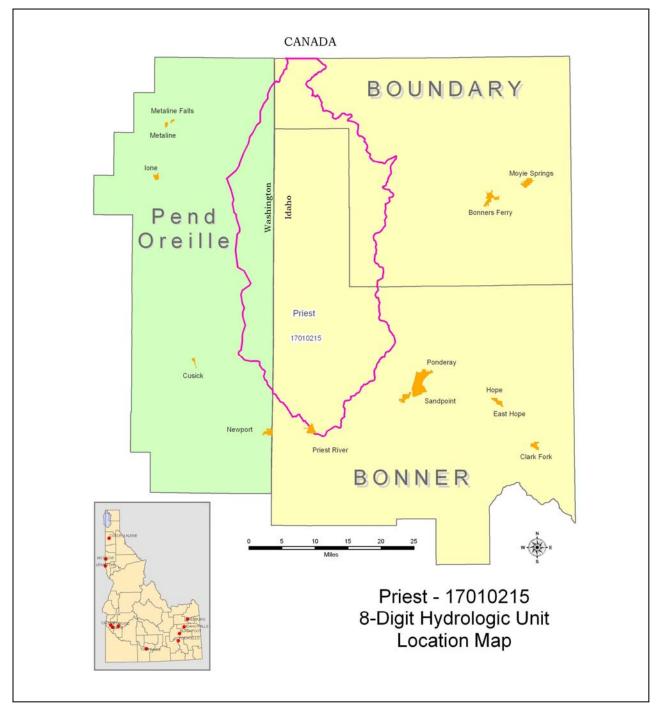


Idaho

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Introduction

The Priest 8-Digit Hydrologic Unit Code (HUC) subbasin includes parts of Idaho, Washington, and British Columbia. The headwaters of Upper Priest River originate within the Nelson Mountain Range of British Columbia; headwaters of major streams on the western side of the basin originate in northeast Washington. The U.S. portion of the subbasin is 612,317 acres in size.

Within the U.S., Bonner County, ID makes up 60 percent of the subbasin; Boundary County, ID and Pend Oreille County, WA each account for approximately 20 percent of the subbasin. Thirteen percent of the basin is privately owned, eighty seven percent is public land.

Eighty one percent of the basin is in forest, 11 percent is water or wetlands, and 5 percent is shrubland, rangeland, grass, pasture or hayland. There is no cropland identified in this assessment. Approximately 1,000 acres are enrolled in the Conservation (CRP) or Wetlands (WRP) Reserve programs.

Elevations range from just over 2000 feet at the southern end of the watershed to over 7500 feet along the eastern boundary.

Conservation assistance is provided by three Soil and Water Conservation Districts, and two Resource Conservation and Development offices.

Profile Contents

Introduction
Physical Description
Landuse Map & Precipitation Map
Common Resource Area Descriptions
Resource Settings

Resource Concerns
Census and Social Data
Progress/Status
Footnotes/Bibliography
Future Conservation Needs

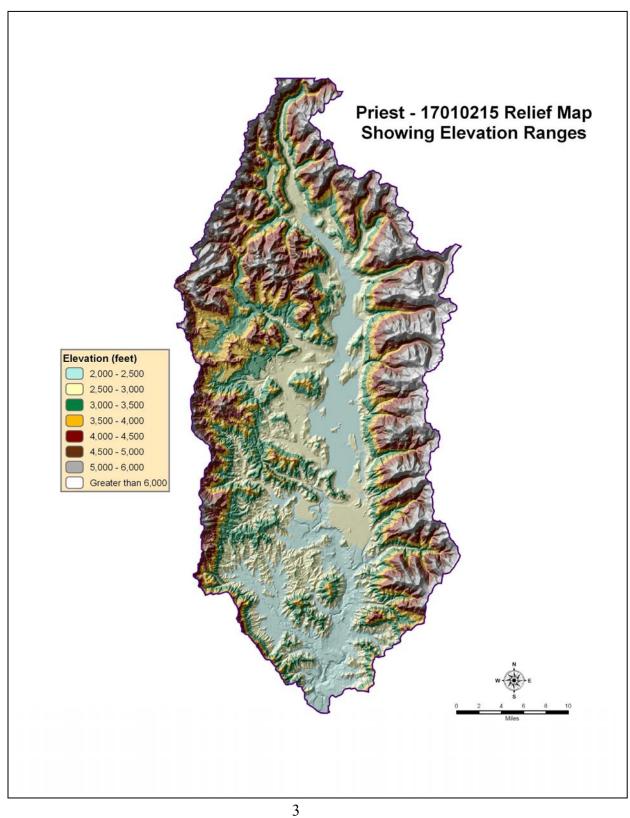


Priest - 17010215

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Relief Map



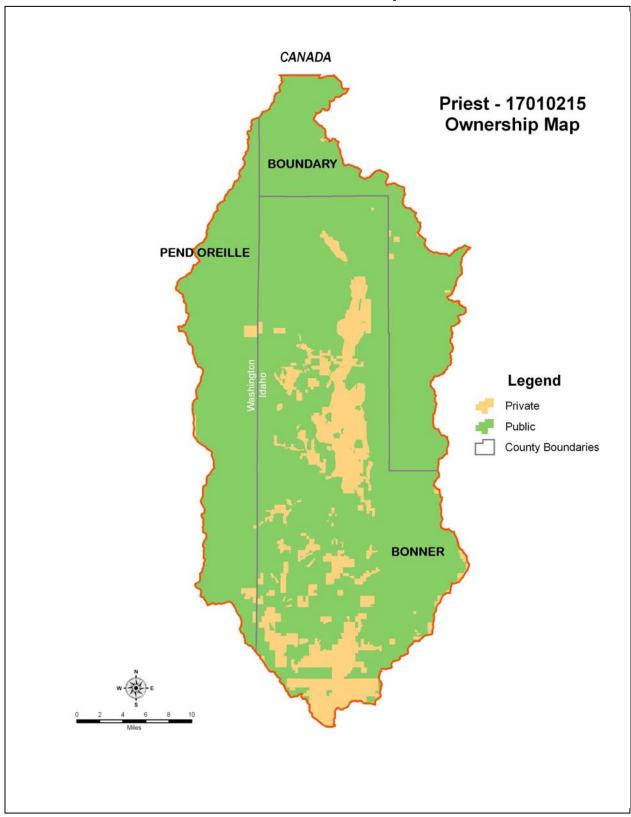


Priest - 17010215

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General Ownership





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Physical Description

Land Cover/	Ownership - (2003 Draft BLM Surface M.				Ownership - (2003 Draft BLM Surface Map Set 1)								
Land Use	Publi	С	Private		Tribal			% of					
(NLCD ^{/2})	Acres	%	Acres	%	Acres	%	Totals	HUC					
Forest	461,214	75%	39,248	6%			500,462	81%					
Wetlands Reserve Program (WRP) Land			1,025	<1%			1,025	<1%					
Conservation Reserve ^{/3} Program (CRP) Land			24	<1%			24	<1%					
Grass/Pasture/Hay Lands	15,148	3%	10,145	2%			25,293	5%					
Shrub/Rangelands	16,373	3%	1,607	<1%			17,980	3%					
Water/Wetlands/ Developed/Barren	38,561	6%	28,973	5%			67,534	11%					
Idaho HUC Totals*	531,296	87%	81,022	13%			612,318	100%					
*Totals are approximate due	to calculation	method:	s used										

Irrigated Lands^{/4}

No irrigated Lands are reported for the watershed.

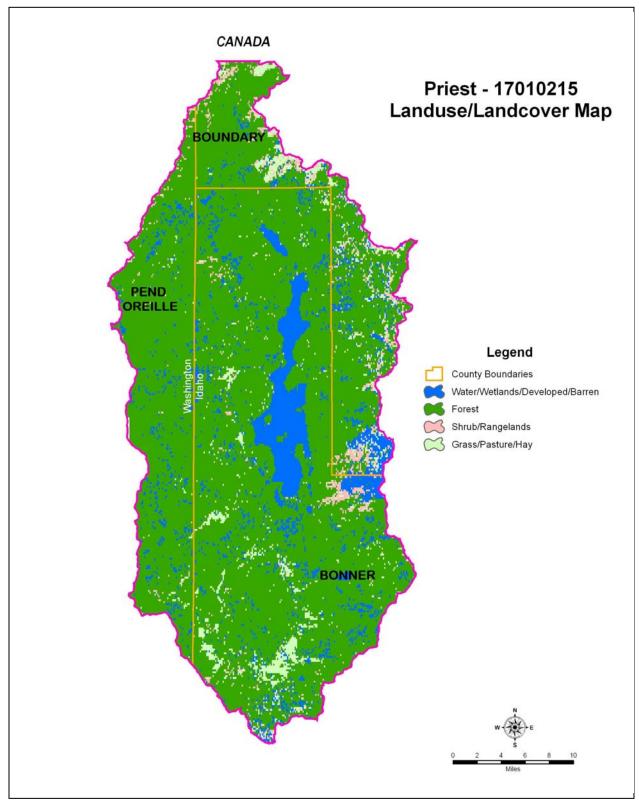


Priest - 17010215

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Land Use / Land Cover

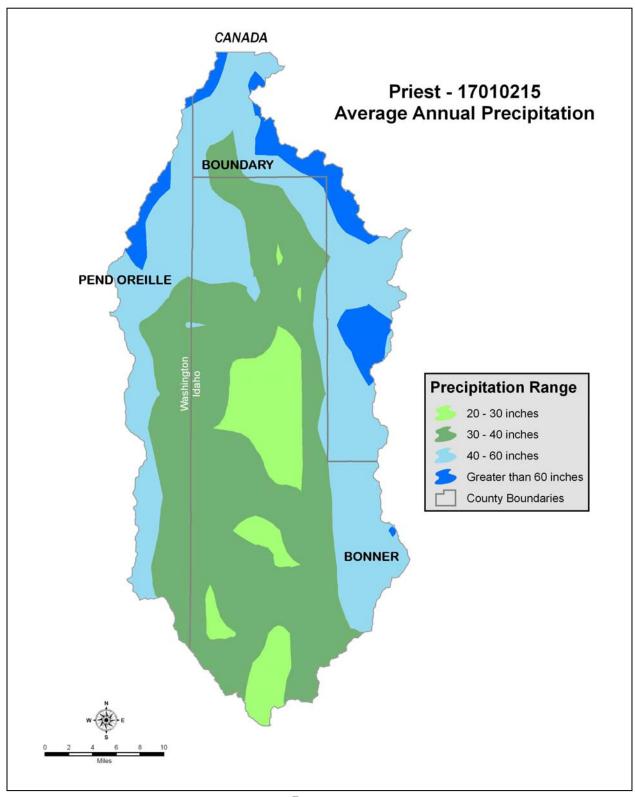




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Average Annual Precipitation





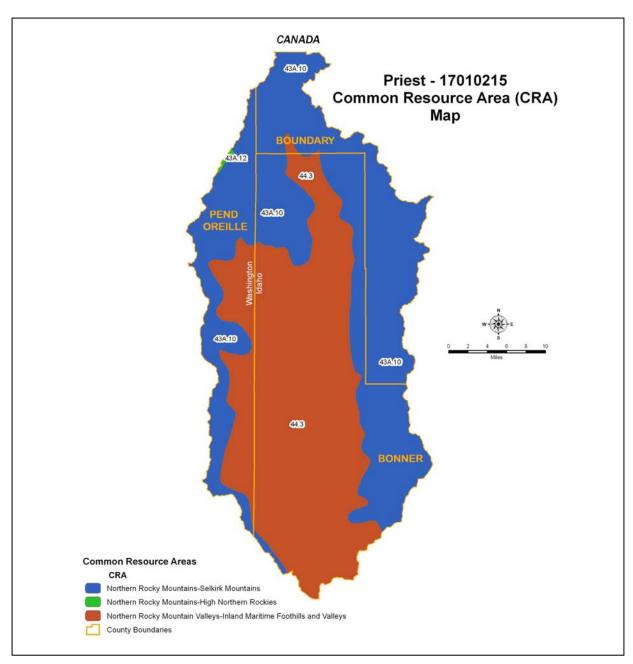
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Common Resource Area Map

CRA Map - areas with a majority are listed below - for descriptions of every class within the HUC, go to: http://ice.id.nrcs.usda.gov/website/cra/viewer.htm

A Common Resource Area (CRA) is defined as a geographical area where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a Common Resource Area. (General Manual Title 450 Subpart C 401.21)





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Common Resource Area Descriptions

The National Coordinated CRA Geographic Database provides:

- A consistent CRA geographic database;
- CRA geographic data compatible with other GIS data digitized from 1:250,000 scale maps, such as landuse/landcover, political boundaries, Digital General Soil Map of the U.S. (updated STATSGO), and ecoregion boundaries;
- A consistent (correlated) geographic index for Conservation System Guides information and the eFOTG
- A geographic linkage with the national MRLA framework

43A.10 Northern Rocky Mountains—Selkirk Mountains The dissected, partly glaciated Selkirk Mountains ecoregion is rugged, covered in mixed coniferous forest, and mantled by volcanic ash that increases forest productivity. Both Pacific species (grand fir, western red cedar, and western hemlock) and Rocky Mountain species (western larch, western white pine, and lodgepole pine) are common. A combination of weather patterns, high relief, and very narrow valleys result in more summer precipitation, fog, and relative humidity at low and mid-elevations than elsewhere in northern Idaho and northeastern Washington. Boreal influence is stronger, subalpine fir-spruce forests are lower, and whitebark pine forests are more extensive than in the rest of the Northern Rockies. Boreal influence increases toward the north and some north-facing valleys have extensive peatlands. This region includes the largest contiguous old growth cedar-hemlock forest in the interior U.S., extensive peat lands, and important lynx and grizzly bear habitat. It supports the only woodland caribou herd in the conterminous U.S.. Erosion hazards can be high where road beds intercept perched water tables above subsurface compacted tills. Avalanche chutes are common.

43A.12 Northern Rocky Mountains--High Northern Rockies The High Northern Rockies CRA is wet, glaciated, mountainous and begins above the closed canopy montane forest. It includes non-commercial high altitude forests, subalpine parkland, and alpine meadows. Elevations are usually sufficient to trap large amounts of Pacific moisture. Tree line varies according to wind exposure, frost and snow occurrence, droughtiness, and soil depth. Alpine vegetation grows on mountains above timberline whereas subalpine fir, whitebark pine, mountain hemlock, and alpine larch forests grow at slightly lower elevations. Soils can contain volcanic ash and are usually thin and rocky. Wildlife habitat and recreation.

44.3 Northern Rocky Mountain Valleys--Inland Maritime Foothills and Valleys The Inland Maritime Foothills and Valleys ecoregion includes the wide, glaciated Pend Oreille and Priest valleys. Soils have more volcanic ash and water holding capacity than the drier Columbia, Kettle, and Sanpoil valleys of northeast Washington. Forests contain western hemlock, western red cedar, grand fir, Douglas fir, ponderosa pine, lodgepole pine, and an unusually large proportion of western larch. Birch and aspen grow on floodplains and are also common seral species on moist, low to mid-elevation uplands.



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Common Resource Area Descriptions - continued

Streamflow Summary 17, 29

The hydrology of the Priest subbasin is dominated by the Priest River and its main tributaries as they flow through mostly forested lands before it drains into the Pend Orielle River at the town of Priest River, Idaho. The Priest River system drains into and outlets from two major lakes, Priest Lake and Upper Priest Lake. The Priest River contributes roughly six percent of the Pend Oreille River annual flow . The Priest flows from north to south from the Canadian Border to Priest River, Idaho. The average annual (daily) flow of the Priest River near Priest River is 1602 cfs The average annual (daily) flow of the Priest River near the outlet of Priest Lake is 1211 cfs; these numbers are based on 30 years of flow data (1976 to 2005). River flow is partially regulated by the Priest Lake outlet dam which began operation in 1951. Major tributaries to the Priest River in the subbasin include the Lower West Branch, Upper West Branch, Granite Creek, Kalispell Creek, and the Upper Priest River.

The annual runoff often begins in February; peak flows generally occur in May or June, with base flows predominant in August and September. Snowmelt or seasonal rainstorms drive timing, duration, and volume of peak flows at elevations less than 4000'. Rain-on-snow events can occur from November through March and may result in hydrograph peaks during this time period as well.

			Acre-Feet
		Average Annual	1,159,863
	USGS 12395000, USGS Priest River Near Priest River, ID, 1976-2005	Mar-July Average	802,389
		Percent of Average Annual	69%
Stream Flow Data			
			Acre-Feet
		Average Annual	876,761
	USGS 12394000, USGS Priest River Near Coolin, ID, 1976-2005	Mar-July Average	631,715
		Percent of Average Annual	72%



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				CFS	Number
	Surface Water			46	158
Irrigated Adjudicated Water Rights ⁶)	Groundwater			2.4	23
water Rights—)	Total Irrigated	Adjudicated Water Rig	jhts	48	181
					1
				MILES	PERCENT
Stream Data	Total Miles ^{/8}			1165	
Stream Data	Water quality	impaired streams /9		473	41%*
*Percent of Total Miles	Anadromous F	ish Presence (Streamn	et) <mark>/11</mark>		
of streams in HUC	Bull Trout Pres	sence (Streamnet) ^{/11}		392	34%
				ACRES	PERCENT
10	Forest			22,644	78%
Land Cover/Use ^{/2} based on a 100 ft.	Grass/Pasture	/Hay Lands		537	2%
stretch on both	Shrub/Rangela	•		725	3%
sides of all streams		ds/Developed/Barren		5,050	17%
in the 100K Hydro Layer	Total Acres o	of 100 ft stream buff	ers	28,956	100%
	I – slight limita	tions			
	II – moderate I	imitations			
	III – severe lir	nitations			
	IV – very sever	re limitations		11,600	70%
Land Canability	V – no erosion	hazard, but other limitatio	ns	5,000	30%
Land Capability Class ^{<u>/4</u>}	VI – severe lim	itations, unsuited for culti e, range, forest	vation,	0	
		ere limitations, unsuited for ed to grazing, forest, wild		0	
		eas have limitations, limite	ed to	0	
	Total Crop &	Pasture Lands		16,600	100%
Confined Animal Feedi	ng Operatio	ns – Dairies/Fee	dlots /1	2, 13, 26	
Operation Type N	lumber	<300	30	00-999	1000-4999
Dairy	0				
	2 1				



Idaho 8 Digit Hydrologic Unit Profile December 2006

Resource Settings

Pasture: Non-irrigated riparian pastures with a growing season of 120 to 185 days. Livestock utilization is from late spring through fall and big game species are present in winter and early spring. Soils are glacial in origin and are generally very deep, well drained silt to gravelly sandy loam. Annual precipitation is greater than 20 inches with moderately dry weather during July and August. Typically these pastures are adjacent to perennial or intermittent streams. Vegetation ranges from native grass/sedge/rush complexes to improved forage species such as timothy, smooth bromegrass, meadow foxtail, orchard grass, reed canarygrass, and clover.

Upland pastures are located above flood plains on steeper, dissected hill sides or mountain sides. Average annual precipitation is 20 to 40 inches per year. The majority of the precipitation is rain and snow from mid-November to mid-May. Summer months are hot and dry. Soil type is silt loam to gravel. Vegetation is typically introduced species, such as orchard grass and smooth brome. Native species such as bluebunch wheatgrass, Idaho fescue, pine grass, elk sedge and native shrubs and trees may be found at higher elevations along mountain sides. The majority of grazing animals are cattle, bison and horses. Big game utilize pasture for early spring and winter grazing. Wildlife includes elk, black bear, grizzly bear, whitetail deer, mule deer, and moose.

Hayland: Non-irrigated riparian hayland on zero to two percent slopes. Growing season is 120-185 days. Soils are deep with variable textures and wetland inclusions. Annual precipitation is greater than 20 inches with very dry summer months. Typically this hayland is adjacent to perennial or intermittent streams. Fertilizers and/or pesticides are periodically applied. Vegetation ranges from grass/sedge/rush complexes to improved species like timothy, smooth bromegrass, creeping meadow foxtail, orchard grass and clover. Small grains and hay are grown in rotation, with grasses typically maintained for four to six years. Grazing of crop aftermath may occur. Nutrient and pest management may be less than desirable. Big game species are present in winter and early spring. Forage harvest management is usually an existing practice. Wetland alterations, specifically stream channelization and diking, have occurred to facilitate field drainage.

Non-irrigated upland hay is found on slopes ranging from three to thirty percent. Vegetation consists of introduced perennial grasses and legumes. Soils vary from loam to silt loams. Renovations occur every six to ten years. Precipitation is 20 inches or greater. One cutting is common.

Shrub/Range: Relatively little shrub/rangeland is present within the subbasin, thus this land use is considered a sub-unit of the larger grazed forest resource. Shrub/rangeland vegetation occurs as isolated patches adjacent to and/or within larger expanses of forested or wetland terrain. Vegetation consists of perennial grass and forbs. Some areas have problems with invasive species. There are both cool and warm season grasses. Precipitation is generally 40 inches or greater, most of which falls in winter and early spring with periodic summer rains. Topography varies from steep slopes to rims and benches. Soils are loamy to gravelly with slopes from 20 to 60 percent. Temperatures are mild in the winter and hot in the summer. Open range grazing and lack of riparian fencing can adversely impact riparian vegetation. Riparian vegetation consists of grasses, sedges, rushes and a variety of woody species. Streams are primarily low gradient and depend on vegetation for stability.



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Resource Settings - continued

These areas are important habitat for a variety of fish and wildlife. Soils vary from gravelly to loamy. Water quality is often a concern for sediment, temperature and nutrients. Moisture for vegetation growth is primarily from high water tables and stream flows.

Forests and Grazed Forests: The riparian forest consists of mixed conifers and deciduous trees. The associated understory is comprised of grasses and brush species with inclusions of wetter areas. Soils are silt loams and clay loams that are shallow to deep, and can have low to high rock fragment content. They range from somewhat poorly to well drained. Average annual precipitation ranges from 20 to more than 60 inches. Riparian grazing units typically exhibit impacts to riparian vegetation and a loss of woody species. Important wildlife species include elk, deer, moose, caribou, Canada lynx, black and grizzly bear, raptors and songbirds.

Ponderosa pine and dryer Douglas fir habitat types are found at elevation ranges from 1,800 to 4,000 feet on a variety of soil types. Annual precipitation is less than 25 inches with hot, dry summers. Slopes are less than 35 percent. The forest understory is dominated by ninebark/oceanspray and associated brush species. Grass and forb species are common. Livestock grazing occurs during the summer and early fall period, and can result in overgrazing. Important wildlife species include elk, deer, moose, bear, raptors and songbirds.

Loss of white pine due to blister rust and cedar due to the lack of replanting and wildlife depredation are an increasing concern. Development is also taking up some of the better pine and cedar growing sites. Shade tolerant species such as grand fir and hemlock are increasing due to the natural pattern of succession being altered by: excluding fire, preferentially harvesting of shade intolerant species such as pines and larch and by introducing exotic plants, insects and diseases, such as white pine blister rust.

Douglas fir, grand fir, and wetter habitat types are found at elevations greater than 4,000 feet on a variety of soil types. Slopes are greater than 35 percent. Annual precipitation is greater than 30 inches, most of which falls in the winter and spring. Summers are warm and relatively dry. The forest understory is dominated by forbs and scattered grass species, with associated brush species such as snowberry, willow and alder. Livestock grazing occurs during the mid-summer and early fall period, and can result in overgrazing. Livestock tend to concentrate along the road corridors and riparian areas. Important wildlife species include caribou, elk, deer, moose, bear, raptors and songbirds.

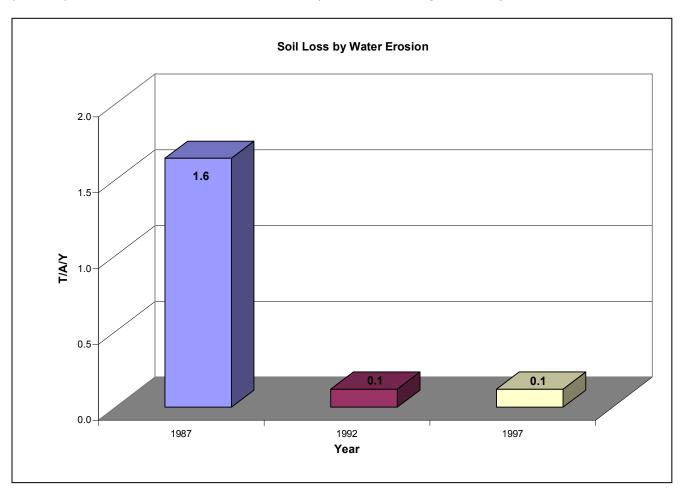


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Resource Concerns

Sheet and rill erosion is not a major issue on cropland in this subbasin. Sheet and rill erosion by water on the subbasin croplands, pasturelands and CRP have been essentially static since 1987. Susceptibility to sheet and rill erosion is low in this subbasin because most of the cropland (primarily grass and hay) is relatively flat. (Data for 1982 appeared to be outside the range of the probable erosion rate and is not included in this report. This was probably due to a data collection or data entry error in the original data.)



No wind erosion data is available for North Idaho.



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Resource Concerns - continued

Water quality concerns within the subbasin were addressed by the completion and approval of two TMDL documents for several water bodies during 2002 and 2003.

From Idaho DEQ's website:

"In 1994 and again in 1996, ten segments within the Priest River basin were classified as water quality limited under §303(d) of the Clean Water Act. All Priest River basin §303(d) listed streams are listed for sediment (except Lower West Branch Priest River, which had no listed pollutants of concern, but sediment is implied). Nutrients are a listed pollutant for Tango Creek, and dissolved oxygen, temperature, and flow alteration are listed for East River. Habitat alteration is listed for Trapper Creek and Two Mouth Creek.

In March 2002, EPA approved sediment TMDLs for two water bodies: Kalispell Creek and Lower West Branch Priest River. Action on other segments was delayed at DEQ's request to allow for further data collection and analysis. An addendum addressing the water bodies for which delays were requested was submitted to EPA for review in February 2003 and approved in June 2003."

Streams and Pollutants for Which TMDLs Were Developed

Original TMDL:

Kalispell Creek Sediment Lower West Branch Priest River Sediment

Addendum:

Reeder Creek Sediment Binarch Creek Sediment

East River Sediment (entire watershed), heat

Middle Fork East River Heat
North Fork East River Heat
Lower Priest River Sediment

Waterbodies currently considered as water quality impaired are listed in the current 305(b) integrated report. These are shown on the table that follows along with the pollutants of concern. Most of the listed waterbodies are impaired by temperature; one creek is listed for pathogens. A five-mile segment of the Upper West Branch of the Priest River is listed, but with no known associated pollutant. Sediment is notably <u>not</u> listed as a pollutant for any waterbody.

Agricultural land uses contribute to water quality impacts. Other pollutant sources include timber harvest activities, stormwater runoff and land development. Flow and habitat alteration problems exist within the watershed. Stream channel and habitat alteration problems exist within the watershed, due to historic field drainage by ditching and diking.

Conservation practices that can be used to address these water quality issues include: erosion control, grazing management, stream habitat improvement, riparian buffers, and use exclusion.



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Resource Concerns - continued

Impacted Water Bodies ^{/9} (ID 17010215)	Stream Miles*	Bacteria	Nutrients	Sediment	Temperature	Dissolved Oxygen	Other or Unknown
Beaver Creek	1.66				X		
Binarch Creek	13.16				X		
Blue Lake							
Chase Lake							
Goose Creek	5.23						X
Granite Creek	13.94				X		
Hunt Lake							
Hughes Fork	63.71				X		
Indian Creek	21.62				X		
Kalispell Creek	12.18				X		X
Kent Lake							
Lamb Creek	27.94				X		X
Lion Creek	32.42				X		X
Lower Priest River	35.96				X		X
Lower West Branch Priest River	22.72				X		
Middle Fork East River	35.41				X		
North Fork East River	2.22						
Priest Lake	48.88						
Reeder Creek	23.27				X		
Soldier Creek	1.78				X		X
Standard Lakes							
Trapper Creek	24.19				X		
Two Mouth Creek	27.77				X		
Two Mouth Lakes							
Upper Priest Lake							
Upper Priest River	47.34				X		
Upper West Branch Priest River	11.78				X		Х
Total Stream Miles:	473.18						

*TMDL has been completed for Priest River Subbasin



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Resource Concerns - continued *Watershed Projects, Plans, Studies and Assessments*

NRCS Watershed Projects / 14,15

Bismark Meadows Wetlands Project (2003)

NWPCC^{/18}

Pend Oreille Subbasin Management Plan. In Intermountain Province Plan (2005)

USFS Watershed Plans, Studies and Assessments/18

Climate of the Priest River experimental forest (1983)

Rare, threatened or endangered plant species inventory (1988)

Establishment record for Binarch Creek Research Natural Area (1989)

Draft, Kalispell environmental impact statement, project proposal and request for comments (1997)

Noxious weed control project, draft environmental impact statement (1996)

Lakeface Lamb fuel reduction environmental impact statement (2000)

Douglas-fir beetle project, effects to Priest Lake subbasin watersheds (2001)

Binarch Creek fish survey (2001)

Other Federal Assessments 128

Miller, F.K. 1982. Preliminary geology map of the Priest Lake Area. US Dept. of the Interior, Geological Survey

US Fish and Wildlife Service / 18

Draft bull trout recovery plan for the Priest River Basin (2000)

IDEQ TMDLs/16

Priest River subbasin assessment and total maximum daily load (2001)

Addendum Priest River subbasin assessment and total maximum daily load (2003)

IDEO TMDL Agricultural Implementation Plans/31

Lower West Branch Priest River TMDL Implementation Plan (2004)

SCC TMDL Agricultural Implementation Plans / 19

Lower West Branch Agricultural Implementation Plan (2006)

IDEQ/Bonner County 319 Projects/17

Bearpaw road sediment yield reduction project (2006).

SCC/SWCD WQPA Projects 10

Lower West Branch Tributaries Watershed Improvement Project (2005)

IASCD/IDEO Projects/10

Priest Lake - Lake*A*syst project (2002)

Other State Assessments 17, 18, 29, 30

Idaho Department of Fish and Game (IDFG) 1957. A survey of the fisheries resources of Priest and Upper Priest Lakes and their tributaries, Idaho. Completion Report.

Idaho Department of Fish and Game (IDFG) 1979. Priest Lake fishery investigation. Completion Report.

DEQ, 1997. Phase 1 diagnostic analysis: Priest Lake - Bonner County, Idaho. Idaho Dept. of Health and Welfare, Div. of Environ. Quality

Idaho Department of Lands (IDL). 1991. Final report, Priest Lake Local Working Committee Plan for TrapperCreek Stream Segment of Concern, Two Mouth Creek Stream Segment of Concern, Upper Priest River StreamSegment of Concern.



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Resource Concerns - continued *Watershed Projects, Plans, Studies and Assessments*

Idaho Department of Lands (IDL). 1997a. Trapper Creek cumulative watershed effects assessment

Idaho Department of Lands (IDL). 1997b. Two Mouth Creek cumulative watershed assessment

Panhandle Bull Trout Technical Advisory Team (TAT). 1998a. Draft - Priest River basin key watershed bulltrout problem assessment.

Western Watershed Analysts 1997. LeClerc Creek Watershed Assessment.

Idaho Department of Fish and Game (IDFG) 2003. Upper Priest Lake lake trout removal and Thorofare strobe light evaluation. Completion Report.

Other State Plans / 18, 29, 30

DEQ (1995). Priest Lake management plan.

Idaho Department of Lands (IDL). 1992. Priest Lake supervisory area - land use plan Idaho Department of Parks and Recreation (IDPR). 1988. Priest Lake State Park - general development plan

Idaho Water Resources Board (IWRB). 1990. Comprehensive state water plan: Priest River basin

Idaho Water Resources Board (IWRB). 1995. Comprehensive state water plan: Priest River basin

Idaho Department of Fish and Game (IDFG) 2001. Part II fisheries management plans by drainage. In fisheries management plan 2001 to 2006.

Bonner County Plans / 18, 30

1989. Priest Lake comprehensive plan, resource element

Kalispel Tribe Natural Resource Department/27

Wildlife information for Pend Oreille and Priest River subbasins, total Albeni Falls Interagency Work Group acquisitions updated for 2003.

Other Studies / 18,30

Irving, D. 1987. Cutthroat abundance, potential yield and interaction with brook trout in Priest Lake Tributaries. Masters Thesis. Univ. of Idaho

McHale, D.P. 1995. Assessment of shoreline hydrogeology as related to wastewater disposal and land use practices at Priest Lake, Bonner County, Idaho. Masters Thesis. Univ. of Idaho

Vernard, J. 2001. Deil and seasonal movement of lake trout, cutthroat trout, and bull trout between Upper Priest Lake and Priest Lake, Idaho. Masters Thesis. Univ. of Idaho

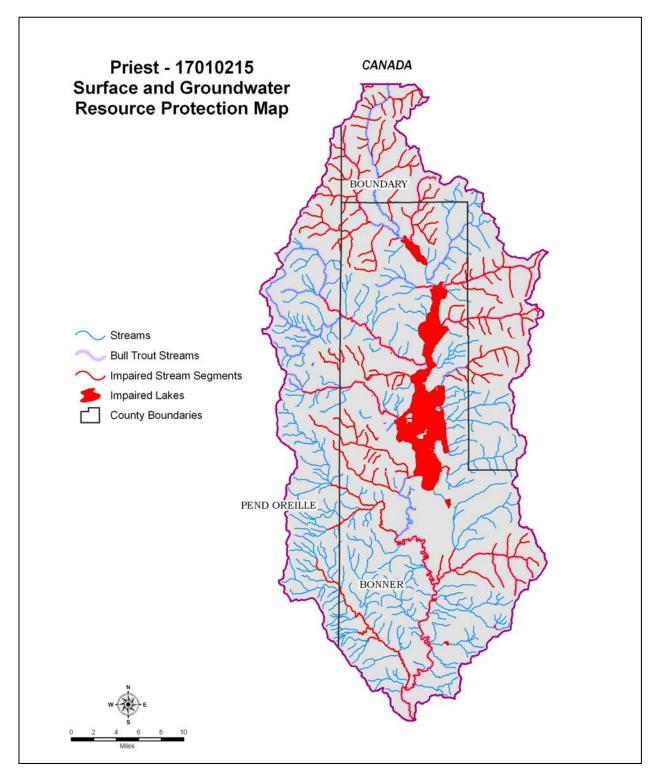


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Resource Concerns – continued

Surface and Groundwater Resource Protection





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Resource Concerns - continued

Resource Concerns/ Issues by Land Use										
SWAPA <u>Soil, Water, Air, Plants,</u> <u>Animals</u>	Specific Resource Concerns/Issues		Hayland	Dry Crops	Surface Irrigated Crops	Sprinkler Irrigated Crops	Rangeland	Grazed or Ungrazed Forest		
	Sheet and rill									
Soil Erosion	Ephemeral or classic gully									
Son Erosion	Wind									
	Streambank	х	x				X	X		
Water Quantity	Inefficient use on irrigated lands									
Water Quality, Surface	Suspended sediment	X	X				X	X		
water quanty, sarrace	Nutrients and organics	X	X				X	X		
Water Quality, Ground	Nutrients and organics									
Water Quality, Ground	Pesticides									
Soil Condition	Organic matter depletion									
Son Condition	Compaction	X						X		
	Productivity, health and vigor	X	X				X	X		
Plant Condition	Plants not adapted or suited	X	x				X	X		
. idite condition	Noxious and invasive plants	X	X				X	х		
	Wildfire hazard							X		
Domestic Animals	Inadequate feed or water							X		
Fish and Wildlife	Inadequate water									
1 1511 dila Wilding	Inadequate cover/shelter	X	X				X	X		

Human considerations: Implementation of conservation practices and enhancement has the potential for change in management and cost of production. Installation of practices will have an upfront cost and require maintenance. In the short run increased management may be required as new techniques are learned. Land may be taken out of production for installation of practices or conversion to other uses, such as wildlife habitat. Long term benefits should result from increased soil health, benefits to water quality and wildlife habitat.

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES 11							
Threatened and Endangered Species	Candidate Species						
Mammals - Lynx, Grizzly Bear, Woodland Caribou	Fish - None						
Birds - Bald Eagle	Birds - None						
Fish - Bull Trout	Plants - Linear Leaf Moonwart						
Invertebrates - None	PROPOSED SPECIES None						
Plants - None	11.01 0000 01 00000						
ESSENTIAL FISH HABITAT - None	CRITICAL FISH HABITAT- None						



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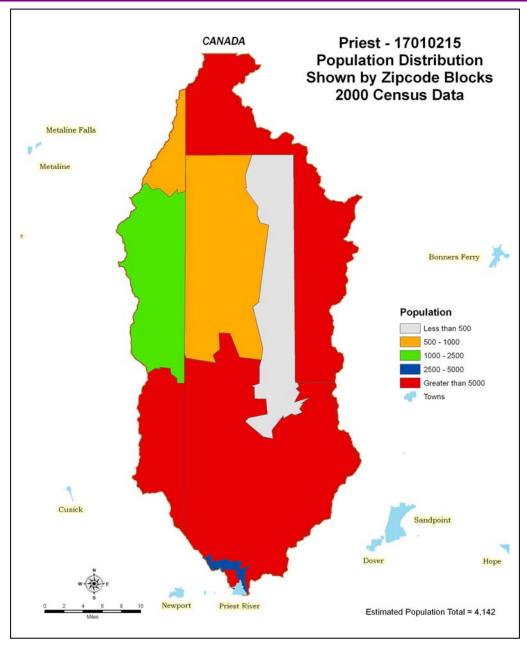
Census and Social Data/26

Population: 4,142

Number of Farms: 105

	0-49 acres	50-999 acres	1000+ acres
Number of Farms	62	41	2

Population distribution shown below is heavily influenced by presence of outlying towns.





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Census and Social Data - continued

Fifty two percent of farm operators are farmers by occupation. The remaining operators have off-farm jobs as their primary occupation. The majority of operators are male but women make up 40% of the total. Ninety-nine percent of all operators are white. Non-white operators are of African American, Hispanic, American Indian and Asian background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 130 acres. Agricultural land in the watershed is a mix of woodland, grass, pasture and hayland. Land users in the watershed have shown little utilization of the EQIP, CRP, Continuous CRP, WHIP and other programs to implement conservation plans. Best management practices are currently being implemented under the Idaho WQPA and 319 programs.

Farm size, market value of production and government payments to farmers are down almost 20% over the past several years. Farm sales range from less than \$1,000 to more than \$500,000 per year. Ninety-six percent of farms reported sales of less than \$50,000 per year.

The Census of Agriculture is authorized under PL 105-113 and uses the definition of a farm as any place from which \$1,000 or more of agricultural products are produced or sold, or normally would have been sold, during the census year.

	Number of farms	Average size farm	Market Value of Production (Average Farm)	Government Payments (Average Farm)
1997	90	160	\$12,600	\$6,600
2002	100	130	\$10,000	\$5,400
Change	11.1%	-18.8%	-20.6%	-18.2%

Economic Profile

	Watershed	Idaho	United States
Population (2000)	4,142		
Per Capita Personal Income (2002)	\$21,800	\$25,476	\$30,906
Median Home Value (2000)	\$123,700	\$106,300	\$119,600
Percent Unemployment (2004)	6.0%	4.7%	5.5%
Percent Below Poverty Level (2003)	13.4%	11.8%	12.5%



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Progress / Status

PRS DATA				
Conservation Treatment Applied	FY04	FY05	FY06	Total
Channel Stabilization (584) (ft)	4			4
Critical Area Planting (342) (ac)		40		40
Fence (382) (ft)		925	875	1,800
Pond (378) (no)	4			4
Upland Wildlife Habitat Management (645) (ac)	100		22	122
Water Well (642) (no)			1	1
Wetland Restoration (657) (ac)	916			916
Wetland Wildlife Habitat Management (644) (ac)	916			916

Progress / Status - continued

Progress in the last three years has been focused on:

- ~ wetlands restoration
- ~ wildlife habitat management

Resource concerns that require ongoing attention:

- ~ erosion control
- ~ nutrient management
- ~ prescribed grazing
- ~ riparian area improvement
- ~ water quality & water quantity

Lands Removed from Production through Farm Bill Programs

• Conservation Reserve Program (CRP): 24.3 acres

• Wetland Restoration Program (WRP): 1,025 acres



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Footnotes/Bibliography

All data is provided "as is". There are no warranties, express or implied, including warranty of fitness for a particular purpose, accompanying this document. Use for general planning purposes only.

- 1. Ownership Layer Source: This spatial data contains surface management land status (sometimes known as "ownership") and Public Land Survey System (PLSS) information for Idaho. The Bureau of Land Management (BLM) in Idaho creates and maintains these spatial data layers. The primary source of the spatial features is the BLM Geographic Coordinate Database (GCDB), which contains official survey records and corresponding geodetic control information maintained by the BLM Cadastral program. In areas where GCDB records are unavailable, the spatial features are taken from a variety of sources including the BLM Idaho Resource Base Data collection, US Geological Survey Digital Line Graphs (DLGs), and US Forest Service Cartographic Feature Files (CFFs), among others. The source of the attribute information is the BLM Master Title Plats (MTPs) and careful cooperation with other government agencies that own or manage land parcels. The layer is available from the Inside Idaho (Interactive Numeric & Spatial Information Data Engine): http://inside.uidaho.edu For current ownership status, consult official records at appropriate federal, state or county offices. Ownership classes grouped to calculate Public Ownership vs. Private Ownership.
- 2. National Land Cover Dataset (NLCD): NLCD 92 (National Land Cover Data 1992) is a 21-category land cover classification scheme that has been applied consistently over the conterminous U.S. It is based primarily on the unsupervised classification of Landsat TM (Thematic Mapper) 1992 imagery. Ancillary data sources included topography, census, agricultural statistics, soil characteristics, other land cover maps, and wetlands data. The NLCD 92 classification is provided as raster data with a spatial resolution of 30 meters. The layer is available from: http://edcwww.cr.usgs.gov/products/landcover/nlcd.html
 Description: Abstract: These data can be used in a geographic information system (GIS) for any number of purposes such as assessing wildlife habitat, water quality, pesticide runoff, land use change, etc. The State data sets are provided with a 300 meter buffer beyond the State border to facilitate combining the State files into larger regions.
- 3. Farm Services Agency, USDA, 2005. CRP acres from GIS (CLU) database.
- 4. ESTIMATES FROM THE 1997 NRI DATABASE (REVISED DECEMBER 2000) REPLACE ALL PREVIOUS REPORTS AND ESTIMATES. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is due to changes in statistical estimation protocols, and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. All definitions are available in the glossary. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: http://www.nrcs.usda.gov/technical/NRI/
- 5. PRISM Climate Mapping Project. Annual precipitation data. See http://www.ocs.orst.edu/prism_new.html for further information.
- 6. Irrigated Adjudicated Water Rights Idaho Department of Water Resources http://www.idwr.idaho.gov/water/srba/mainpage/
- 7. USGS Idaho Streamflows, gaging station data (http://waterdata.usgs.gov/id/nwis/sw/) and estimates for ungaged streams based on statistical data (http://streamstats.usgs.gov/html/idaho.html).
- 8. National Hydrology Dataset (NHD). Developed by the US Geological Survey in cooperation with U.S. Environmental Protection Agency and other state and local partners (http://nhd.usgs.gov).



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- 10. Idaho Soil Conservation Commission (SCC), Water Quality Program for Agriculture (WQPA). http://www.scc.state.id.us/wag.htm
- 11. StreamNet is a cooperative venture of the Pacific Northwest's fish and wildlife agencies and tribes and is administered by the Pacific States Marine Fisheries Commission. Streamnet provided data and data services in support of the region's Fish and Wildlife Program and other efforts to manage and restore the region's aquatic resources. Official Streamnet website: http://www.streamnet.org/
- 12. (Dairy) Idaho Department of Water Resources: http://www.idwr.state.id.us/gisdata/gis_data-new.htm
- 13. (Feedlot) Idaho State Department of Agriculture: http://www.agri.state.id.us/ FOIA request.
- 14. Natural Resource Conservation Service, Watershed Projects Planned and Authorized, http://www.nrcs.usda.gov/programs/watershed
- 15. Natural Resource Conservation Service, Watershed Plans, Studies and Assessments completed, http://www.nrcs.usda.gov/programs/watershed/Surveys Plng.html#Watershed%20Surveys% 20and%20Plan
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 http://www.deq.state.id.us/water/data reports/surfacewater.nps/reports/cfm
- 18. Subbasin assessments and plans are developed by local groups (SWCDs, Watershed Councils, Tribes and others) as part of the Northwest Power and Conservation Council's fish and wildlife program in the Columbia River Basin. This program is funded and implemented by the Bonneville Power Administration.

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- 19. Idaho Soil Conservation Commission (SCC), TMDL watershed implementation plans: agricultural component http://www.deq.state.id.us/water/data reports/surface water/nps/reports.cfmponent. http://www.scc.state.id.us/PDF/Ag%Component%20Status%20Report%20-%202004.pdf
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- 24. Nitrate Priority Areas. IDEQ has developed a list of degraded ground water areas. This list focuses on nitrate and ranks the top 25 nitrate-degraded areas (referred to as "nitrate priority areas") in the state based on the severity of the degradation, the population affected, and the trend; the rank of "1" indicates the most severely impacted area in the state. http://www.deg.state.id.us/water/prog issues/ground water/nitrate.cfm#ranking
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- 30. Idaho Fish and Game Department (IDFG). 2001. "Part II fisheries management plans by drainage". In fisheries management plan 2001 to 2006.
- 31. Rothrock, Glen C. 2004. Draft Lower West Branch Priest River total maximum daily load implementation plan.



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Future Conservation Needs

The following Tables are an estimate of the future needs of conservation practices in the watershed.

Estimates of future needs in the watershed are based on the following factors:

- 1. Estimates of total conservation needs based on benchmark conditions in the watershed
- 2. Present level of conservation installation reported in the NRCS web based reporting system
- 3. Local knowledge of the area, past and ongoing project activities and professional judgement
- 4. Practices previously installed which have exceeded their expected life (life span), are no longer accomplishing the conservation objective, and may need to be replaced or upgraded



Priest - 17010215

8 Digit Hydrologic Unit

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Conservation Activities for Grass/Pasture/Hayland*

*The following Current Conditions Tables have been developed to estimate the present level of conservation installed within the HUC, based on what has been reported in the PRMS and PRS Reporting system for the Years 2004 through 2006.

Current Conditions	Total Ad	Riparian Acres
Total Private Grass/Pasture/Hay	10,	150 220
Typical Management Unit/Ownership		130
Current Farm Bill Participation		2%

Current Level of Treatment for Grass/Pasture/Hay:												
Grass/Pasture/Hay	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Grass/Pasture/Hay	Ac.	10,150			-2	+1	+1	+1				
Channel Stabilization (584)	Ft.	4	\$0	\$0								X
Critical Area Planting (342)	Ac.	40	\$0	\$570								X
Fence (382)	Ft.	1,800	\$0	\$70								X
Pond (378)	No.	4	\$0	\$240								X
Upland Wildlife Habitat Management (645)	Ac.	122	\$0	\$610								x
Water Well (642)	No.	1	\$0	\$80								X
Wetland Restoration (657)	Ac.	916	\$0	\$45,800								X
Wetland Wildlife Habitat Management (644)	Ac.	916	\$0	\$4,580								x
Total RMS Costs			\$0	\$51,950								



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Conservation Activities for Grass/Pasture/Hayland*-continued

Future Conditions	Grass/Pa	asture/Hay	Riparian Acres	Total Acres								
Total Private Grass, Pasture, Hay		9,930	220	10,150								
Future Level of Treatment for Private	Crace/Pactu	uro /Hav										
ruture Level of Treatment for Private		ле/пау	Cont	-		Effects			Tue		ntation	
	Quantity		Cost	Annual O&M		Effects				•	ntation	1
Practices	Unit	Quantity	Investment Cost	and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Private Grass/Pasture/Hay	Ac.	9,930			+3	+2	+3	+3				
Critical Area Planting (342)	Ac.	993	\$452,700	\$14,150					X			Х
Fence (382)	Ft.	163,845	\$324,100	\$6,480					X	X		X
Nutrient Management (590)	Ac.	7,448	\$111,700	\$37,240					X			Х
Pasture and Hayland Planting (512)	Ac.	3,972	\$397,200	\$3,970					X			X
Pest Management (595)	Ac.	8,937	\$268,100	\$89,370					X			X
Pipeline (516)	Ft.	20,481	\$55,300	\$1,110					X			X
Pond (378)	No.	4	\$0	\$240					X	X		X
Prescribed Grazing (528)	Ac.	8,937	\$134,100	\$44,690					X			X
Pumping Plant (533)	No.	31	\$107,000	\$2,140					X			X
Spring Development (574)	No.	16	\$37,600	\$1,880					Х	Х		X
Tree/Shrub Establishment (612)	Ac.	497	\$223,700	\$2,240					X			X
Upland Wildlife Habitat Mgmt (645)	Ac.	1,986	\$28,000	\$9,320					Х	Х		X
Watering Facility (614)	No.	62	\$93,000	\$930					X			X
Water Well (642)	No.	8	\$56,000	\$560					X			X
Total RMS Costs			\$2,288,500	\$214,320								



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8 Digit Hydrologic Unit

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Conservation Activities for Grass/Pasture/Hayland*-continued

Future Level of Treatment for Private (Grass/Pastu	re/Hay										
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Private Riparian Grass/Pasture/Hay	Ac.	220			+3	+1	+3	+3				
Animal Trails and Walkways (575)	Ft.	1,815	\$9,100	\$910					X			X
Channel Bank Vegetation (322)	Ac.	11	\$55,000	\$1,100					X			X
Channel Stabilization (584)	Ft.	261	\$5,100	\$30					X			X
Fence (382)	Ft.	3,630	\$7,300	\$150					X	X		X
Heavy Use Protection Area (561)	Ac.	1	\$15,000	\$750					X			X
Pest Management (595)	Ac.	198	\$5,900	\$1,980					X			X
Prescribed Grazing (528)	Ac.	198	\$3,000	\$990					X			X
Riparian Forest Buffer (391)	Ac.	11	\$16,500	\$170					X			X
Riparian Herbaceous Cover (390)	Ac.	11	\$3,300	\$30					X	X		X
Stream Habitat Improvement (395)	Ac.	2	\$35,800	\$720					X			X
Streambank/Shoreline Prot. (580)	Ft.	261	\$11,700	\$2,350					X			X
Tree/Shrub Establishment (612)	Ac.	11	\$5,000	\$50					X			X
Use Exclusion (472)	Ac.	11	\$400	\$10					X	X		X
Wetland Restoration (657)	Ac.	11	\$0	\$550					X			X
Wetland Wildlife Management (645)	Ac.	22	\$0	\$110					X			X
Total RMS Costs			\$173,100	\$9,900								



Idaho 8 Digit Hydrologic Unit

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Conservation Activities for Grass/Pasture/Hayland*-continued

Potential RMS Effects for Grass/Pasture/Hayland		
Cost Items and Programs	Costs O&M Cost	ts
Non Farm Bill Programs	\$615,400 \$5	56,100
Potential Farm Bill Programs	\$1,846,200 \$16	58,100
Operator O&M and Management Cost	\$22	24,200
Annual Management Incentives (3yrs - Incentive Payments)	\$550,800	
Operator Investment	\$939,300	
Federal Costshare	\$971,500	
Total RMS Costs	\$2,461,600 \$224	4,200
Estimated Level of Participation		75%
Total Acres in RMS System		7600
Anticipated Cost at Estimated Level of Participation	\$1,84	16,200
Total Annual Forage Production Benefits (animal unit months)		1,028
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		



Priest - 17010215

8 Digit Hydrologic Unit

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Conservation Activities for Forestland*

Current Conditions	Grazed	Ungrazed	Total Acres
Total Private Forestland	3,570	37,290	40,860
Typical Forest Management Unit	120		
Current Farm Bill Participation	<1%		

Current Level of Treatment for Private Fo	restland											
Private Forestland		Quantity	Со	sts		Effects			Ir	nplem	entati	on
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Private Forestland	Ac.	40,860			-1	<u> </u>	-2	-2				
Critical Area Planting (342)	Ac.		\$0	\$0					X			X
Fence (382)	Ft.		\$0	\$0					X	X		X
Fire Break (394)	Ft.		\$0	\$0					X			X
Forest Site Prep (490)	Ac.		\$0	\$0					X			X
Forest Stand Improvement (666)	Ac.		\$0	\$0					X			X
Tree/Shrub Establishment (612)	Ac.		\$0	\$0					X	X		X
Upland Wildlife Habitat Mgmt (645)	Ac.		\$0	\$0					X	X		X
Use Exclusion (472)	Ac.		\$0	\$0					X			X
Watering Facility (614)	No.		\$0	\$0					X			X
Total RMS Costs			\$0	\$0								



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Future Conditions	Grazed	Ungrazed	Riparian Acres	Total Acre	S							
Total Private Forestland	3,570	36,200	1,090	40,860								
Future Level of Treatment for Private F	restlands											
Private Forestland		Quantity	Cos	sts		Effects			Ir	nplem	entatio	on
Dungking	l lmit	O a mbib	Investment	Annual O&M and	Water	Water	llahitat	wo	EQIP	WHIP	CREP	Other
Practices	Unit	,	Cost	Mngt.Cost	Conservation	Storage	Habitat	WQ				
Grazed Private Forestland	Ac.	3,570	#41.000	#C 200	+2	+2	+3	+3				V
Access Road 560)	Ft.	2,789	\$41,800	\$6,280					X			X
Animal Trails/Walkways (575)	Ft.	1,395	\$7,000	\$700 ¢510					X			X
Critical Area Planting (342)	Ac.	36	\$17,100	\$510					X	V		X
Fence (382)	Ft.	14,726	\$29,500	\$590 \$3,150					X	X		X
Fire Break (394)	Ft.	5,578	\$10,800	\$2,150					X			
Forest Site Prep (490)	Ac.	357	\$89,300	\$0					X			X
Forest Slash Treatment (384)	Ac.	107	\$26,800	\$0					X			X
Forest Stand Improvement (666)	Ac.	357	\$125,000	\$3,750					X			X
Forest Trail/Landings (655)	Ac.	36	\$15,800	\$2,380					X			X
Nutrient Management (590)	Ac.	3,213	\$48,200	\$16,070					X			X
Pest Management (595)	Ac.	3,213	\$96,400	\$32,130					X			X
Pipeline (516)	Ft.	7,363	\$19,900	\$400					X			X
Pond (378)	No.	2	\$12,000	\$120					X	Х		X
Prescribed Forestry (409)	Ac.	107	\$1,600	\$540					X			X
Prescribed Grazing (528)	Ac.	1,428	\$21,400	\$7,140					X			Х
Silvo-Pasture Establishment (381)	Ac.	357	\$35,700	\$360					X			Х
Spring Development (574)	No.	6	\$14,100	\$710					X	X		Х
Tree/Shrub Establishment (612)	Ac.	179	\$80,600	\$810					X			X
Upland Wildlife Habitat Mgmt (645)	Ac.	714	\$10,700	\$3,570					X	X		X
Use Exclusion (472)	Ac.	179	\$6,300	\$190					X		\longmapsto	Х
Watering Facility (614)	No.	6	\$9,000	\$270					X			X
Total RMS Costs			\$719,000	\$78,670								



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Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Ungrazed Private Forestland	Ac.	36,200		-	+2	+2	+3	+3				
Access Road 560)	Ft.	28,281	\$424,200	\$63,630					X			X
Critical Area Planting (342)	Ac.	362	\$172,000	\$5,160					X			X
Fire Break (394)	Ft.	56,563	\$109,200	\$21,830					X			X
Forest Site Prep (490)	Ac.	3,620	\$905,000	\$0					X			X
Forest Slash Treatment (384)	Ac.	1,086	\$271,500	\$0					X			X
Forest Stand Improvement (666)	Ac.	3,620	\$1,267,000	\$38,010					X			X
Forest Trail/Landings (655)	Ac.	362	\$159,300	\$51,590					X			X
Nutrient Management (590)	Ac.	32,580	\$488,700	\$162,900					X			X
Pest Management (595)	Ac.	32,580	\$977,400	\$325,800					X			X
Prescribed Forestry (409)	Ac.	1,086	\$16,300	\$5,430					X			X
Tree/Shrub Establishment (612)	Ac.	1,810	\$814,500	\$8,150					X			Х
Upland Wildlife Habitat Mgmt (645)	Ac.	7,240	\$108,600	\$36,200					X	X		X
Total RMS Costs			\$5,713,700	\$718,700								



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Current Level of Treatment for Riparian	Fores	t / Private										
Riparian Forest / Private		Quantity	Co	sts		Effects			In	nplem	entatio	on
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	σίδα	WHIP	CREP	Other
Riparian Forest / Private	Ac.	1,090	\$0	\$0	-1	<u>+</u>	-2	-2				
Critical Area Planting (342)	Ac.		\$0	\$0					X			X
Fence (382)	Ft.		\$0	\$0					X	X		X
Use Exclusion (472)	Ac.		\$0	\$0					X			X
Total RMS Costs			\$0	\$0								



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Future Level of Treatment for Riparian For	est / Pr	ivate										
Riparian Forest / Private		Quantity	Cos	sts		Effects			Ir	nplem	entatio	on
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt.Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Riparian Forest / Private	Ac.	1,090			+2	+2	+3	+3				
Animal Trails/Walkways (575)	Ft.	8,993	\$45,000	\$4,500					X			X
Critical Area Planting (342)	Ac.	11	\$5,200	\$160					X	X		X
Fence (382)	Ft.	17,985	\$36,000	\$720					X	X		X
Prescribed Grazing (528)	Ac.	981	\$14,700	\$4,910					X			X
Riparian Forest Buffer (391)	Ac.	11	\$16,500	\$170					X			X
Streambank/Shoreline Prot. (580)	Ft.	1,881	\$84,600	\$1,690					X			X
Stream Habitat Improvement (395)	Ac.	11	\$196,900	\$3,940					X			X
Tree/Shrub Establishment (612)	Ac.	55	\$24,800	\$250					X	X		X
Use Exclusion (472)	Ac.	55	\$1,900	\$60					X			X
Total RMS Costs			\$425,600	\$16,400								



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Potential RMS Effects for Forestland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	\$1,714,600	\$203,400
Potential Farm Bill Programs	\$5,143,700	\$610,400
Operator O&M and Management Cost		\$813,800
Annual Management Incentives (3yrs - Incentive Payments)	\$1,784,000	
Operator Investment	\$2,554,500	
Federal Costshare	\$2,519,800	
Total RMS Costs	\$ 7,391,700	\$813,800
Estimated Level of Participation		75%
Total Acres in RMS System		5,143,700
Anticipated Cost at Estimated Level of Participation		\$ 5,543,775
Total Annual Forage ProductionBenefits (animal unit months)		271
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered and threated species		