fork Cr water
Dry Creek (07)	unnamed ditch; FLID		Dry Creek	T7S, R46E, Sec 36, SW SW	DC POD #7; FLID POD #12,rediv of Lake Fork Cr water; diverts west, then east across Dry Creek below Buchannan Ditch

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Dry Creek (07)	Buchannan; FLID	5,15	Dry Creek	T7S, R46E, Sec 36, SW SW	DC POD #8; FLID POD #13,rediv of Lake Fork Cr water; diverts east
Dry Creek (07)	unnamed ditch; FLID		Dry Creek	T8S, R46E, Sec 2, NE NE	DC POD #9; FLID POD #14, rediv of Lake Fork Cr water; diverts south
Dry Creek (07)	unnamed ditch; FLID		Dry Creek	T8S, R46E, Sec 2, SW NE	DC POD #10; diverts west
Dry Creek (07)	unnamed		Dry Creek	T8S, R46E, Sec 11, NE SE	DC POD #11; shown on adj map; div east
Dry Creek (07)	Koopman		West Dry Creek	T7S, R46E, Sec 22, SE NE	WFDC POD #1; rediv E Pine Cr water; shown on adj map
Dry Creek (07)	Hensley		West Dry Creek	T7S, R46E, Sec 22, NE SE	WFDC POD #2; rediv E Pine Cr water; shown on adj map
Dry Creek (07)	unnamed		West Dry Creek	T7S, R46E, Sec 26, NW NW	WFDC POD #3; shown on adj map; div east
Dry Creek (07)	unnamed		West Dry Creek	T7S, R46E, Sec 26, NW NW	WFDC POD #4; shown on adj map; div south
Dry Creek (07)	unnamed ditch; FLID		West Dry Creek	T7S, R46E, Sec 35, NW NE	WFDC POD #5; on adj map; FLID POD #6, rediv of Lake Fork Cr water; diverts west
Dry Creek (07)	unnamed ditch; FLID		West Dry Creek	T7S, R46E, Sec 35, NW SE	WFDC POD #6; FLID POD #7, rediv of Lake Fork Cr water; diverts west
Dry Creek (07)	unnamed ditch		West Dry Creek	T7S, R46E, Sec 35, SW SE	WFDC POD #7; diverts west
Dry Creek (07)	unnamed ditch		West Dry Creek	T7S, R46E, Sec 35, SW SE	WFDC POD #8; diverts east
Dry Creek (07)	unnamed ditch; FLID		West Dry Creek	T8S, R46E, Sec 2, NE NE	WFDC POD #8; FLID POD #8, rediv of Lake Fork Cr water; diverts west

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Pine Creek-Mile 8 (8)	Buchannan		Pine Creek	T8S, R47E, Sec 18, SW NW	shown on adj map
Pine Creek-Mile 8 (8)	Brewer #1 (?)		Pine Creek	T8S, R47E, Sec 9, SE NE	shown on adj map
Pine Creek-Mile 8 (8)	Hubler (?)		Pine Creek	T8S, R47E, Sec 3, SW SW	shown on adj map
Pine Creek-Mile 8 (8)	Walter #1 (?)		Pine Creek	T8S, R47E, Sec 3, NE NW	shown on adj map
Pine Creek-Mile 8 (8)	Pollard		Long Branch	T7S, R47E, Sec 31	shown on state basin map
Fourmile Creek (9)	Brewer #2 (?)		Fourmile Creek	T8S, R47E, Sec 10, NW SW	shown on adj map
Fourmile Creek (9)	Brewer #3 (?)		Fourmile Creek	T8S, R47E, Sec 9, SE NE	shown on adj map
Fish Creek (10)	Baker, Melhorn & Denny (FLID ?)	11.20	Fish Cr (rediv)	T7S, R46E, Sec 12, SE SW	FC POD #1; BMD POD #2; shown on adj map; now FLID POD #3; rediv of Lake Fork Cr water frm Fish Cr to Dry Cr; then to ????
Fish Creek (10)	FLID (using B-M-D ?)	(?)5.30	Fish Creek	T7S, R46E, Sec 12, NE SE (?)	FC POD #1; FLID POD #3; (rediv of Lake Fork Cr water from Fish Cr into Dry Cr)
Fish Creek (10)	Lake Fork (DCDCo) (using B-M-D)	6.50	Fish Creek	T7S, R46E, Sec 12, SE SW	FC POD #1; LK POD #2; rediv of Lake Fork Cr water from Fish Cr to Dry Cr
Fish Creek (10)	Buchannan	5.15	Fish Creek	T7S, R46E, Sec 12, SE SW	FC POD #2; on adj map; div to Dry Cr (07)
Fish Creek (10)	KPG (Hooker Flat)	7.14	Fish Cr (rediv)	T7S, R46E, Sec 12, SE SW	FC POD #3; KPG POD #7; rediv frm Lake Fk Cr (see POD #1)

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Fish Creek (10)	Hooker Flat	(?)3.61	Fish Creek	T7S, R46E, Sec 12, SE SW	FC POD #3; shown on adj map (original Hooker Flat Dit)
Fish Creek (10)	Edlin #1 (?)		Fish Creek	T7S, R47E, Sec 33, NW SW	FC POD #4; shown on adj map
Fish Creek (10)	Edlin #2 (?)		Fish Creek	T7S, R47E, Sec 33, NW SW	FC POD #5; shown on adj map
Fish Creek (10)	Walter #2 (?)		Fish Creek	T7S, R47E, Sec 34, SW SW	FC POD #6; Walter #1 is on Pine Cr; shown on adj map
Fish Creek (10)	Walter #3 (?)		Fish Creek	T7S, R47E, Sec 34, SW SW	FC POD #7; shown on adj map
Upper N Pine Cr (11)					none shown on adjudication maps
Lake Fork Creek (12)	Fish Lake Reservoir and Ditch Company (FLID)	(?)5.30	Lake Fork Cr	T6S, R46E, Sec 9, NE SE	LFC POD #1; FLID POD #1; shown on adj map as Fish Lake Res and Ditch Company; now Fish Lake Improvement District (FLID)
Lake Fork Creek (12)	*Koopman (Greener)*	*2.28*	*Lake Fork & Fish Lake Br of Lake Fork Cr*	*T6S, R46E, Sec 10, SE SE and T6S, R46E, Sec 15, SE NW*	***abandoned; water right cancelled; no remaining water rights for ditch.***
Lake Fork Creek (12)	*Baker, Melhorn, Denny* (FLID)	11.20	Fish Lake Br of Lake Fork Cr	*T6S, R46E, Sec 16, SE SE*	*BMD POD #1 abandoned;* now taken out in FLID POD #2
Lake Fork Creek (12)	FLID	(?)5.30	Fish Lake Branch of Lake Fork Creek	T6S, R46E, Sec 16, SE NE	FLID POD #2; shown on adj map; diversion dam below Fish Lake Reservoir; dam on Fish Lake not treated as diversion non this list; see reservoir list.

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Lake Fork Creek (12)	Weatherspoon (Lake Fork) (DCDCo)	6.50	Lake Fork Cr	T6S, R46E, Sec 14, SE SE	LFC POD #2; LF POD #1: appx loc shown on adj map; name changed to Lake Fork Ditch; rights owned by Dry Creek Ditch Co. (DCDC)
Lake Fork Creek (12)	KPG (Hooker Flat)	7.14	Lake Fork Creek	T6S, R46E, Sec 24, NE NE	LFC POD #3; KPG POD #2
Lake Fork Creek (12)	KPG (Hooker Flat)	7.14	Pole Creek trib	T6S, R47E, Sec 30, NE NW	KPG POD #3 (Pole Cr on appl map); see #1
Lake Fork Creek (12)	KPG (Hooker Flat)	7.14	Pole Creek	T6S, R46E, Sec 25, SE NE	KPG POD #4 (Corral Cr on app map): see #1
Elk Creek (13)	Koopman, Pollard & Greener (KPG) = (Hooker Flat)	7.14	Aspen Creek	T6S, R46E, Sec 13, NW NE	KPG POD #1; 7.14 cfs from PODs #1-#6; Koopman, Pollard & Greener (KPG) Ditch on water right map, now called Hooker Flat
Lower N Pine Cr (14)	KPG (Hooker Flat)	7.14	Little Elk Cr trib	T6S, R46E, Sec 25, SE SE	KPG POD #5; see notes at POD #1
Lower N Pine Cr (14)	KPG (Hooker Flat)	7.14	Little Elk Cr	T6S, R46E, Sec 36, NW NE	KPG POD #6; see notes at POD #1
Lower N Pine Cr (14)	Del Curto East	(?)	North Pine Cr	T7S, R47E, Sec 21, NE NE	shown on adj map
Lower N Pine Cr (14)	Del Curto West	(?)	North Pine Cr	T7S, R47E, Sec 21, SE NE	shown on adj map
Lower N Pine Cr (14)	Lansing & Blakeslay	(?)	North Pine Cr	T7S, R47E, Sec 27, SW NW	shown on adj map
Lower Pine Creek (15)	Stalker #1 (?)		Pine Creek	T7S, R47E, Sec 34, NW SE	shown on adj map

APPENDIX E
LIST OF STREAM DIVERSIONS IN PINE CREEK SUBBASIN

Lower Pine Creek (15)	Stalker #2 (?)		Pine Creek	T7S, R47E, Sec 34, NE SE	shown on adj map
Lower Pine Creek (15)	Steen		Pine Creek	T7S, R47E, Sec 25, SE SW	shown on adj map
Lower Pine Creek (15)	Wurtz		Pine Creek	T7S, R47E, Sec 25, SW NE	shown on adj map
Lower Pine Creek (15)	Wright		Pine Creek	T7S, R48E, Sec 30, NW NW	shown on adj map
Lower Pine Creek (15)	Densley		Pine Creek	T7S, R48E, Sec 19, NW SE	shown on adj map
Lower Pine Creek (15)	Copperfield (?)		Pine Creek	T7S, R48E, Sec 17, NE SW	shown on adj map

APPENDIX F

Pine Creek, Clear Creek, and East Pine Creek Drainages
Water Rights Information

Pine Creek Drainage

Ditch	Priority	Acres	Q	Q Cumulative
Curry	1887	10.2	0.27	
	1889	243.5	6.08	6.35
	1890	74	1.85	8.2
	1891	155.8	3.9	12.1
	1893	18.5	0.47	12.57
	1910	20.2	0.5	13.07
Total		522.2	13.07	
Erickson	1884	81	2.03	2.03
Total		81	2.03	
Foothills	1882	157.7	3.94	
	1883	1418.1	35.45	39.39
	1884	20	0.5	39.89
	1885	1	0.03	39.92
	1886	10.5	0.26	40.18
	1890	68.5	1.71	41.89
	1900	3	0.08	41.97
Total		1678.8	41.97	
Gaylord	1881	10	0.25	
	1886	128.8	3.22	3.47
	1894	11.5	0.29	3.76
	1910	8	0.2	3.96
Total		158.3	3.96	
Gotchy	1884	70	1.75	
	1896	20	0.5	2.25
Total		90	2.25	

Gravel Flat	1883	288.5	7.21	
	1884	52	1.3	8.51
	1886	28	0.7	9.21
	1894	20	0.5	9.71
	1895	15.7	0.39	10.1
Total		404.2	10.1	
Greener #1	1902	145	3.63	3.63
Total		145	3.63	
Greener #2	1881	19	0.48	
	1885	92.6	2.4	2.88
Marker	1874	12	0.3	
	1885	153.5	3.84	4.14
	1886	59.1	1.48	5.62
	1890	71	1.78	7.4
Total		295.6	7.4	
McMullen	1874	932.3	23.31	
Slough	1881	47	1.18	24.49
	1882	1.2	0.03	24.52
	1885	120.7	3.02	27.54
	1886	25	0.63	28.17
	1893	31.8	0.8	28.97
	1895	25	0.63	29.6
	1905	8	0.2	29.8
Total		1191	29.8	
Mills	1886	114	2.85	
	1887	24	0.6	3.45
Total		138	3.45	

Q = cubic feet per second

Moore	1885	71.5	1.79	
	1887	43	1.08	2.87
Total		114.5	2.87	

Morrison	1883	10	0.25	
	1884	47.5	1.19	1.44
Total		57.5	1.44	

Motley	1892	74.3	1.86	
	1908	10	0.25	2.11
Total		84.3	2.11	

North	1884	18	0.45	0.45
Total		18	0.45	

Perry	1886	21.2	0.53	0.53
Total		21.2	0.53	

Posey	1883	259.4	6.49	
	1885	20	0.5	6.99
	1888	13	0.33	7.32
	1890	708.6	17.72	25.04
	1891	40	1	26.04
	1897	21	0.51	26.55
	1910	46	1.15	27.7
Total		1108	27.7	

Steele	1884	35	0.88	
	1885	374.8	9.37	10.25
	1893	25	0.63	10.88
	1894	20	0.5	11.38
	1907	9	0.23	11.61
	1910	2	0.05	11.66
Total		465.8	11.66	

Tarters	1885	80	2	
Slough	1888	18	0.45	2.45
	1889	3.75	0.09	2.54
	1890	25	0.63	3.17
Total		126.75	3.17	

Thad Leep	1876	73.3	1.83	
	1881	5	0.13	1.96
	1886	21.2	0.53	2.49
	1887	70	1.75	4.24
Total		169.5	4.24	

Clear Creek Drainage

Ditch	Priority Date	Acres	Q	Q Cumulative
Akers	1885	20	0.5	
	1894	4	0.1	0.6
	1898	40	1	1.6
	1899	46	1.15	2.75
	1910	41.6	1.04	3.79
Total		151.6	3.79	
B. Scott	1889	15	0.38	0.38
Total		15	0.38	
Clear Ck.	1883	62	1.55	
	1891	30	0.75	2.3
	1910	18	0.45	2.75
Total		110	2.75	
Crego	1890	15	0.38	
	1892	6	0.15	0.53
	1894	70	1.75	2.28
Total		91	2.28	
Crow	1879	50	1.25	
	1886	30	0.75	2
	1910	2	0.05	2.05
Total		82	2.05	
Deaderick	1895	6	0.15	
	1897	14.6	0.37	0.52
	1899	48	1.2	1.72
	1910	22	0.55	2.27
Total		989.8	24.77	

Drake	1883	60	1.5	
	1890	10	0.25	1.75
	1895	25	1.13	2.88
Total		95	2.88	
F.Stewar	1870	50	1.25	
	1884	35	0.88	2.13
	1910	6	0.15	2.28
Total		91	2.28	
Gover	1874	100	2.5	
	1886	80	2	4.5
	1904	6	0.15	4.65
	1910	27	0.68	5.33
Total		213	5.33	
Greener	1879	50	0.63	
	1884	35	0.88	1.51
	1904	34	0.85	2.36
Total		119	2.36	
Hearn	1893	25	0.63	
	1894	3	0.08	0.71
	1905	10	0.25	0.96
Total		38	0.96	
Irwin/Ne	1882	36	0.9	
	1883	75	1.88	2.78
	1890	20	0.5	3.28
	1906	65	1.63	4.91
	1910	22	0.55	5.46
Total		218	5.46	

Lytle	1890	47	1.18	1.18
Total		47	1.18	

McNutt	1883	80	2	
	1884	85	2.13	4.13
	1885	35	0.88	5.01
	1910	102	2.55	7.56
Total		302	7.56	

Melhorne	1870	180	4.5	
	1902	6	0.15	4.65
	1910	85	2.13	6.78
Total		271	6.78	

Mitchell	1890	20	0.5	0.5
Total		20	0.5	

Myers	1895	45	1.13	1.13
Total		45	1.13	

Pancake	1877	30	0.75	
	1881	35	0.88	1.63
	1882	5	0.13	1.76
	1891	30	0.75	2.51
	1910	16	0.4	2.91
Total		116	2.91	

Pindell	1870	65	1.63	
	1910	15	0.38	2.01
Total		80	2.01	

Ritter	1883	200	5	
	1885	23	0.58	5.58
	1886	109.2	2.73	8.31
	1894	10	0.25	8.96
	1895	16	0.4	8.96
	1910	2	0.05	9.01
Total		360.2	9.01	

Schmidt	1886	85	2.13	2.13
Total		85	2.13	

East Pine Creek

Ditch	Priority Date	Acres	Q	Cumulative Q
Anderson	1879	125	3.12	
	1912	10	0.25	3.37
	1914	10	0.25	3.62
Total		145	3.62	
Buchannan	1881	29	0.73	
	1882	137.5	3.44	4.17
	1887	13	0.33	4.5
	1900	26	0.65	5.15
Total		205.5	5.15	
Curless	1877	30	0.75	
	1885	40	1	1.75
	1890	25	0.63	2.38
Total		95	2.38	
Fee	1883	60	1.5	
	1885	25	0.63	2.13
	1914	4	0.1	2.23
Total		89	2.23	
Five Point	1886	38	0.95	
	1887	3	0.08	1.03
	1894	40	1	2.03
	1895	77	1.8	3.83
	1898	113	2.82	6.65
	1905	30	0.75	7.4
	1914	79	2	9.4
Total		380	9.4	
Hensley	1901	7.4	0.19	0.19
Total		7.4	0.19	
Irwin	1883	116	2.9	
	1913	8	0.2	3.1
	1914	10	0.25	3.35
Total		134	3.35	
Koopma	1884	91	2.28	
	1889	45	1.13	3.41
	Supp.19	91	2.28	
Total		136	3.41	
Oliver	1877	238	5.95	
	1881	223.7	5.59	11.54
	1882	75	1.88	13.42
	1885	63	1.58	15
	1886	50	1.25	16.25
	1887	34.2	0.86	17.11
	1888	35	0.88	17.99
	1914	121.7	3.04	21.03
Total		840.6	21.03	
Robinso	1889	34.3	0.86	0.86
Total		34.3	0.86	
Stewart	1879	134	3.35	
	1887	78.8	1.97	5.32
Total		212.8	5.32	
Wheeloc	1886	80	2	2
Total		80	2	

APPENDIX G

ODFW Instream Water Rights

ODFW AND OWRD INSTREAM WATER RIGHTS

Table G.1 ODFW Instream Water Rights in the Pine Creek Watershed

Stream Name	Priority Date	Upstream Mile	DownstreamMile	Minimum or Average Natural Flow	Application Number	Certificate Number
Clear Creek	06/26/1970	10.6	0.0	MF	235	59540
Clear Creek	01/29/1992	17.0	10.6	ANF	72170	(a)
Duck Creek	01/29/1992	headwaters	0.0	ANF	72175	73330
East Pine Creek	06/26/1970	10.8	0.0	MF	237	59541
East Pine Creek	11/08/1990	10.3	0.0	ANF	70870	(a)
East Pine Creek	11/08/1990	14.0	10.3	ANF	70869	73319
Elk Creek	11/08/1990	7.0	0.0	ANF	70871	73320
Lake Fork Creek	01/29/1992	Sugarloaf Res	2.0	ANF	72179	(a)
Lake Fork Creek	01/29/1992	2.0	0.0	ANF	72180	(a)
Little Elk Creek	01/29/1992	headwaters	0.0	ANF	72182	73333
North Pine Creek	06/26/1970	n/a	0.0	MF	241	59534
Pine Creek	06/26/1970	1.9	0.0	MF	242	59542
Pine Creek	11/08/1990	27.0	13.5	ANF	70863	(a)
Pine Creek	11/08/1990	34.0	27.0	ANF	70864	(a)
Pine Creek	01/29/1992	13.5	0.0	ANF	72189	73335

Footnotes:

(a) Status unknown; not investigated

(b) A more accurate description of the reach is provided on the applications usually as named stream confluence to named stream confluence.

(c) OWRD has not been granting optimum flow requests for any month or half month that is not substantiated by the water availability analysis. Each of ODFW's requests was based on a model of fish life needs for the quantified channel cross-section, whether or not the water is naturally available . Quantities requested and granted are stated in OWRD's proposed final orders or final orders.

APPENDIX H

Preliminary List of Fish-bearing Streams in the Pine Creek Watershed

PRELIMINARY LIST OF FISH-BEARING STREAMS IN THE PINE CREEK WATERSHED March 19, 1999 working draft				
STREAM NAME	**REACH**	**FISH SPECIES***	**303(d) LIST*****	**IWR******
Pine Creek	Snake R to West Fk Pine Cr	BT, R, BUT	List-T; Concern-DO, FM	Yes
West Fork Pine Creek	Middle Fk Pine Cr to ?	BUT, R (USFS)		
Middle Fork Pine Creek	West Fk Pine Cr to Cascades	BUT		
Norway Creek	Middle Fk Pine Cr to Cascades ?	BUT(?)		
East Fork Pine Creek	Pine Cr to ?	BUT, BT, R (USFS)		
Unnamed trib Sec 11	E Fk Pine Cr to & incl E Lake Res	N/S		
Simmons Creek	East Fk Pine Cr to ?	N/S		
Elk Creek	Pine Cr to ?	BUT (USFS)		
Jim Fisk Creek	Elk Cr to ?	N/S		
Fall Creek	Elk Cr to ?	N/S		
Panter Creek (?)	Pine Cr to ?	N/S		
Lost Horse Creek	Pine Cr to ?	N/S		
Deep Creek (?)	Pine Cr to ?	N/S		
Boulder Creek	Pine Cr to ?	RB (dist may go further upstream of this sample; [ODFW; USFS])		
Turner Creek (?)	Pine Cr to ?	N/S		
Tunnel Creek	Pine Cr to ?	N/S		
Fuller Creek (?)	Pine Cr to ?	N/S		
Dixie Creek (?)	? to ?	N/S		
McMullen Slough	Pine Cr inflow to Pine Cr diversion	N/S		
Carson Creek (?)	McMullen Slough to Posey Valley Ditch?	N/S		
Mining Channel/Lee Cr	Sag Cr to Posey Valley Ditch?	N/S	Concern-DO,FM,T	No
Sag Creek	McMullen Slough to above Laird Res	N/S		
Road Gulch (?)	Sag Cr to ?	N/S		
Clear Creek	Pine Cr to E Fk/W Fk conflu	BUT, R, BT	List-T; Concern-DO, FM	Yes
West Fork Clear Creek	Clear Cr to springs above Clear Cr Res	BUT?		
E Fk Clear Creek (Melhorn?)	Clear Cr to & incl Melhorn Res	BUT?	ok-T	No
Trail Creek	Clear Cr to ?	BUT, R (USFS)	List-T	No
Unnamed trib Sec 25	Trail Cr to ?	N/S		
Meadow Creek	Clear Cr to ?	BUT (USFS, ODFW)	List-T	No
Holbrook Creek	Clear Cr to ?	N/S		
Boulder Creek	Holbrook Cr to ?	N/S		

PRELIMINARY LIST OF FISH-BEARING STREAMS IN THE PINE CREEK WATERSHED March 19, 1999 working draft				
STREAM NAME	**REACH**	**FISH SPECIES***	**303(d) LIST*****	**IWR******
Deer Creek (?)	Pine Cr to ?	No fish found (ODFW)	Concern-HM, S, T	No
East Pine Creek	Pine Cr to headwaters (?)	BUT, R	List-T; Concern-DO, FM	No
E Fk East Pine (unnamed)	East Pine Cr to ?	BUT		
Unnamed trib Sec 32	East Pine Cr to ?	N/S		
Unnamed trib Sec 4	East Pine Cr to ?	N/S		
Trinity Creek	East Pine Cr to ?	BUT, R (ODFW)	List-T	No
East Trinity Creek	Trinity Cr to ?	N/S		
West Trinity Creek	Trinity Cr to ?	N/S		
Clarks Creek	Trinity Cr to ?	R	ok-T	No
Okanogan Creek	East Pine Cr to ?	BUT, R (USFS; ODFW)	List-T	No
Beecher Creek	East Pine Cr to ?	RB	List-T	No
Bear Wallow Creek	E Pine Cr to & incl B Wallow Res	N/S		
Dry Creek	East Pine Cr to ?	RB	Concern-FM, S	No
West Fork Dry Creek	Dry Cr to ?	N/S		
Unnamed trib W of Long Branch?	Pine Cr to ?	N/S		
Long Branch	Pine Cr to ?		Concern-HM, S	No
Fourmile Creek	Pine Cr to ?			
Fish Creek	Pine Cr to ?	RB (USFS)	ok-T	No
Unnamed trib Sec 18 (?)	Fish Cr to ?	N/S		

PRELIMINARY LIST OF FISH-BEARING STREAMS IN THE PINE CREEK WATERSHED March 19, 1999 working draft				
STREAM NAME	**REACH**	**FISH SPECIES***	**303(d) LIST*****	**IWR******
North Pine Creek	Pine Cr to Doe Cr?			
Doe Creek	N Pine Cr to ?			
Lonesome Cr (?)	N Pine Cr to ?			
Duck Creek	N Pine Cr to ?	RB (ODFW)	Concern	Yes
Grave Creek (?)	Duck Cr to ?	RB (ODFW)		
North Creek (?)	Duck Cr to ?	RB (ODFW)		
Dutchman Creek (?)	Duck Cr to ?	RB (ODFW)		
Deer Creek (?)	Duck Cr to ?			
Wet Creek (?)	N Pine Cr to ?			
Jolly Creek	N Pine Cr to ?		Concern-1988 Assessment	No
Lake Fork Creek	N Pine Cr to Sugarloaf Res		List-T; Concern-S, TX	Yes
Fish Lake Branch	Lake Fk Cr to abv Fish Lake Res			
Pole Creek	Lake Fk Cr to Hooker Flat Ditch (?)		ok-T	No
Elk Creek	Lake Fk Cr to headwaters abv Lick Cr	BUT, R	List-T	Yes
Lick Creek	Elk Cr to ?			
Big Elk Creek	Elk Cr to ?	BUT	List-T	No
Cabin Creek	Elk Cr to ?			
Aspen Creek	Elk Cr to ?	BUT	List-T	No
Packsaddle Creek	Elk Cr to ?			
Unnamed trib Sec 8 (?)	Elk Cr to ?			
Sheep Creek	Elk Cr to ?			
Fall Creek	N Pine Cr to ?			
Fox Creek (?)	N Pine Cr to ?			
Little Elk Creek	N Pine Cr to ?		No	Yes
Turnbull Creek (?)	N Pine Cr to ?			
Mitchell Creek (?)	Pine Cr to ?			
D Creek (?)	Pine Cr to ?			
McLain Gulch (?)	Pine Cr to ?			
Holt Creek (?)	Pine Cr to ?			

PRELIMINARY LIST OF FISH-BEARING STREAMS IN THE PINE CREEK WATERSHED March 19, 1999 working draft				
STREAM NAME	**REACH**	**FISH SPECIES***	**303(d) LIST*****	**IWR******
Benham Creek (?)	Pine Cr to ?			
Sheep Creek (?)	Pine Cr to ?			
McCarty Creek (?)	Pine Cr to ?			
Unnamed trib Sec 17 (?)	Pine Cr to ?			

* Fish Species: BUT = Bull trout, R = rainbow trout, BT = brook trout; from ODFW & USFS bull trout study and ODFW IWRs.

** 303(d) List: the 303(d) List Decision Matrix shows stream segments and parameters as Listed, Concern, or Ok. DO = dissolved oxygen; FM = flow modification; HM = habitat modification; S = sediment; T = temperature; TX = toxics

**** IWR = ODFW instream water right: "Yes" denotes that one or more IWRs apply to the fish-bearing stream segment

APPENDIX I

Listed and Proposed Endangered and Threatened Species That May Occur On the WWNF–Pine Ranger District

Listed and Proposed Endangered and Threatened Species and Candidate Species That May Occur on the Wallowa-Whitman National Forest – Pine Ranger District
1-4-99-SP-139A

Listed Species

Birds

Peregrine falcon (LE)
(*Falco peregrinus*)
Bald eagle (LT)
(*Haliaeetus leucocephalus*)

Fish

Bull trout (Columbia River population) (LT)
(*Salvelinus confluentus*)

Plants

Ute ladies'-tresses (LT)
(*Spiranthes diluviulis*)

Mammals

Gray wolf (LE)
(*Canis lupus*)

Proposed Species

Mammals

Lynx (PT)
(*Lynx canadensis*)

Candidate Species

Amphibians and Reptiles

Columbia spotted frog (C)
(*Rana leteiventris)*

The Fish and Wildlife Service has concerns about the following plants and animals. Although these species have no status under the Endangered Species Act, we are concerned about their population status and threats to their population status and threats to their long-term viability. In context with ecosystem-level management, we suggest that you consider these species and their habitats in project planning and review.

Mammals

California wolverine
(*Gulo gulo luteur*)

Pacific fisher
(*Martes pennanti pacifica*)

Small-footed myotis (bat)
(*Myotis ciliolabrum)*

Long-eared myotis (bat)
(*Myotis evotis*)

Long-legged myotis (bat)
(*Myotis volans*)

Yuma myotis (bat)
(*Myotis yumanensis*)

Pale western big-eared bat
(*Plecotus townsendii pallescens*)

Pacific western big-eared bat
(*Otus townsendii townsendii*)

Birds

Northern goshawk
(*Accipiter gentilis*)

Olive-sided flycatcher
(*Contopus borealis*)

Amphibians and Reptiles

Tailed frog
(*Ascaphus truei*)

Fish

Interior redband trout
(*Oncorhynchus mykiss gibbsi*)

Invertebrates

Blue Mountains cryptochian caddisfly
(*Cryptochia neosa*)

Plants

Upward-lobed moonwort
(*Botrychium ascendens*)

Crenulate grape-fern
(*Botrychium crenulatum*)

Skinny moonwort
(*Botrychium lineare*)

Twin-spike moonwort
(*Botrychium paradoxum*)

Stalked moonwort
(*Botrychium pedunculosum*)

Clustered lady's-slipper
(*Cypripedium fasciculatum*)

Phacclia
(*Phacelia minutisima*)

C-Candidate. Taxa for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Proposed rules have not yet been issued because this action is precluded by other listing activity. Development and publication rules for these taxa are anticipated. The Service encourages State and other Federal agencies as well as other affected parties to give consideration to these taxa in environmental planning.

Ute-Ladies'-Tresses (*Spiranthes diluvialis*) has the potential to occur in wetland and riparian areas including springs, wet meadows, and river meanders. The plant is known to occur at sites ranging from 1,500 to 7,000 feet in elevation. This species generally flowers from mid-July through September, and can be identified definitively only at that time. The orchid can remain dormant for several years; therefore, we suggest surveys for the orchid be scheduled for sequential years. The species may be adversely affected by modification of riparian and wetland habitats associated with livestock grazing, vegetation removal, excavation, construction for residential or commercial purposes, stream channelization, hydroelectric development and operation, and actions that alter hydrology.

Gray Wolf (*Canis lupus*) Historical information on the distribution of wolves indicates that northeastern Oregon is within the former range of the Northern Rocky Mountain wolf. Historically, wolves utilized a broad spectrum of habitats including grasslands, sagebrush steppes, coniferous and mixed forest and alpine areas. Habitats used by wolves typically have an abundance of natural prey and, more recently, minimal conflict with human interests and uses. The entire wolf species is under the protection of the Endangered Species Act as endangered (43 FR 9612). Under these circumstances, Federal action agencies are required to consult with the Service if their actions are likely to adversely affect gray wolves.

APPENDIX J

Pine Creek Watershed Stream Temperature Summary,
7 Day Average Maximum (Degree C)

Appendix J. Pine Creek Watershed Stream Temperature Summary, 7-day average maximum (deg. C).

Stream	Station ID	Sub-watershed	1991	1992	1993	1994	1995	1996	1997	1998	1999	Reach ID	Elevation	Legal Description	Distance from Watershed Divide (mi.)	Bull Trout Reach?
North Pine Cr.	0a*	15b					21.8					1	2240	T07S R47E Sec 34		n
North Pine Cr.	0b*	15b				25.2	21.0					2	2720	T07S R47E Sec 10		n
North Pine Cr.	1	15b				21.5						2	3200	T06S R47E Sec 36		n
Lake Fork Cr.	1	15c	20.7	21.7	18.1	18.9	17.0			20.4	17.9	1	3200	T06S R47E Sec 25 SESW	14.1	n
Lake Fork Cr.	2	15c					18.1			19.6	17.7	2	3600	T06S R47E Sec 27 NENE	12.0	n
Lake Fork Cr.	3	15c				14.6	16.0				16.3	2	4800	T06S R47E Sec 29 SWNW	8.6	n
Lake Fork Cr.	4	15c				19.2	16.0				16.1	2	4800	T06S R47E Sec 30 SENE	8.4	n
Lake Fork Cr.	5	15c				18.5						3	5600	T06S R46E Sec 24 NWNE		n
Lake Fork Cr.	6	15c				17.2	16.0					3	6000	T06S R46E Sec 14 SWNW		n
Fish Lake Fork Cr.	6	15c								17.7		--	6000	T06S R46E Sec 14 SWNW	1.6	n
Fish Lake Fork Cr.	7S	15c					17.5			20.8		--	6560	T06S R46E Sec 16 SENE	0.2	n
Pole Cr.	1	15c				14.3	15.8					1	4800	T06S R47E Sec 30 NESW		n
Aspen Cr.	1	15d					16.8			20.2	17.2	1	5440	T06S R47E Sec 7 NESW	1.7	y
Big Elk Cr.	1	15d					14.7			18.3	16.6	1	5680	T06S R46E Sec 12 NWNW	3.4	y
Elk Cr.	1	15d									16.4		3161	T06S R47E Sec 23 SWSW	8.0	y
Elk Cr.	2	15d				16.1	15.2			17.2		2	4560	T06S R47E Sec 16 SENW	5.1	y
Elk Cr.	3	15d				15.6	15.9			18.3	16.8	3	5360	T06S R47E Sec 7 NWSE	2.9	y
Elk Cr.	4	15d				13.2	13.5			16.0	14.7	3	5760	T06S R46E Sec 12 NENE	1.8	y
North Pine Cr.	2	15e				22.6						3	3200	T06S R47E Sec 25		n
North Pine Cr.	2a*	15e				23.8	17.8					3	3200	T06S R47E Sec 25		n
North Pine Cr.	3	15e						18.7				4	4000	T06S R47E Sec 1 NESW		n
Duck Cr.	1	15e						19.3		19.7	18.7	1	4000	T06S R47E Sec 1 NWSW	6.5	n
Duck Cr.	2	15e									15.2		5000	T05S R47E Sec 34 SESW		n
Pine Cr.	0a**	15f					25.6	26.7				1	2300	T08S R47E Sec 9		n
Fish Cr.	2	15g			16.9							5	4080	T07S R46E Sec 1 NWSE	5.8	n
Beecher Cr	1	15h				20.8	18.4			23.3	21.1	1	3280	T07S R46E Sec 15 NWSW	2.6	n
East Pine Cr.	0A	15h						20.1	21.3	23.8		1	2640	T08S R46E Sec 4 SWSE	14.8	n
East Pine Cr.	0B	15h						20.7	19.9	22.7	20.6	1	2800	T07S R46E Sec 32 NESE	13.1	n
East Pine Cr.	0C	15h						22.3	21.2	23.8	20.6	1	3040	T07S R46E Sec 20 SESW	11.3	n
East Pine Cr.	1	15h				24.3			21.3	23.0	19.9	2	3260	T07S R46E Sec 25 NWSW	9.4	n
East Pine Cr.	2	15h				23.7	23.7		18.3	22.8	19.9	3	3280	T07S R46E Sec 15 NWSE	9.3	n

Stream	Station ID	Sub-watershed	1991	1992	1993	1994	1995	1996	1997	1998	1999	Reach ID	Elevation	Legal Description	Distance from Watershed Divide (mi.)	Bull Trout Reach?
East Pine Cr.	2B	15h						19.1	18.5	21.2	18.6	4	3440	T07S R46E Sec 10 SWNE	7.8	n
East Pine Cr.	3	15h				20.1	16.8	17.4	16.8	19.4	17.0	4	3860	T07S R46E Sec 3 NESE	6.6	n
East Pine Cr.	4	15h				19.8	16.3	17.3	16.6	19.1	16.7	5	4000	T07S R46E Sec 3 SWNE	6.5	n
East Pine Cr.	5	15h				19.9	16.4		16.3	19.0	17.0	5	4000	T07S R46E Sec 3 SENW	5.8	n
East Pine Cr.	5B	15h						14.9	14.6	16.7	14.9	6	4400	T07S R46E Sec 4 SWNW	4.6	y
East Pine Cr.	6	15h				16.1	13.4	12.9	12.5	14.2	13.6	8	5200	T06S R46E Sec 29 SESE	3.0	y
Trinity Cr.	1	15h							16.6	18.4	16.0	1	4000	T07S R46E Sec 3 SWNE	3.2	n
Trinity Cr.	2	15h							16.1	17.8	14.9	1	4400	T06s R46E Sec 34 SWSE	2.8	n
Okanogan	1	15h				22.6	19.5	20.1	19.1	20.6	18.8	1	4000	T07S R46E Sec 2 SWNW	2.8	n
Okanogan	2	15h						14.8	14.2	15.1	14.1	1	4960	T06S R46E Sec 35 NWNW	1.3	n
Clear Cr.	0	15j						17.7				1	3040	T06S R46E Sec 30 SENE		y
Clear Cr.	1	15j				20.8				16.7	16.4	2	3360	T07S R46E Sec 19 NENE	10.6	y
Clear Cr.	2	15j				18.3	14.2					3	4400	T07S R46E Sec 6 SWNW	7.2	y
Clear Cr.	3	15j				18.7						2	4480	T07S R46E Sec 6 NWNW	7.0	y
Clear Cr.	4	15j				18.3				15.8	14.6	5	5760	T06S R46E Sec 18 NWSW	3.3	y
Clear Cr.	4b	15j									15.3		6160	T06S R46E Sec 18	2.5	y
West Fork Clear Cr.	5	15j								17.0		6	6000	T06S R46E Sec 18 NWNW	2.5	n
Meadow Cr.	1	15j				15.2	12.5				12.4	1	4400	T07S R46E Sec 1 NWNW	3.8	y
Meadow Cr.	2	15j		19.4	15.7	18.8	14.2	14.7		16.6	14.3	1	5440	T06S R45E Sec 35 NWSE	2.1	y
Meadow Cr.	3	15j		16.6		16.3	13.3	12.8		16.1	12.7	1	5460	T06S R45E Sec 35 SENE	1.7	y
East Fk. Clear Cr.	1	15j					14.6					1	6000	T06S R46E Sec 18 NWNW	2.2	n
Trail Cr.	1	15j				16.4	13.2			14.7	13.4	1	4480	T07S R46E Sec 06 NWNW	4.4	y
Trail Cr.	2	15j									13.3		5039	T06S R45E Sec 25 SWNE	2.9	y
Pine Cr.	0b**	15k					20.9	16.3				1	3400	T07S R45E Sec 23 NESW	5.9	n
Pine Cr.	0a	15l									14.6		3760	T07S R45E Sec 15 SENE	9.0	n
Pine Cr.	0b	15l											4400	T06S R45E Sec 34 NWSE	5.9	n
East Fork Pine Cr.	1	15l				16.3	12.9			14.4	12.7	1	4880	T06S R45E Sec 27 NWNE	4.4	y
Pine Cr.	1	15l				15.3	13.1				12.4	3	4800	T06S R45E Sec 27 NENW	4.5	y
Pine Cr.	2	15l				14.9	12.5				12.7	4	4880	T06S R45E Sec 27 NENW	4.1	y

Data collected by the USDA Forest Service, Wallowa-Whitman National Forest, except as noted below.
* Data collected by Joe Ebersole, Dept. of Fisheries and Wildlife, Oregon State University, Corvallis, OR
** Data colected by the USDA Natural Resources Conservation Service, Baker City, OR

APPENDIX K

Sediment

Appendix K

10/20/98 cgj

Field Trip to East Pine Creek Basin

On October 1, 1998 I accompanied Sparky Lisle and Allison Kuehl to a portion of the East Pine Creek Basin to look at degraded parts of the slopes below Lost Lake Reservoir and Fish Lake. This area has sustained a long period of time with high utilization by grazing animals. During the heavy-use period by domestic sheep (much of this period occurred prior to establishment of the national forest) native vegetation preferred by the sheep was overused and eliminated in large part. Lack of vegetation and protective litter resulted in accelerated sheet and gully erosion by wind and rains.

During the period of national forest administration the Pine Valley allotment useage has been such that no time was allowed for plants to help heal the degraded sites due to heavy and sustained use by cattle. The area around East Pine basin has been very attractive to domestic stock since water is readily accessible and shading by adjacent forest is available for mid to late summer use. Exacerbating the problem has been the increase by elk which have also favored this area in summertime. Dual useage has been too severe on the area with utilization by wild ungulates too early in the season when plant growth and development has been thwarted. Additionally the trampling of the slopes has triggered slumping, solifluction and non-point soil movement that have induced rills and gullies to form.

My first observations were made in 1984 in this area. To me there has not been very much change since then. What may have been viewed by District personnel as an accelerating problem was no doubt a result of the intense June rains which caused active rilling and deepening of gullies throughout northeast Oregon this year.

What can be done?

The original native herbaceous vegetation covering the basin slopes is gone. Erosion has left a soil which is incapable of sustaining the original vegetation were we to reintroduce it through seeding or planting. Currently a scant vegetation cover is provided by early seral plants (pussytoes, needlegrasses, pussypaws). I would encourage a lessening of the ungulate impacts to this area as a first measure. This is easy to say - more difficult to carry-out. Cattle trafficking could be ceased but elk will still impact the area. I would not recommend any reseeding. Past attempts at these elevations with exotic grass species did not result in improved vegetative cover. We would be better able to show an upward trend with rangeland seedings on other sites where soils are capable of sustaining native vegetation. If there is still a concern for this area from a land management point of view then I'd recommend watershed health analysis be conducted with a focus on providing control to gully growth and proliferation using in-channel structures. However a key to any successes here will require a lessening of ungulate impacts.

A Strong Recommendation

There is one Permanent Monitoring Point located strategically on this area. It is Pine Valley C&T #30. This 3-transect cluster was installed in 1957 in a mountain sagebrush - mountain snowberry community. It would provide an admirable job of documenting the change regarding slope wash and channel deepening of rills and gullies. It just needs to be resurrected (some stakes need to be found on site and reinstalled in the original locations). The last 50 ft. of transect #1 has active slope wash and ends in a gully. Transect #2 has slope wash and an erosion gully bisects it. Transect #3 has a deep gully bissecting it at the 50 ft. mark. This historic monitoring location at 6700 ft. should be actively monitored (sampled) by the District. The area ecology program could assist in the resurrection, referencing, and sampling should the District decide to use this permanent monitoring point. I recommend that mid July be the time for any photography or sampling at this site.

Charles G. Johnson Jr.
Area Ecologist

cc - Sparky Lisle
Mark Fedora
Allison Kuehl
Dave Schmitt

APPENDIX L

Baker County's Noxious Weed Control Rating System

IN THE COUNTY COURT OF THE STATE OF OREGON
FOR THE COUNTY OF BAKER

IN THE MATTER OF	)	ORDER 96-183
	)	
CONFIRMING BAKER	)	
COUNTY'S NOXIOUS WEED	)	
CONTROL RATING SYSTEM	)	

NOW, AT THIS TIME, this 4TH day of SEPTEMBER, 1996, the above entitled matter coming on for consideration by the Court, and it appearing to the Court that Baker County should confirm designation of noxious weeds as "A", "B", and C", and

IT FURTHER APPEARING that "A", "B", and "C" weeds should be defined as follows:

"A" Designated Weeds: Weeds of known ecomomic importance which occur in small enough infestations to make eradication/ containment possible; or not known to occur, but its presence in adjacent counties makes future occurrence seem imminent.

RECOMMENDED ACTION: Infestations are subject to intensive control when and where found by Baker County with possible assistance from the Oregon Department of Agriculture.

"B" Designated Weeds: A weed of known ecomomic importance which is locally abundant, but of limited distribution in other counties.

RECOMMENDED ACTION: Moderate to intensive control at the County level.

"C" Designated Weeds: Weeds of economic importance which is abundant county-wide and in adjacent counties.

RECOMMENDED ACTION: Moderate control at the County level.

IT FURTHER APPEARING that the following weeds should be designated as follows:

"A" DESIGNATED WEEDS:

1.	Tansy Ragwort	Senecio jacobaea
2.	Musk Thistle	Carduus nutans
3.	Leafy Spurge	Euporbia esula
	(Outside of Alder Creek containment area)	
4.	Skeletonweed	Chondrilla juncea
5.	Mediterranean Sage	Salvia aethiopis
6.	Diffuse/Spotted/ Russian Knapweed	Centaurea spp.
7.	Dalmatian Toadflax	Linaria dalmatica
8.	Yellow Starthistle	Centaurea solstitialis
	(Outside of Keating containment area)	

9.	Dyers Woad*	Isatis tinctoria L.
10.	Purple Loosestrife	Lythraceae
11.	Perennial Pepperweed	

* Not known but present in adjacent areas and moving toward Baker County.

"B" DESIGNATED WEEDS:

1.	Leafy Spurge (In Alder Creek containment area)	Euporbia esula
2.	Yellow Starthistle (In Keating containment area)	Centaurea solstitialis

"C" DESIGNATED WEEDS:

1.	White Top (Hoary Cress)	Cardaria spp.
2.	Canada Thistle	Cirsium vulgare
3.	Klamathweed	Hypericum perforatum
4.	Puncturevine	Tirblus terrestris
5.	Scotch thistle	Onopordum acanthium

NOW, THEREFORE it is hereby ORDERED AND ADJUDGED that the aforementioned weed designations and weeds listed be recognized and classified as noxious weeds for Baker County.

DONE AND DATED this 4th day of September, 1996.

BAKER COUNTY COURT

BY: Steve M. Bogart

Steve M. Bogart, County Judge

Truscott Irby

Truscott Irby, Commissioner

Howard C. Britton

Howard C. Britton, Commissioner

c:\wp51\docs\noxiweed.ord

APPENDIX M

Pine Creek Subbasin Fish Migration Barrier Evaluation, 1998

Pine Creek Watershed Fish Migration Barrier Evaluation, 1998.

By: Mark Fedora, Hydrologist February 12, 1999

Methods

All road crossings of fish bearing streams were evaluated in the summer of 1998. At each location the gradient of the pipe or stream bed was measured using a level and standard surveying techniques. The structure type, size, length, and condition was noted: presence or absence of resting pools at inlets and outlets, and any jumping distance from the pool at the outlet of the structure was noted.

In the office, each structure location was mapped and the contributing area above the structure was determined. Flow estimates were made for the 100 year event. The equations are based on methods and stations used by Alan Campbell in his study, except that only stations that flowed in the Snake River basin were used. (See Campbell, A.J., R.C. Sidle, and H.A. Froehlich, 1982. Prediction of peak flows for culvert design on small watersheds, the 1997 100 year flow event of Pine Creek was used as a basis for flow estimate per unit area.

Table 1 Flow Estimates for a 100 Year Event for the Pine Creek Watershed

Watershed size (sq. mi.)	Equation*
<0.1	Q100 = 105*(drainage)^5
0.1 - 4.0	Q100 = 30.6 + 45.7*drainage area
4.0 - 9.0	Q100 = 105*(drainage area)^5
>9.0 sq. mi.	Q100 = 35.2*(drainage area)

* Drainage area is in square miles, Q100 is in cfs

Flow velocities through road crossing structures were evaluated using the depth of flow at the time of observation (generally mid to late summer low flows) and Manning's equation. Roughness factors varied depending on the structure type and substrate. Flow velocities that were too high for fish passage, or jumping distances too high or a lack of resting pools were indicators of migration barriers (Baker and Votapka, 1990).

Structures were prioritized for proposed replacement based on the species present, the amount of habitat that could be occupied upstream of the obstruction, the size of the existing structure in relation to the size needed to pass a 100 year flow event and the potential risk to downstream resources.

Results

Six barriers to migration were identified within the known occupied habitat of bull trout in the Pine Creek watershed and sixteen more were identified in other streams and reaches downstream from known habitat. Table 2 displays information related to bull trout migration barriers, while a complete data set for the watershed is attached as Table 3.

Table M.1 Bull Trout Migration Barrier Types, Locations, Affected Habitat, Comments, and Replacement Priorities

Replacement Priority	Fish Passage Problem(s)*	Estimated length of potential habitat upstream from obstruction (ft.)	Existing pipe capacity in relation 100 year pipe size (%)	Location T.R.Sec.	Road Number	Subwatershed	Stream Name	Proposed Pipe Size equiv diam inches * **	Consequence of Culvert Failure Notes
1	V	2000	116	07s,46e 04.nwnw	6600-100	15h	Unnamed Tributary	NA	Water would go over the road, possibly eroding all the fill material. Action: Removal of structure and closure of access to dispersed recreation site.
2	V, PO	1000	51	06s,45e, 26,sese	6610	15j	Meadow Cr.	54	Water would go down the road about 50 feet before going over the road.
3	PO	1000	105	06s,46e 32,sese	6623-040	15h	Unnamed Tributary	NA	Water would go straight over the road. Action: Construct pool at outlet and armor the fill.
4	PO	200	51	06s,45e, 35,nese	6610	15j	Unnamed Trib to Meadow Cr.	54	Water would go straight over the road fill.
5	V, PO	500	33	06s,45e, 26,nese	6610	15j	Meadow Cr.	54	Water would go down the road-about 100 ft-taking out road. Unknown if range of bull trout reaches this high. Pipe poses a high risk to downstream resources.
6	V	1000	56	06s,46e 29,sesw	6623	15h	Unnamed Territory	60	Water would go straight over the road taking out the fill.

* V = High velocity (Baker and Votapka, pg. 12, 1990)
PO = No pool at outlet

** Structure meets criteria for 100 year flow event and passage problem can be solved without installing a new pipe. Pipe sizes meet expected 100 year flow event plus 12 inches to be bedded into the stream channel to allow for a natural substrate through the structure. Designs call for an armored dip in the road fill to allow for overtopping should the culvert become plugged with debris.

Table M.2 Fish passage problems and priority for replacement in the Pine Creek watershed

Replacement priority	Fish passage problems	Bull trout reach (yes/no)	Bull trout subwatershed (yes/no)	100 year pipe size (inches)	Area of 100 year pipe size	Percentage of 100 yr pipe size	Pipe size needed for 100 yr flow & fish passage (inches)	Culvert ID #	Road number	Location	Sub watershed Number	Sub watershed name	Stream name	Structure type	Length	Culvert condition	Consequences of culvert failure	Notes
1	V	Yes	Yes	48	13	116	60	18	6600-100	0.1 mi. up 100	15h	East Pine Cr	Unnamed Tributary	Round Culvert	25	Ok	Water will go over the road, go down the ditch line	Road accesses a dispensed site with RHCA. Could easily pull pipe, restore channel and close dispersed site for less $$.
2	V, PO	Yes	Yes	42	10	51	54	1	6610	6610, near 190 spur above Schneider Meadows	15j	Clear Cr	Meadow Cr	Round Culvert	28	Ok	Down the road about 50 ft, over the edge, also go straight across the road	Unknown if fish reach this high. Need 54" culvert for fish, 48" if not.
3	PO	Yes	Yes	48	13	105	60	55	6623-040	0.3 mi. down road 040	15h	East Pine Cr	tributary to East Pine Cr	Round Culvert	24	Ok	Water will go over the road.	Need only to construct pool at outlet.
4	V, PO	Yes	Yes	42	10	51	54	2	6610	4.4 mi. on road 6610	15j	Clear Cr	Unnamed tributary to Meadow Cr	Round Culvert	50	Rusted Through	Water will go over the road.	Has fish in the outlet pool.
5	V, PO	Unknown	Yes	42	10	33	54	3	6610	8 mi. up 6610, below 200 spur	15j	Clear Cr	Meadow Cr	Round Culvert	40	Ok	Water will run down the road & take out the road about 100 ft.	
6	V	Unknown	Yes	48	13	56	60	57	6623	2.3 mi. on road 6623	15h	East Pine Cr	tributary to E Pine Cr	Round Culvert	27	Ok	Water would make a pool at the inlet and go over the road.	
7	V, PO	No	Yes	54	16	8	NA	6	6600-042		15j	Clear Cr	Unnamed tributary to Clear Cr	Round Culvert	20	Sediment	Cross over the road, then would move down the road making a pool	Small culvert on closed road with minimal fill. Road may be used by Clear Cr TS Pull culvert and restore channel.
8	V, PO	No	No	48	13	16	60	25	66	2.9 mi. up road 66	15e	Duck Cr	Grave Cr	Round Culvert	43	Ok	Water would stay along side road, possibly run over road.	Need field verification of fish presence
9	V, JD	No	No	84	38	27	96	29	39		15e	N Pine Cr	Doe Cr	Round Culvert	80	Ok	Some water will go down ditch line, most will go over road.	Need field verification of fish presence
10	JD	No	Yes	48	13	28	60	22	6625-105	0.3 mi up from 66	15h	East Pine Cr	Unnamed tributary to Pine Cr	Round Culvert	34	Ok	Water will go over road, would run down the road about 100 ft.	MP 0.3 Replace w/60"x34" pipe
11	V, PO	No	Yes	54	16	31	66	7	66	Near Sno Park	15j	Clear Cr	Unnamed tributary to Clear Cr	Round Culvert	44	Ok	Some water will go down ditch line, most will go over road for 50 ft.	Scheduled for replacement under Clear Cr. TS
12	V	No	Yes	54	16	41	66	15	6625	6.9 mi. up from 6625	15h	East Pine Cr	Clarks Cr	Pipe Arch	53	Ok	It would make a big pool at inlet	Has fish in upstream pool. Need 66"x53"pipe.
13	V	No	Yes	60	200	74	72	9	4135-050	1.9 mi. up 050	15j	Clear Cr	Holbrook Cr	Round Culvert	50	Ok	Water will go over road, would run down road about 50 ft & make a pool.	Has fish in upstream pool.
14	V	No	Yes	48	13	77	60	8	6610	0.5 mi. up 6610 from 66	15j	Clear Cr	Unnamed tributary to Clear Cr	Round Culvert	43	Ok	water will run down ditch line for 100 ft, eroding ditch and road fill.	
15	V, JD	No	Yes	60	20	108	72	13	6625	5.6 mi. up from 6625	15h	East Pine Cr	Okanogan Cr	Round Culvert	90	Bent	Water wouldn't go over road but would make pool at inlet.	A tree is growing on top of culvert inlet.
16	PO	No	No	66	24	109	78	30	3992	Near 030	15b	Lower N Pine Cr	Little Elk Cr	Open Bottom Pipe Arch	98	Ok	Failure would quickly cross road and wash out fill material.	Since the pipe is about 17 ft deep
17	PO	No	Yes	84	38	119	96	21	6617	8 mi. up from 6625/.2 mi. on 6617	15h	E Pine Cr	E Pine Cr (2 culverts)	Pipe Arch A	32	Ok	Water will go over road.	Fish in outlet, need better pool. Twin pipes could easily plug & wash out. Consider replacement with much larger pipe to allow debris passage
18	V, JD	No	Yes	66	24	139	78	14	6625	1.7 mi. on road 6625 from road 66	15h	E Pine Cr	Trinity Cr	Pipe Arch	119	Ok	Water will go over the road.	Consider baffles and pool construction at outlet

Replacement priority	Fish passage problems	Bull trout reach (yes/no)	Bull trout subwatershed (yes/no)	100 year pipe size (inches)	Area of 100 year pipe size	Percentage of 100 yr pipe size	Pipe size needed for 100 yr flow & fish passage (inches)	Culvert ID #	Road number	Location	Sub watershed Number	Sub watershed name	Stream name	Structure type	Length	Culvert condition	Consequences of culvert failure	Notes
19	V, JD	No	No	84	38	147	96	27	39		15b	N Pine Cr	Little Elk Cr	Round Culvert	62	Ok Sediments	line for 100 ft, then will find a way back to cr.	Consider baffles and pool construction at outlet
20	V	No	No	78	33	151	90	28	39		15b	N Pine Cr	Fall Cr	Round Culvert	63	Ok Sediments	Water will run down inside ditch for several hundred ft.	Consider baffles or other ways to slow velocity
21	V	No	No	72	28	205	84	26	39	14.7 mi. up road 39	15e	Upper N Pine Cr	North Pine	Round Culvert	95	Ok	Water would make a pool at the inlet, if water got higher-go over road.	Consider baffles or other ways to slow velocity
22	V	No	No	60	20	219	72	68	130	1.3 mi. on rd 130, from 3990	15c	Lake Fork Cr	Pole Cr	Pipe Arch	56	Ok/Bent	Water will go over road.	Fish in outlet & inlet (Brook trout). Consider baffles or other ways to slow velocity

V = High Velocity (Baker and Votapka, pg. 12, 1990)
PO = No pool at outlet
JD = Jumping distance exceed 1 ft.

Literature Cited

Baker, C.O. and F. E. Votapka. 1990. Fish Passage Through Culverts. USDA Forest Service Technology and Development Center, San Dimas CA. Report No. FHWA-FL-90-006.

APPENDIX N

Pine Creek Residents Opinion on Pine Creek Watershed Health Issues

Pine Creek Watershed Health Issues[1]

- Logging

Peak timber harvest years in the 1950's and 1960's.

Since then logging activity in the watershed has probably been reduced to less than 10 percent of peak cut levels. The actual (million board feet) numbers should be available in the Pine District Forest Service office which demonstrates the marked reduction in timber harvest.

- Grazing

Sheep grazing ended in 1970. No sheep for 30 years.

- Elk

Elk population has virtually exploded since the 1950's. Prior to 1950 is was extremely rare to see an elk in the watershed. Now large herds are common throughout the watershed.

The destructive effects of elk are well known and cannot be ignored. Elk graze in an uncontrolled manner and destroy sensitive areas. Elk eat as much as cattle. Elk trample stream banks and increase erosion and sedimentation. Elk spread noxious weeds. Elk churn up wet boggy areas and create elk wallows. Elk destroy small and young treees. Obviously elk impact the watershed in a negative or unhealthy manner. The watershed would be healthier if the elk were not there.

- Recreation — Adverse effects of the recreation boom.

The destructive effects of the increasing numbers of recreationists on the watershed are obvious and cannot be ignored. Driving and abusing the roads to create increased dust, erosion, and sedimentation are obvious negative effects on the watershed. People damage streambanks and riparian areas. People litter and trash up the watershed. People cause damage to trees and sensitive plants and spread noxious weeds.

The watershed would be a lot healthier without these people.

---

[1] Collective comments of Gordon Summers, George Gover, L. Jay Sly, Paul Joseph, Kelly Rowan, Tony Chetwood, and Tom Huff, Jr.

PINE CREEK WATERSHED

The *Pine Creek Watershed Assessment* consists of two volumes: Volume 1 - Report; Volume 2 - Letters of Comment. This is Volume 2 which includes the letters of comment.

Letters were received from

Wayne Lewis, Powder Basin Watershed Council
Bill Lovelace, Powder Basin Watershed Council
Tim Bliss, Powder Basin Watershed Council
Vicki Wares, Coordinator, Powder Basin Watershed Council
Dennis Axness, Powder Basin Watershed Council
Arvid Anderson, Public
Eric T. Schoenfeld, Powder Basin Watershed Council
Ronald J. Golus, Powder Basin Watershed Council

mapped

October 16, 2000

In my opinion, the Pine Creek Assessment was completed in a professional and positive manner that will set the standard for future successful assessments .

Wayne Lewis
PBWC Member

Pine Creek Watershed Assessment
Volume I

October 2, 2000

Vicki Wares
Powder Basin Watershed Council Coordinator

Dear Vicki,

Comments from all the Council members have been solicited on this historic first effort in assessment by the Powder Basin Watershed Council.

I would like to commend all the Council members, staff, and the public who devoted so much time and personal effort in producing this document. I think it is important to realize that the assessment is not an end in itself but merely the beginning of an ongoing process to assure future generations of their right to benefit from the use of an important natural resource-clean water.

Voluntary cooperation is an important first step among the government agencies, private parties, and landowners in addressing the water quality needs of the basin. A number of significant actions have been taken, for example the number of fish screens that have been installed recently or are in the works in the Pine Creek drainage. Many parties in the Powder Basin have toiled without much public recognition using techniques such as screening, riparian fencing & planting, managed grazing, and in-stream improvement projects. It is also important to recognize the work that remains to be done! The assessment points out important issues like: pollution, passage, fish screening, over appropriation of water, the listing of threatened or endangered species, the 303d list of water quality impaired stream segments, and others which will require ongoing attention.

Another area of significant potential that has only been covered in a cursory manner is the use of biological criteria and biomonitoring in defining water quality assessments, benchmarks, and goals for the water quality standards of the basin. These biological tools are clearly one of the information needs discussed in this document. I am sure that they can and will play a significant and positive role in the guidance of future water quality decisions in the watershed as well as providing an educational opportunity for the watershed stewards of tomorrow who are still in school today.

It is important that all of us in the Powder Basin continue to work together on the critical task of assuring watershed health for all to enjoy that is embodied in this document.

Thank you!

Bill Lovelace

Bill Lovelace
PBWC Fish Habitat Improvement Committee Chairman

To: Powder Basin Watershed Council Assessment Committee
From: Tim Bliss, Assessment Committee Chair
Date: October 16, 2000
Subject: Comments on Volume 1 of Pine Creek Assessment

My roles in development of this Assessment were to:
1) Guide the Committee to complete an Assessment that both the Committee and the Council could accept through consensus.
2) Contribute objective technical expertise and input to the Assessment process, with input focused on the issues developed by the Council and Committee.

Role 1:
I am satisfied that we, the Committee, developed a product that we were minimally comfortable recommending to the Council. There were some concerns.
- Most members of the Committee would like to have seen more complete information in the document. There are a lot of important data gaps. The Oregon Watershed Assessment Manual suggests we should have developed a more data intensive Assessment involving collection of primary data. We did not have the resources to do this. The Assessment was developed from existing information. We dealt with the data gap issue by providing an extensive list of information needs that we hope the Eagle Valley SWCD, those who develop the plan, and local residents of Pine Creek will pursue.
- Although the Committee agreed that an important part of the assessment process was to solicit and incorporate comments from Council members, Pine Creek residents and others into the final draft, some Committee members were not satisfied with the result. Some of the incorporated contributor comments were incongruous with data found and summarized by the committee.

Role 2:
I want those who have questions about the information in the Assessment to know that I did my best to provide objective technical information in sections I wrote or edited. If anyone finds major errors in the data, data analysis or discussions, I want you to know whom to talk to. I edited all sections of the Assessment more than once; I edited the sections I wrote many times, trying to incorporate comments from other contributors and critics. I wrote and/or compiled information from other sources for most or all of the following sections of the Assessment, which comprise a large part of the document:
- Contents, acronyms, and references sections.
- Watershed health issues section under the summary.
- Subwatersheds and water resources sections under the overview.
- Fish screens, over-appropriation of water, unauthorized water use, potential additions to 303(d) list, fish passage, and reservations of water for future economic development under watershed issues.
- Appendices D, E, F, G, and H.
- Most of the maps (from the Wallowa-Whitman NF Geographic Information database using ARCVIEW).

As a final comment, I want to thank Ron Golus for the assistance he and his staff at the Bureau of Reclamation provided, including providing GIS support and compiling, typing, editing, copying and distributing the several drafts of this assessment. Without Ron's assistance, this Assessment would still be months or years from completion.

Pine Creek
Watershed Assessment

"The ... mission (of the Council) is to assess existing watershed conditions and values in the Powder Basin."

The Assessment Committee of the Watershed Council began collecting information and data on conditions within the Powder Basin as early as June 6, 1996. At every committee meeting we discussed the best approach to assessing the Powder Basin. Finally, in June of 1998, the committee decided that the only feasible approach would be to subdivide the basin into ten (10) watersheds:

❶ Pine Creek
❷ North Powder River (to the mouth)
❸ Upper Powder above Mason Dam
❹ Upper Powder below Mason Dam to Thief Valley Reservoir
❺ Eagle Creek
❻ Lower Powder (Thief Valley to mouth)
❼ North Fork of the Burnt River
❽ West and South Fork of Burnt River
❾ Burnt River below Unity Dam
❿ Direct tributaries to the Snake River.

The Council agreed by consensus at it's regular meeting, June 3, 1998, to accept the designated watersheds as defined and prioritized above. Immediately, the committee began focusing on the information relating to the Pine Creek Watershed. The Bureau of Reclamation committee member, Ron Golus, agreed to serve as both report writer and reproducer/distributer.

As the assessment progressed it became more and more apparent that we were not outreaching enough to the local residents. This was definitely a drawback; we hustled to enlist community input and support for the assessment. On February 2, 2000 we hosted a public meeting in Halfway to present the sixth draft of the assessment and to take comment and opinion. In terms of numbers it was a huge success! But people were upset and felt left out of the process. Our lesson ... begin outreach at the beginning!

The people of the Pine Creek Watershed were wonderful! We received some excellent feedback which corrected errors in the written materials that were used as the basis of our document. Gordon Summers, Pine Valley resident and Council member, convened a local work group to review the document. Gordon worked with George Gover, L. Jay Sly, Paul Joseph, Kelly Rowan, Tony Chetwood and Tom Huff, Jr. to provide not only corrections of assessment content but also new information. Dave Schmitt and the Oregon Sportsmen were other local contributors who contributed information beyond the scope of the public meeting.

The lack of scientific documentation of some of the public statements received from the community concerned the assessment committee. This concern is understandable in light of the fact that the committee is comprised of steadfast, qualified, technically-oriented professionals. They have been publically commended by the council for the excellence and dedication with which they have compiled this assessment.

My concerns were alleviated by a very timely issue of "Science Findings", Issue 26/August 2000. This publication on "civic science" addressed many considerations relating to the "science" of watershed assessment and the local "ownership" so necessary for watershed management.

"Traditional scientific assessments have limitations in providing full understanding of the potential impacts forest management has on communities. Much of the knowledge communities have of themselves is inaccessible to quantitative methods but can be provided through participatory processes, or what is termed as "civic science."

"The more formal, traditional type of scientific assessment may be necessary in some cases, but it is not sufficient for fully understanding the impacts of (watershed) management on communities."

"... it is disempowering to a community to have outsiders come into their midst briefly, decide what the important defining information is, collect it and leave. When people feel disrespected in this way, they are not only more likely to disagree with an assessment but also less likely to buy in to critical natural resource decisions that directly affect their places and their lives.."

I realize that it has taken much longer to reach the point that we are at today than anyone of us ever thought it would. There is still work ahead of us. The council must approve of the Pine Creek Watershed Assessment by consensus. We will go back into the community with our final document to take final comment/opinion. Written comment will be incorporated into the assessment and bound into Volume II which will be inseparable from Part I.

We envision that succeeding generations will refer to this document as a scientific and social statement on the conditions within the Pine Creek Watershed at this historical point in time. We have done an excellent job, all of us, the Watershed Council and the communities of Pine Valley. Ultimately, we recognize the financial support of the Oregon Watershed Enhancement Board without whose funding this achievement would not have been possible. At this point, I am proud to serve the Powder Basin Watershed Council and the intent of the "Healthy Streams Partnership" in Oregon.

Vicki Wares, Coordinator

Becca -

The Pine Creek
Watershed Assessment
looks good to me.

Marcia Spence

From: "Andersen Forestry Consulting" <aeanders@eoni.com>
To: "Vicki Wares" <Vicki-Wares@or.nacdnet.org>
Date: 11/13/00 7:20AM
Subject: Pine Creek

Vicki,

I read over the Pine creek W/S document Sunday.

I am concerned that it is not saying what I intended.

I feel the need in this document to link together the information various person have put forth.

How can this be accomplished?

Arvid

5 September 2000

From: Eric T Schoenfeld
PO Box 182
Haines, Oregon 97833

To: Powder Basin Watershed Council
3990 Midway drive
Baker City, Oregon 97814

About: (hopefully) "final" (Aug 2000) version of Pine Creek Assessment

Ladies & Gentlemen:

My biased opinion is that this "final" document should be "approved".
I read the text -- from beginning to appendix -- this morning.

In my humble opinion, this document offers the best-attainable starting point for a serious "Action Plan" in the Pine Creek (sub?) watershed.
We could revise and revise and revise, ad infinitum ... as either (i) new data become available or (ii) various changes in federal rules change the parameters and stipulations of "required" remedial action.
As numerous, specific-topic paragraphs candidly admit, lack of data -- or lack of enough consecutive years of comparable data -- is often a significant analytical problem.

My implication is that any credible "Action Plan" should include some program of multi-year data collection ... at plausibly-accessible & reasonably-representative sites ... in all segments of the Pine Creek watershed. Whether this suggested data collection is funded by OWEB or as a program expense of some State or Federal Agency (or by some dedicated local volunteer) is not nearly so critical as that CONTINUITY of data collection -- and the method of collection -- be rigorously maintained for a considerable number of years.
IE, when better technology allows for less-expensive & more-automated data collection, the older & less-automated data collection should continue -- in parallel -- for a few years ... in order to (hopefully) establish some reasonable and meaningful comparison between "old" and automated data figures.
Without such a comparison, all older (manually-collected data) may become "suspect" ... even if such manually-collected data is actually more

accurate than the sheer volume of the automatically-obtained data!!! For good reason, statisticians prefer LARGE data samples; and, automated data collection devices certainly are better -- than periodic individual/manual observations -- at providing an immense quantity of graphable numerical (whether right or wrong) data.

During the past century or so, the US Weather Bureau (now the Natl Weather Service) has provided volunteer observers with a set of the usual standard instruments. For the most part, such observers were (usually Weather Bureau) retirees who faithfully changed the paper in the barographs and thermographs, checked the precipitation gages at regular intervals, recorded cloud cover (visual) observations at regular intervals, etc etc. Quality of any particular observer's data may have been "suspect"; but, with so many such observers -- most of whom performed for many-many years at a defined site -- allowed the Weather Bureau/Natl Weather Service to factor their (generally accurate) data collection into their (now-computerized) forecasting models ... and, improve the accuracy of their weather forecasts.
I suggest that any data-collection project include streamside dwellers who (voluntarily) desire-to collect semi-credible information on a regular time interval. My humble acre of Haines property happens to straddle about 200+ feet of Rock Creek. During 1998, I measured:
-- stream temperature with an armored/submersible thermometer
-- approximate stream flow speed ... by tossing some floating device under the 21-ft culvert at the upper end of the in-front-of-my-house street ... and timing its emergence at the lower end
-- and, at a 'wing' dam, just 200 yds downstrem -- precisely 8 ft wide, with a flat, concrete bottom and concrete & vertical sides -- I measured the depth of the water -- by sticking a dry stick into the water and measuring the resultant "wet" portion with a typical carpentry tape measure -- and concluded a cross-section volume.
-- with both speed of flow and volume of cross-section, I could consistently, from day to day -- even if not precisely or accurately -- conclude comparitive CFS.

Due to the usual upsteam irrigation withdrawals, the creek channel through our yard -- which seemed to "peak" (during late May or early June) at around 40 CFS -- seems-to (most summers) become totally de-watered by sometime in July. Collecting further information/data on a dry creek bed is not particularly inspiring or interesting.

Predictably, water temperatures held fairly steady (at levels considered OK for bull trout) -- or rose rather gradually -- as the normal season of snow melt progressed ... until mid/late May, or ... whenever upstream irrigation withdrawals (often abruptly) became a significant factor in (the dramatic and sudden) decrease in stream volume ...

I have no specific argument with owners of legal water-diversion rights. I'd prefer to have an all-year trout creek in my back yard.
For the most part, better diversion and application methods COULD allow ranchers and farmers to grow their traditional crops; and, during most years; and, additionally, they could allow enough "in-stream" water to flow to support the usual fish populations.
Instead, (my perception is that) local ranchers/farmers are jealously "exercising" 100+% of their legal water rights -- whether their crops really need the water or not -- in semi competition with their close-to-same-date water-right neighbors. Just an opinion ... based on considerable (admittedly casual & non-systematic) observation.

Every credible study and experiment suggests that piped (delivered-to-crop) water and below-ground, soil-moisture-sensitive "probes" -- to activate some water-delivery-to-crop sprinklers (or, better yet, sub-surface "drip" systems) -- can produce the same total crop harvest as the traditional open-ditch/flood irrigation system ... using much-less (??1/3 as much??) diverted water.

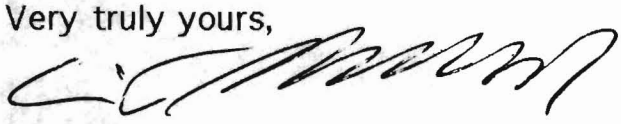
Conservation vs Increased Supply:
(the potentially-expensive risks and pitfalls)
During the 1970s, various "experts" extrapolated the increase in electric power consumption in the NW USA. They concluded that 5 new (Multi-megawatt) Nuke power plants were the only plausible solution..
Washington Water Power Supply Corp (now call Whoops!) embarked upon the construction of 5 multi-billion dollar Nuke power plants. Only one was ever completed and put "on-line". Electric utilities "bailed out" of their Whoops commitments in droves ... as they, sequentially discovered that they could save more (on capital infrastructure costs) by aggressively promoting domestic (and commercial) customers' conservation and utilization efficiency. The largest US Bond default -- ~$14 BIL -- (til then, anyway) was a (pardon the pun) "fall-out" result.

No doubt that a significant -- and rarely measured, but obviously observable quantity of -- (April/May/June -- snow-melt) water flows (uncaptured for late-summer-storage) down our local streams during most years. The better reservoir sites, to hold such snow-melt water until the dry months, are -- for the most part -- already invested-with water storage reservoirs.
I don't wish to be classed as an "environmental opponent" of further construction of water-storage reservoirs ... even if that may be a relatively-correct depiction of my attitude ...
Rather, I suggest that irrigators -- and irrigation districts -- seriously **compare** the cost of installing "Really Efficient" pipeline and drip irrigation systems ... with the Real cost of increasing upland water storage capacity ... Before they expend funds, political effort, etc on promoting dubious (and, perhaps unneeded??) -- and Very Expensive to Construct and Operate -- water storage projects.
If the best possible data support more irrigation storage reservoirs, I have no objection; but, if the decision to build a new or bigger dam is based upon "hunch" or the availability of govt funds, I'm a skeptic.

As the newly (by default) selected Chairperson of our local Watershed Council, I'd particularly like to thank Tim Bliss and Mark Fedora (USFS-WWNF), Ron Golus (USDI-BOR), Joe Hessel (ODF), Jeff Zakel (ODFW), and local (Halfway area) private citizens, Gordon Summers and Paul Joseph, for their continued interest and (often time-consuming) editorial aid, in preparing this assessment booklet. The other folks, listed as "contributers" (on pages S-10 and S-II) and the Halfway residents -- who attended and commented at our 2 Feb 2000 meeting at Halfway -- were also extremely helpful on specific topics..

This (Pine Creek) assessment certainly has a few flaws and information/data gaps; but, in my humble opinion, it's a pretty good "Best Guess".

Very truly yours,



Eric T Schoenfeld,
(recently council Chair) ... Assessment Committee member since "forever"

United States Department of the Interior

BUREAU OF RECLAMATION
Snake River Area Office
214 Broadway Avenue
Boise, Idaho 83702-7298

IN REPLY REFER TO:

SRA-1200

September 18, 2000

Ms. Vicki Wares
Powder Basin Watershed Council
3990 Midway Drive
Baker City OR 97814

Subject: Pine Creek Watershed Assessment, Oregon

Dear ~~Ms. Wares~~ Vicki:

The letter contains the Bureau of Reclamation response to the Powder Basin Watershed Council Pine Creek Watershed Assessment, Volume 1 of 2.

We have reviewed the document and it adequately addresses the list of Powder Basin Watershed Council identified Watershed Health Concerns.

The report SUMMARY format that includes Information Needs, Key Findings, and Next Step - Action Plan is a good approach.

The Assessment Committee addressed some complex issues and tried to explain them in a manner that described how they related to the Pine Creek watershed.

The Council and Public had opportunity for input.

Future watershed assessments should be completed in a more timely manner.

The two volume assessment report appears to be an acceptable approach to reaching consensus when many varied interests are involved in the process.

Sincerely,

Ron Golus

Ronald J. Golus
Planning and Special Studies Officer