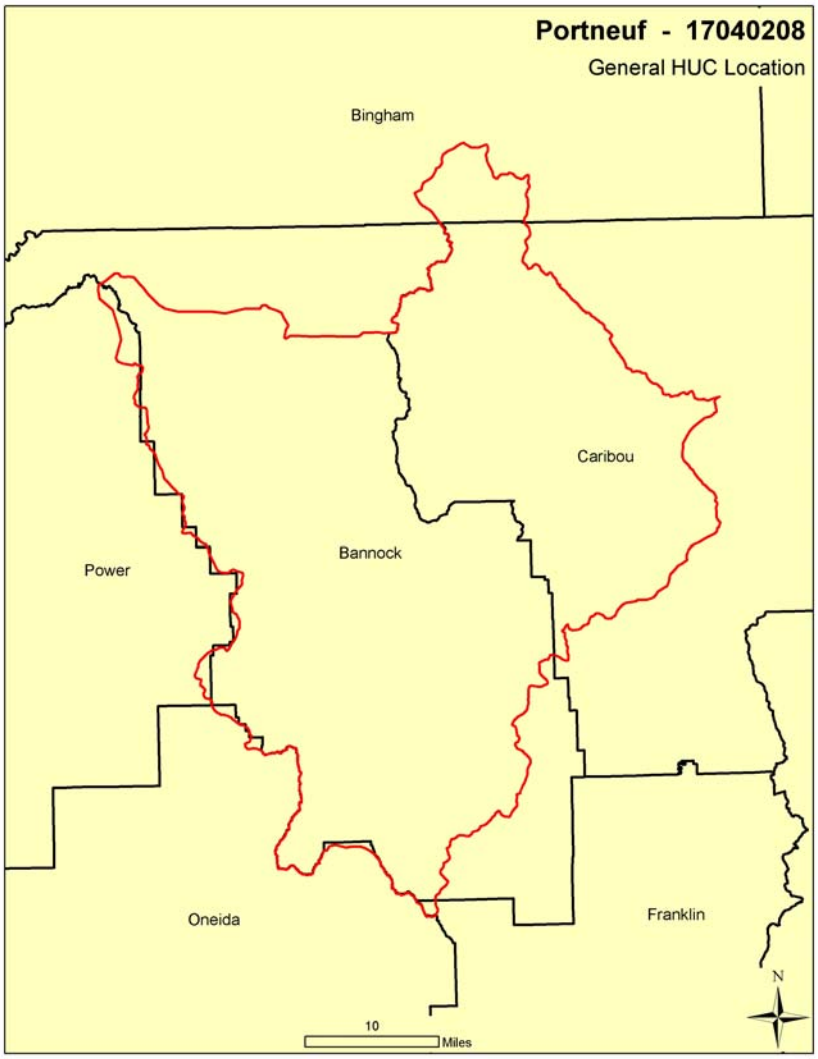
NRCS Natural Resources Conservation Service

Portneuf – 17040208

Idaho | 8 Digit Hydrologic Unit Profile | August 2007



Introduction

The Portneuf 8-Digit Hydrologic Unit Code (HUC) subbasin contains 849,110 acres. Sixty three percent of the subbasin is in Bannock County, 33 percent in Caribou County, 2.5 percent in Bingham County and the remaining 1.5 percent is split between Power, Oneida and Franklin Counties. Fifty eight percent of the basin is privately owned, 7 percent is under tribal ownership and 35 percent is publicly owned.

Seventy percent of the basin is in shrubland, rangeland, grass, pasture, or hayland. Twenty six percent is cropland (including CRP), and the remainder is forest, water, wetlands, developed or barren.

Elevations range from 4,350 feet in the northwestern portion of the HUC to over 9,260 feet in the north central portion of the HUC.

Conservation assistance is provided by 3 Soil Conservation Districts, 3 Soil and Water Conservation Districts, 1 Natural Resource Conservation District and 3 Resource Conservation and Development (RC&D) offices.

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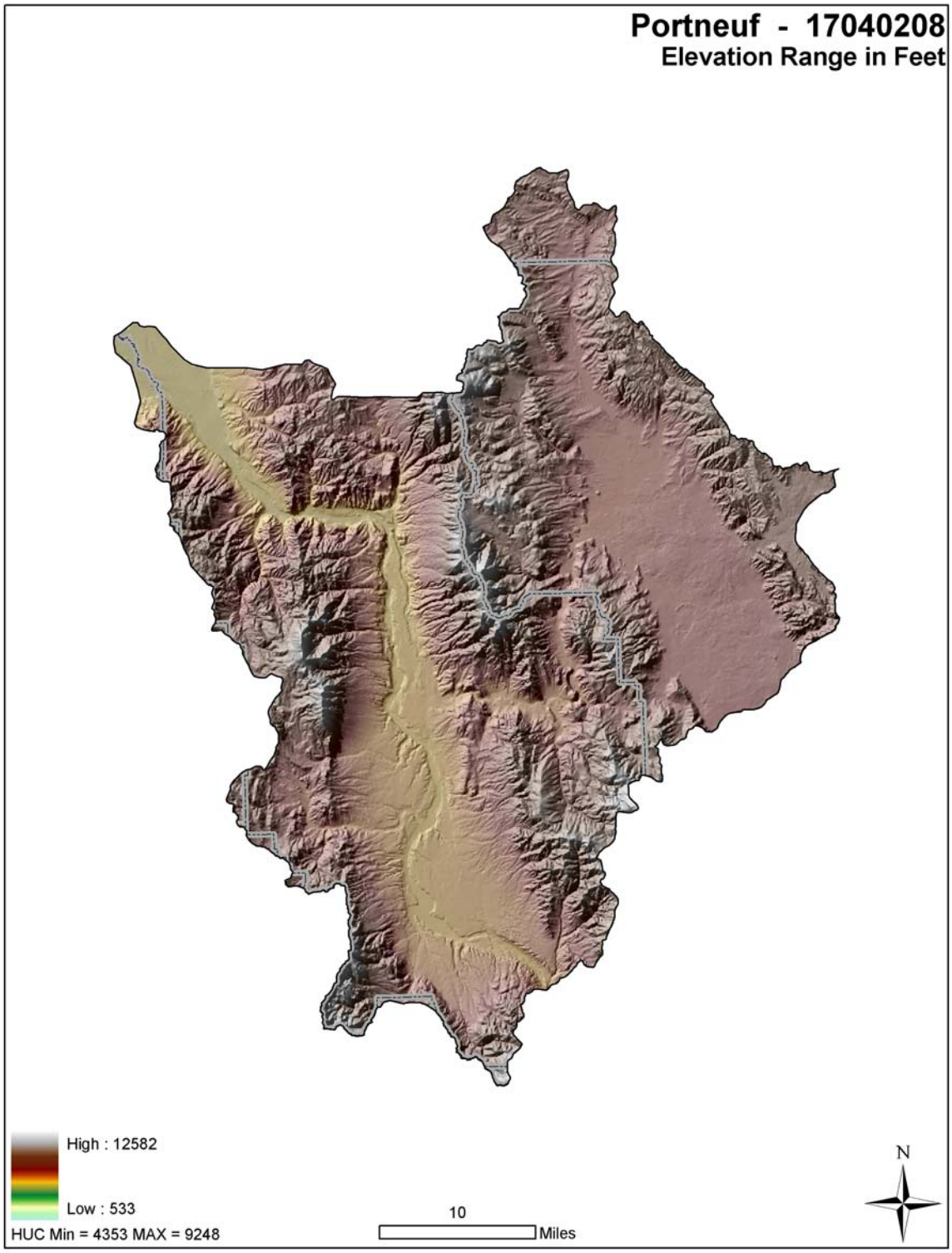
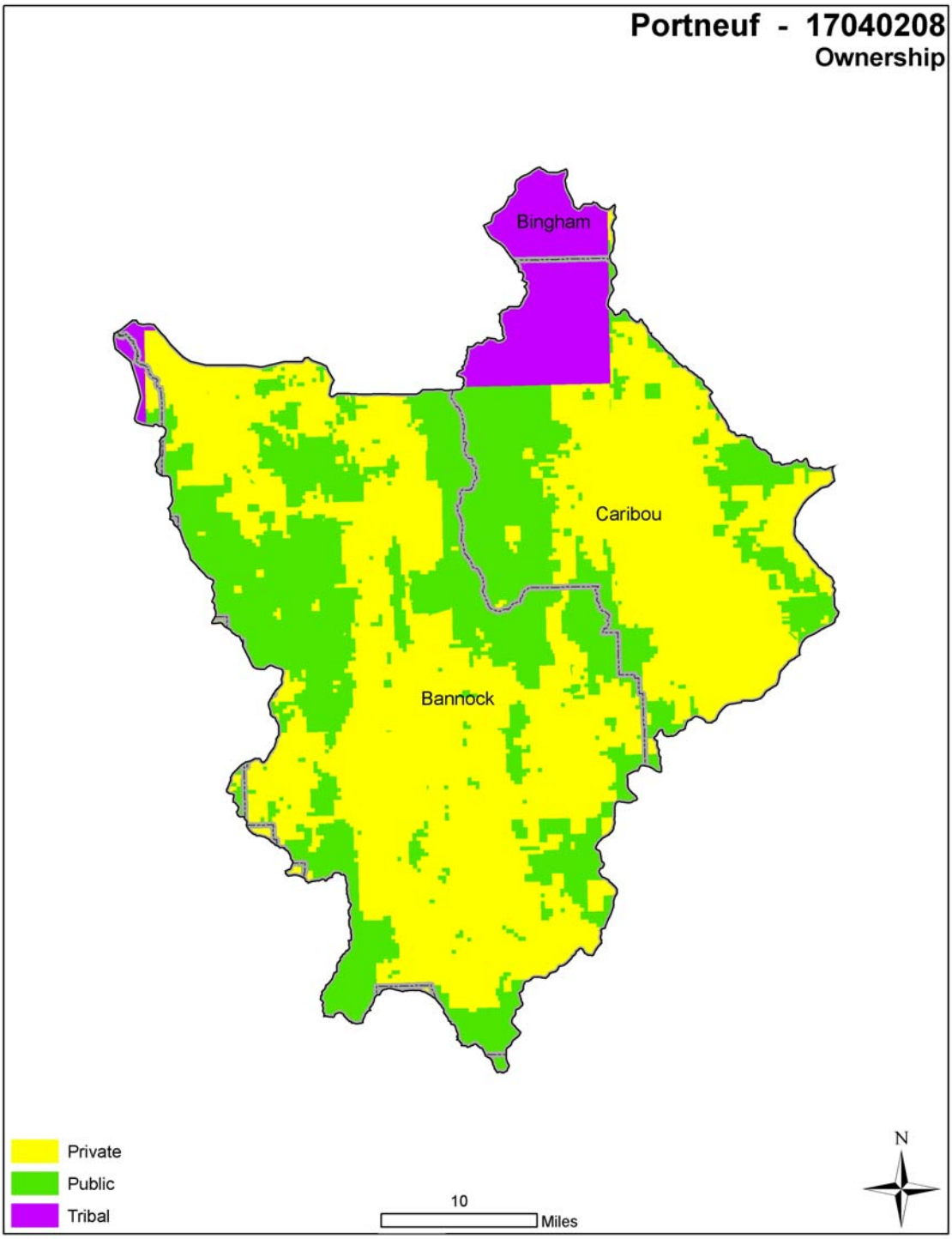
Relief Map


Portneuf - 17040208
Elevation Range in Feet
High : 12582
Low : 533
HUC Min = 4353 MAX = 9248
10
Miles
N

General Ownership[/1]



Physical Description

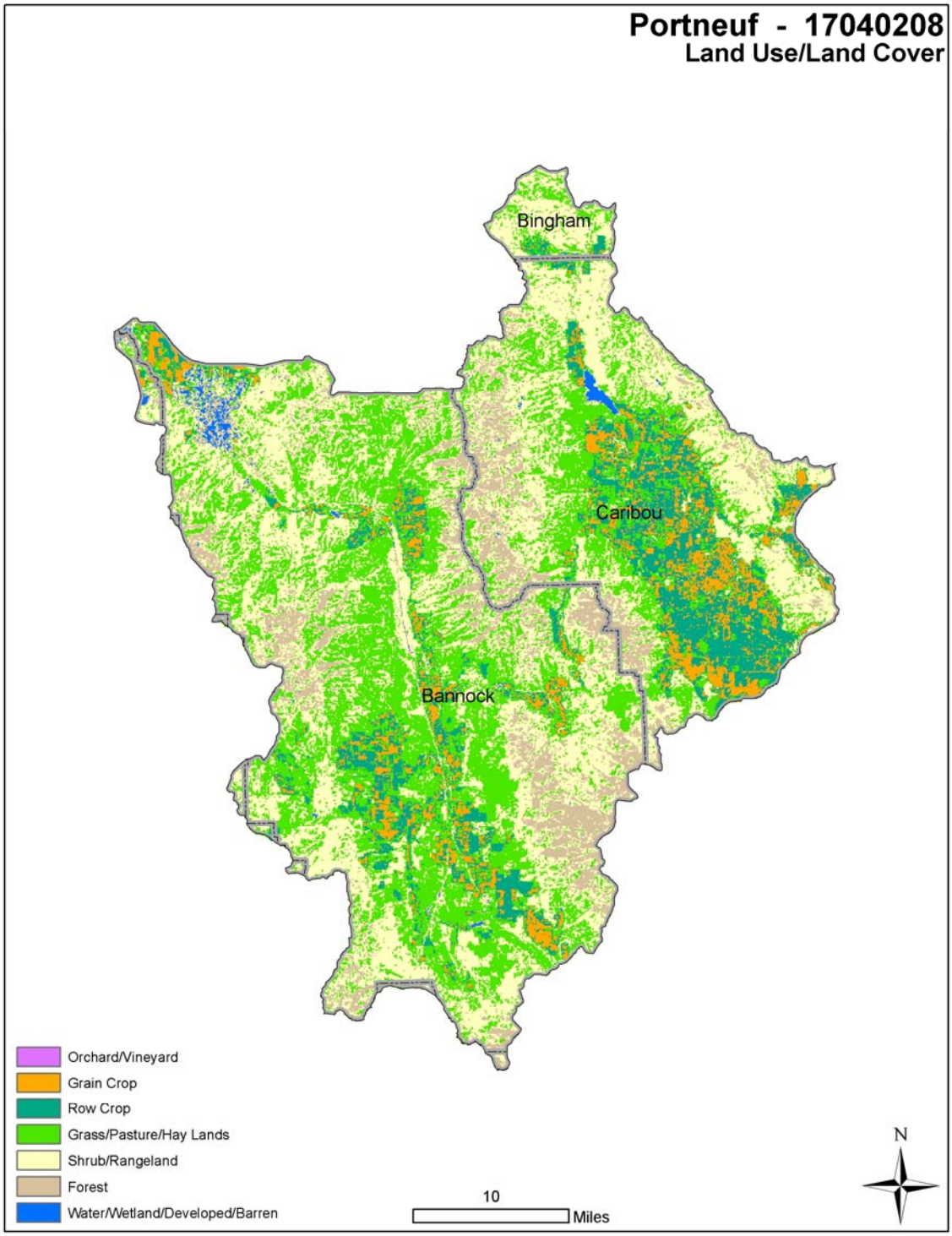
Land Cover / Land Use (NLCD[2])	Ownership - (2003 Draft BLM Surface Map Set[1])							
	Public		Private		Tribal		Totals	% of HUC
	Acres	%	Acres	%		%		
Forest	79,730	75%	22,930	22%	3,570	3%	106,230	13
Grain Crops	-		59,920	97%	1,800	3%	61,720	7
Conservation Reserve Program (CRP) Land[3]	-		88,840	98%	1,370	2%	90,210	11
Grass/Pasture/Hay Lands	62,070	37%	91,420	55%	12,930	8%	166,420	19
Orchards/Vineyards/Berries	-		-		-		-	-
Row Crops	-		56,530	96%	2,370	4%	58,900	7
Shrub/Rangelands	152,430	44%	154,520	45%	39,570	11%	346,520	41
Water/Wetlands/ Developed/Barren	2,330	12%	14,680	77%	2.100	11%	19,110	2
Idaho HUC Totals	**296,560**	**35%**	**488,840**	**58%**	**63,710**	**7%**	**849,110**	**100**

Irrigated Lands[4]	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	38,100	55.8	4.5
	Non-Cultivated Cropland *	8,800	12.9	1.0
	Pastureland	21,400	31.3	2.5
	Total Irrigated Lands	**68,300**	**100.0**	**8.0**

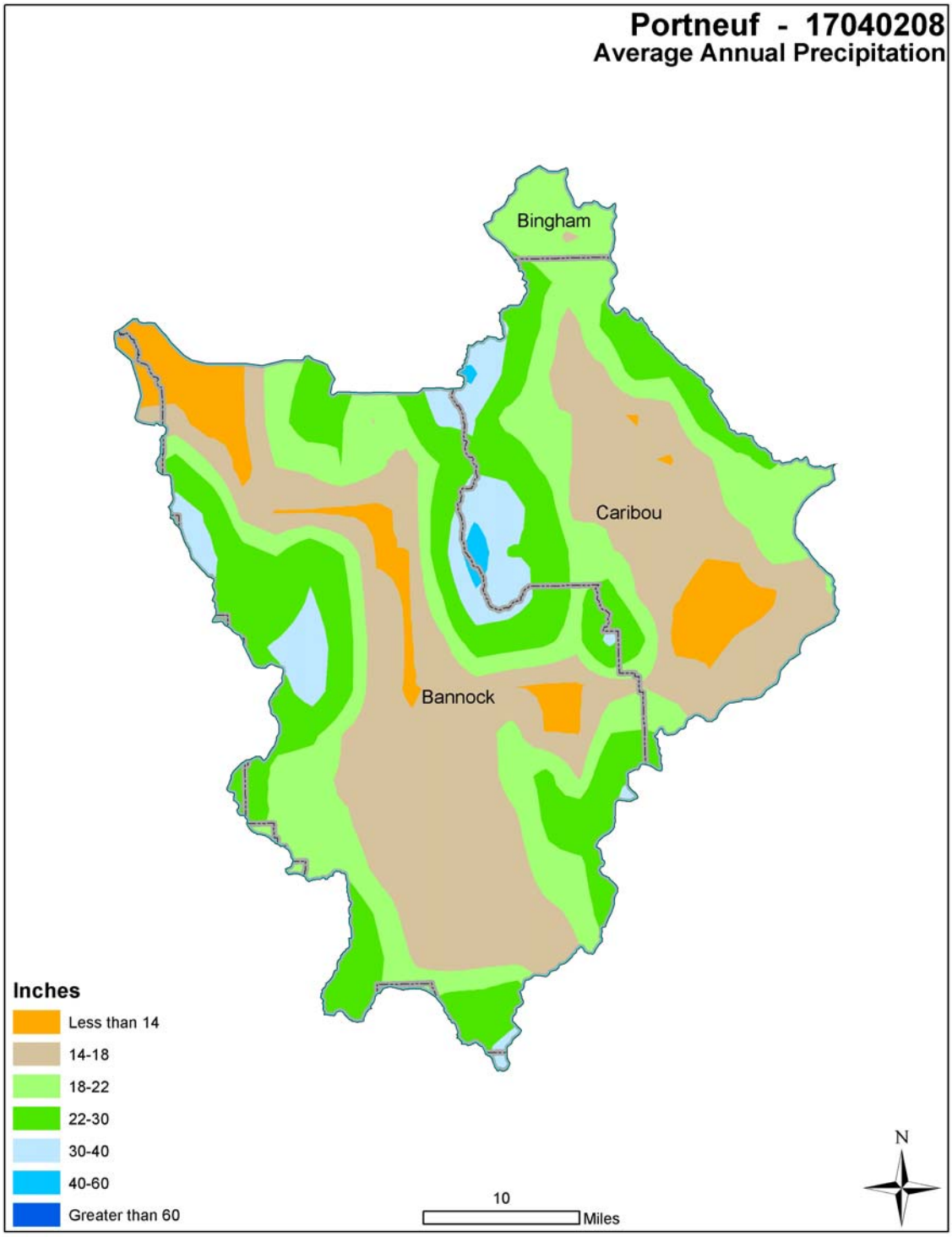
* Includes permanent hayland and horticultural cropland.

Any differences between the acres in the above Table and the Future Conservation Needs Tables in the back of this document is due to the differences in Land Cover acres as opposed to Land Use acres. However the Total Private acres do balance between the Land Use and Land Cover acres.

Land Use / Land Cover[/2]

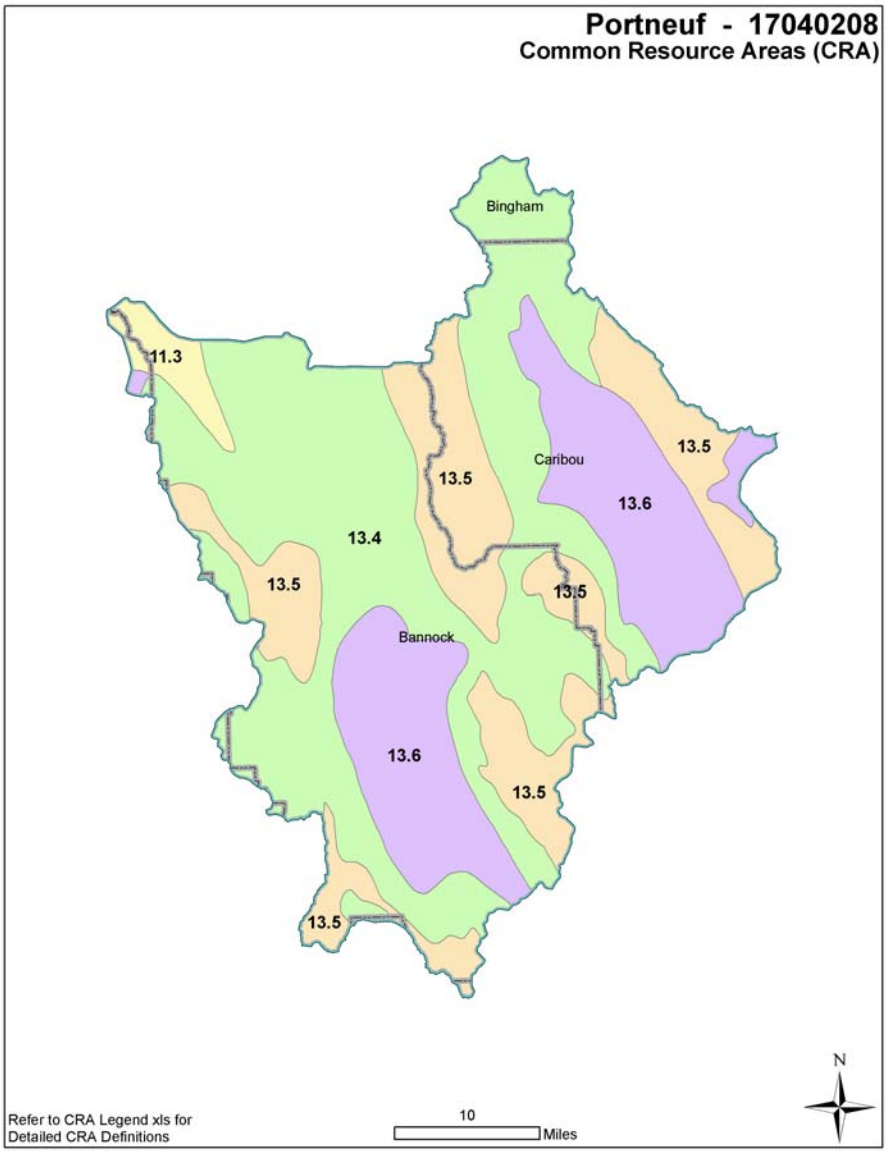


Average Annual Precipitation[/5]



Common Resource Area Map

The Common Resource Areas (CRA) delineated below for the Portneuf HUC are described in the next section (for additional information, see http://www.id.nrcs.usda.gov/technical/soils/common_res_areas.html). A 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).



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 land use/land cover, 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 MLRA framework.

11.3 Snake River Plains - Upper Snake River Plain: - The nearly level unit is characterized by cropland, pastureland, cities, suburbs, and industries. Extensive surface irrigated small grain, sugar beet, potato, and alfalfa farming occurs. Frost-free season is shorter and crop variety is less than downstream CRA units. Aquatic resources have been degraded by irrigation diversions, channelization, dams, sewage treatment, nonpoint pollution, food processing, and phosphate processing.

13.4 Eastern Idaho Plateaus – Sagebrush Steppe- and Woodland-Covered Hills and Low Mountains: This unit occupies an elevational band between the higher mountains and the lower inter-montane valleys. Potential natural vegetation is mostly sagebrush steppe. Cool season grasses are more common than in the adjacent, drier units. Juniper woodland vegetative sites occur on shallow rock soils. Land use is primarily livestock grazing.

13.5 Eastern Idaho Plateaus – High Elevation Forests and Shrublands: This unit is mountainous and occupies the elevational band above Sagebrush Steppe Valleys and Woodland-Covered Hills and Low Mountains CRA units. It is characterized by a mix of conifers, mountain brush, and sagebrush grassland. North-facing slopes and many flatter areas support open stands of Douglas-fir, aspen and lodgepole pine. Winters are colder and the Mean annual precipitation is higher than in lower elevational units.

13.6 Eastern Idaho Plateaus - Sagebrush Steppe Valleys: This valley unit is flanked by hills and mountains. It is dominated by sagebrush grassland and lacks woodlands, open conifer forest, and the saltbush-greasewood vegetation. Perennial bunchgrasses are more abundant than in the Sagebrush Basins and Slopes in Utah. Valleys mostly drain to the Snake River and fish assemblages are unlike those of the internally-drained basins to the south (MLRA 28A). Grazing is the dominant land use but non-irrigated wheat and barley farming is much more common than in MLRA 28A. This unit is less suitable for cropland and has less available water than many parts of the Snake River Plain (MLRA 11).

Streamflow Summary[7]

Four active USGS stream gaging stations provide the main source of streamflow data for different areas of the Portneuf watershed (Figure 1.). Average annual flow at the lower end of the watershed (Station 13075910, Portneuf River at Tyhee, ID, 1985 - 2006) is 308,400 acre-feet for a drainage area of 1,324 square miles. Six miles upstream where the drainage area is 1,250 square miles (Station 13075500, Portneuf River at Pocatello, ID, 1897 - 2006), the average annual runoff is 199,500 acre-feet. However, many diversions from the river upstream of the Pocatello gage are used to irrigate about 40,000 acres, and irrigation return flows reenter the river at points between the two gaging stations. These delayed return flows account for different seasonal flow regimes between the two stations. Additionally, some regulation of actual flow in the river occurs due to operations in Chesterfield Reservoir (capacity 23,695 acre-feet) and Twenty-Four Mile Reservoir on Twenty-Four Mile Creek (capacity 685 acre-feet), both upstream of Pocatello. The October through February flow at Tyhee accounts for 46% of the annual flow, while the March-June period accounts for 40% of the annual flow. At the Pocatello gage, six miles above the Tyhee gage, the October through February flow accounts for 39% of the annual flow, while the March-June period accounts for 51% of the annual flow.

The other two active USGS stream gages are located in the upper portion of the watershed. USGS Station 13073000, Portneuf River at Topaz, ID, about 39 river miles upstream of the Pocatello gage, drains 570 square miles of the east and northeast part of the basin and yields an average annual runoff of 141,700 acre-feet with 46% of the total occurring during the main March through June snowmelt period (1897 – 2006 data). Some regulation of actual flow in the river at this gage also occurs due to operations in Chesterfield and Twenty-Four Mile Reservoirs. Marsh Creek near McCammon (USGS Station 13075000) is the major tributary to the Portneuf River and drains 353 square miles of the southern part of the watershed. Marsh Creek joins the Portneuf River about halfway between the Topaz and Pocatello stations near the town of Inkom. The average annual flow in Marsh Creek is 59,900 acre-feet, and 41% of the total occurs during the main March through June period (1955 – 2006 data). Diversions from the river above the gage are used to irrigate about 8,500 acres.

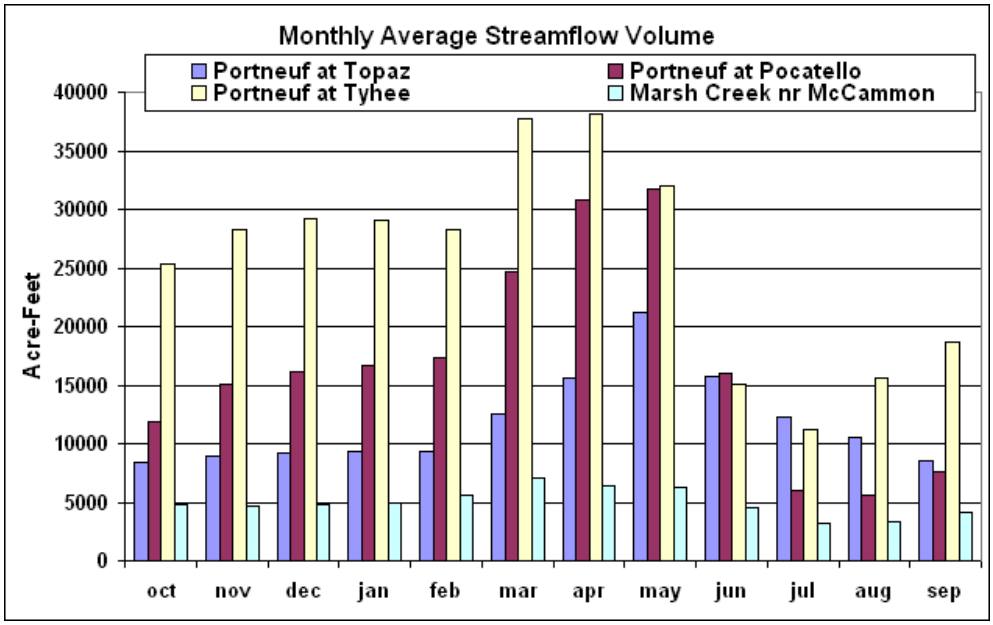


Figure 1. Average Annual Streamflow at Stations in the Portneuf River basin.

Irrigated Adjudicated Water Rights[6])		**CFS**	
	Surface Water	2,243	
	Groundwater	705	
	Total Irrigated Adjudicated Water Rights	2,950	
Stream Flow Data[7]	USGS Station 13075910, Portneuf River at Tyhee, ID, 1985 - 2006.		**ACRE-FEET**
		Average Annual	308,400
		April - July Average	123,000
		Percent of Average Annual	40%
Stream Data **Percent of Total Miles of streams in HUC*		**MILES**	**PERCENT**
	Total Stream Miles[8]	2,699	
	Water quality impaired streams[9,10]	717	27
	Anadramous Fish Presence (Streamnet)[11]	0	
	Bull Trout Presence (Streamnet)[11]	0	
Land Cover / Use[2] based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer		**ACRES**	**PERCENT**
	Forest	8,210	8%
	Grain Crops	8,030	7%
	Grass/Pasture/Hay Lands	42,580	39%
	Row Crops	5,920	5%
	Shrub/Rangelands – Includes CRP Lands	41,800	38%
	Water/Wetlands/Developed/Barren	3,330	3%
	Total Acres of 100 ft stream buffers	**109,870**	100%
Land Capability Class[4]	**I** – slight limitations	0	0
	II – moderate limitations	3,200	1%
	III – severe limitations	197,900	63%
	IV – very severe limitations	83,700	27%
	V – no erosion hazard, but other limitations	12,300	4%
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	9,200	3%
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	6,500	2%
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	0	0
	Total Crop, Pasture Lands & CRP* *37% of HUC	**312,800**	100%

Confined Animal Feeding Operations – Dairies/Feedlots[/12,13, 26]						
	Number	**<200**	**200-500**	**500-750**	**750-1000**	**>1000**
Dairy	14	13	1	0	0	0
	Number	**<300**	**300-999**	**1,000-4,999**	**5,000-9,000**	**>10,000**
Feedlots	255	253	2	0	0	0

Resource Settings

Pasture
Some improved dryland pasture with introduced forage species including wheatgrasses, fescues, bromes, and orchardgrass. The older established stands are of low vigor, with encroachment of noxious weeds. Continuous season-long grazing is typical, with below-optimum forage production. No commercial fertilizers are applied, and pest management practices are limited. Livestock water may be inadequate.

Irrigated pastureland includes both low elevation pastures and those in high elevation mountain valleys. Irrigated pastures are often surface irrigated on variable soils with slopes 1-5%. Irrigation water distributed via earthen ditches, with tailwater eventually returning to rivers or streams. Fields may have been leveled. Irrigation efficiency is 20-35%. Plants are introduced forage species and native perennials, conventionally tilled when rotating pasture (10 years) and grain (2 years). Fertilizers are sometimes applied, but without soil testing or nutrient management. Adjacent riparian areas are important for wildlife.

Dry Cropland
Primarily winter wheat/fallow (precipitation 10-14 inches) or annual spring barley (precipitation 16-22 inches), on silt loams with slopes 0-8%. Dry cropland is often characterized by significant ephemeral gully and concentrated flow erosion as well as sheet and rill erosion. Conventional tillage results in less than 15% residue after planting. Application of nutrients and pesticides typically does not meet Idaho NRCS standards.

Surface Irrigated Cropland
Conventionally tilled, often intensively cultivated cropland on 0-7% slopes. Precipitation is 12 inches or less. Soils are typically sandy loams, silt loams, and loams, and may have been extensively land-leveled in the past. Most irrigation is by siphon tube or gated pipe, but there is also some border irrigation. Typical rotations include silage corn, small grains, and alfalfa, although annual grain is also common. Irrigation-induced erosion exceeds the threshold. Wind erosion is a resource problem following low residue row crops. Surface roughening and cover crops are often utilized to reduce wind erosion problems. Nutrient, pest, and/or irrigation water management may be less than desirable. Impacted surface and/or ground water quality is common.

Sprinkler Irrigated Cropland
Conventionally tilled cropland on soils ranging from sands to loams. Rotations containing less than 66% high residue crops can lead to wind erosion problems. Wind erosion is typically a problem from March to June, creating air quality and visibility hazards in some portions of the subbasin. Various combinations of small grains, alfalfa, beets, corn, potatoes, beans and barley are grown. Potatoes with one or two years of spring grain is a typical rotation on slopes ranging from 0-8%.

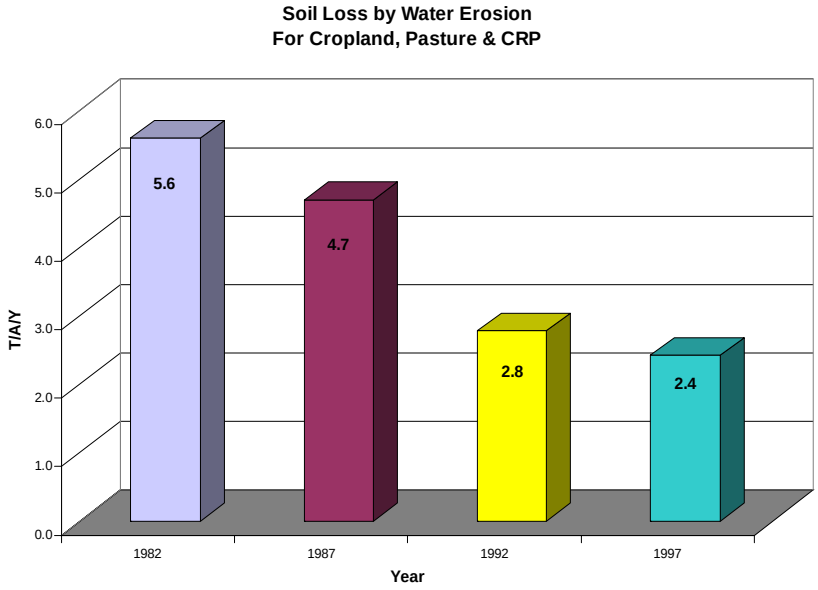
Resource Settings – continued

These rotations may have sheet and rill and ephemeral gully erosion problems in the spring following potatoes. Sprinkler-irrigation induced erosion may also be a concern, especially on steeper slopes. Nutrient and pest management may be less than desirable. Irrigation water management and maintenance of sprinkler systems may be less than desirable. Wildlife habitat is often inadequate with limited permanent cover.

Hayland
Conventionally tilled, surface and sprinkler irrigated on 0-7% slopes. Irrigation water is normally plentiful. Small grains and alfalfa are grown in rotation, with alfalfa typically maintained for 4-6 years. Grazing of crop aftermath is common. Nutrient, pest or irrigation water management may be less than desirable.

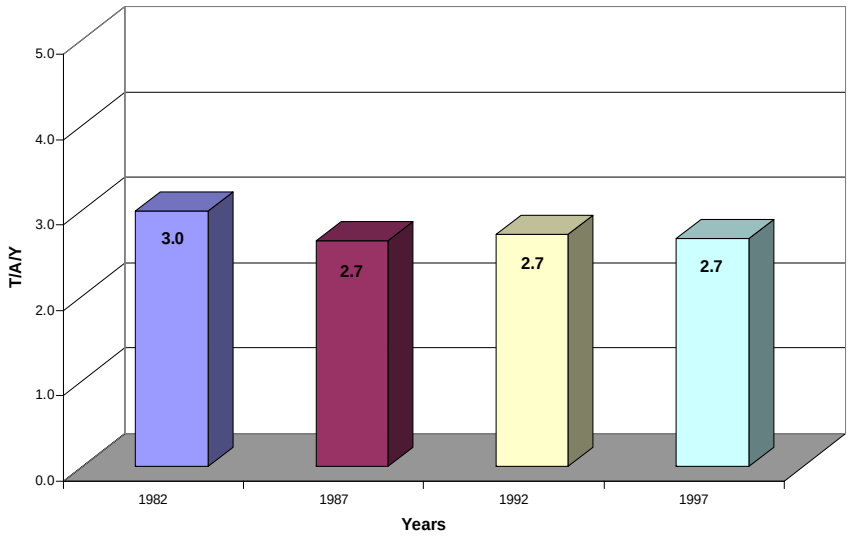
Rangeland
Low elevation desert to high elevation, steep rangeland. Low elevation desert characterized by sagebrush and perennial bunchgrasses. Frequent fires have eliminated some areas of sagebrush, with annual cheatgrass and other invaders dominant. Carrying capacity can be limited by available water. Land is utilized by antelope and livestock in winter and early spring. Mid-elevation rangeland has precipitation ranging from 12-16 inches. This range consists of sagebrush and perennial bunchgrasses with variable soils on nearly level flats to benches and rolling hills. High elevation range has precipitation greater than 16 inches, on steep slopes and high mountain valleys. Access to riparian areas on all rangeland types is not typically managed, and temperature, nutrients, and sediment may be an associated water quality concern.

Resource Concerns



Sheet and rill erosion on the subbasin's croplands, pasturelands and CRP have been essentially static since 1992 but has decreased by almost 3 tons per acre per year since 1982. /4

The dryland areas have a predominantly wheat/fallow or a winter wheat/spring grain/fallow rotation. Sheet and rill erosion, ephemeral erosion and concentrated flow erosion are considered a moderate to severe problem in this subbasin.



Wind erosion on the subbasin's croplands, pasturelands and CRP has been essentially static since 1992. Wind erosion rates have decreased by about 0.3 tons per acre per year since 1982.

Resource Concerns – Continued

Impacted Water Bodies[9,10] (ID17040208)	Stream Miles	Sediment, Siltation or TSS	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow Alteration[1]	Other or Unknown
Hawkins Reservoir (SK012L_0L)	66.7		x			x		
Beaverdam Creek (SK0017_02c)	18.5	x						
Birch Creek (SK015_03)	4.0	x	x				x	x
Cherry Creek (SK014_02)	2.7	x		x			x	x
Cherry Creek (SK014_02b,03)	7.4	x	x				x	
Dempsey Creek (SK017_02d)	18.5	x						
Goodenough Creek (SK009_02a,02)	7.7	x						
Hawkins Creek (SK013_02,02a,03)	31.2	x	x					
Indian Creek (SK005_02)	8.1	x						x
Kinney Creek (SK004_02a)	2.6	x						
Lower Cherry Creek (SK014_04)	2.7	x	x	x				
Lower Dempsey Creek (SK017_03)	3.6	x		x				
Lower Garden Creek (SK010_02b)	7.7	x	x	x				
Lower Hawkins Creek (SK011_03)	9.1	x	x					
Lower Marsh Creek (SK06_04)	17.7	x	x	x			x	
Lower Pebble Creek (SK022_03)	6.1	x						
Lower Rapid Creek (SK023_03)	5.6	x						
Lower Toponce Creek (SK021_03)	4.2	x						
Lower Yago Creek (SK006_02c)	3.6	x						
Marsh Creek (SK006_02)	216.6							x
Marsh Creek (SK006_03a)	3.8	x	x	x				
Middle Marsh Creek (SK006_03,04a)	30.9	x	x	x			x	
Mink Creek (SK004_04,04a)	5.3	x	x	x				
NF Pocatello Creek (SK026_02a)	10.5	x						
Pocatello Creek (SK024_03,03a)	2.0	x						
Portneuf River (SK016_02, 03,04)	225.9	x	x	x			x	
Portneuf River (SK001_05)	28.8	x	x	x				x
Portneuf River (SK020_02,03)	109.3	x						
Rapid Creek (SK023_02)	28.9	x						
SF Pocatello Creek (SK025_02)	5.0	x						
Twentyfour Mile Creek (SK018_02,02a,03a)	66.6	x						
Upper Gibson Jack Creek (SK003_02a)	14.7	x						
Upper Pebble Creek/Big Canyon (SK022_02a)	9.2	x						
Walker Creek (SK007_02,02a)	13.6	x						
TOTAL STREAM MILES:	**998.8**							

[1] Flow alteration is not considered a pollutant by the Idaho Department of Environmental Quality, and is not addressed by the TMDL.

Shading indicates TMDL in place

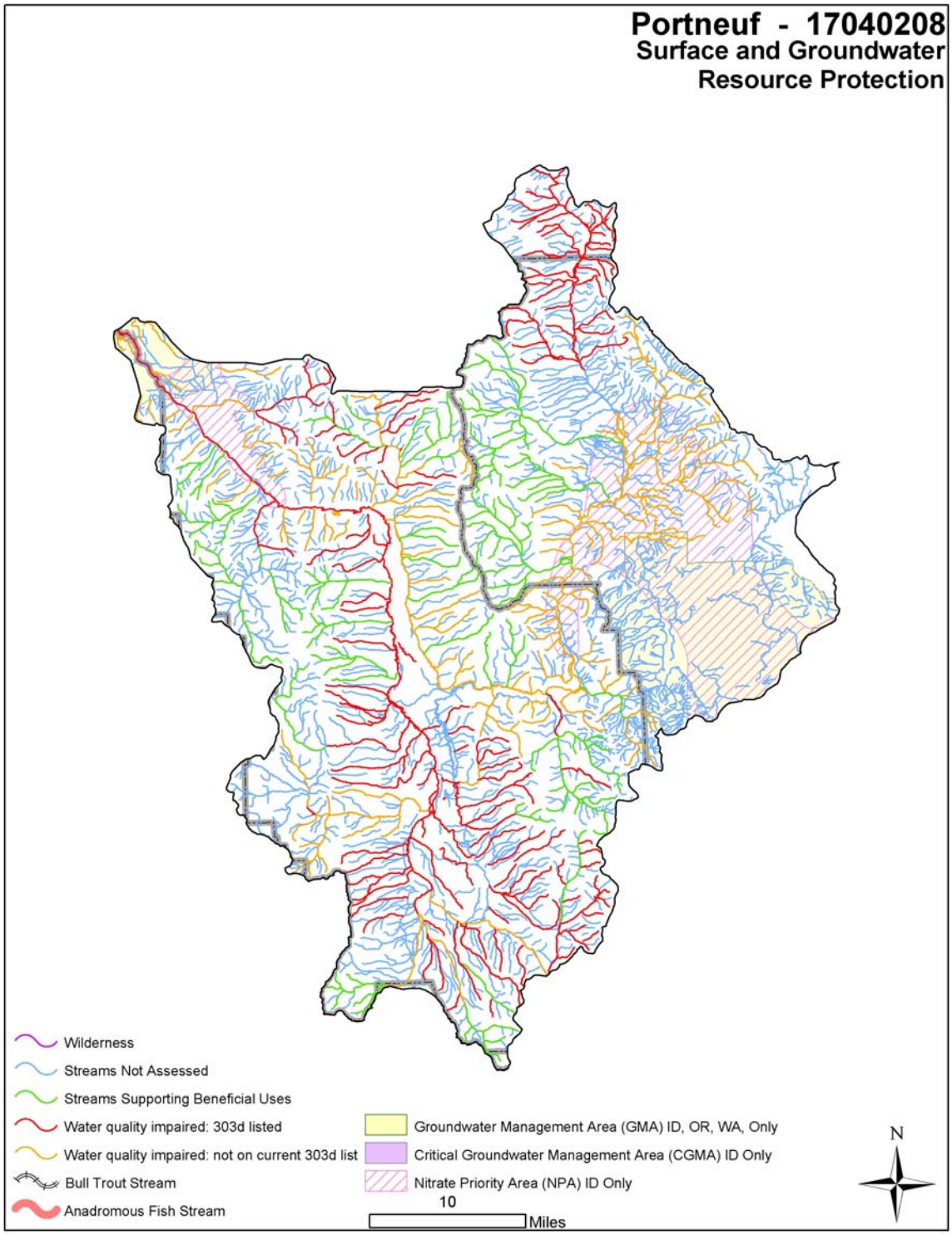
The Portneuf River Subbasin Assessment and TMDL were approved by EPA in 2001. The watershed has numerous documented water quality problems that affect beneficial uses. Sediments and nutrients are a concern in many listed segments, and the mainstem Portneuf River is also listed for bacteria, flow alteration, and oil and grease. Evidence indicates that other pollutants, such as metals and PCBs, may also be impairing the waters in the Portneuf River subbasin. Agriculture has been implicated in flow alteration and contributing sediment and nutrients. Streambank erosion, sediment loads in streambeds, and natural processes also contribute to sediment loads within the watershed. Additionally, livestock, wildlife and urban/suburban sources contribute to non-support of beneficial uses. Many of the listed streams have impacted habitat quality, and some have flow alteration concerns. There are portions of two IDEQ-designated nitrate priority areas within the watershed. Long-term and widespread use of agricultural fertilizers and chemicals has contributed to degradation of the shallow aquifer and portions of the regional aquifer. EPA initiated sampling and remediation activities, in cooperation with the Fort Hall Indian Reservation, when ethylene dibromide (EDB) was detected in groundwater in the 1990s. IDEQ sampling, as a follow-up to the EPA-initiated sampling, has identified an area of EDB contamination off the Reservation. The EDB detected is from historic use (fungicide primarily used on potatoes).

Conservation practices that can be used to address these water quality issues include erosion control, grazing management, irrigation water management, pest management, residue management, nutrient management, streambank enhancement/restoration, and riparian buffers.

Watershed Projects, Plans, Studies, and Assessments*	
Federal:	***State:***
NRCS Watershed Plans/Studies/Assessments[14,15]	**IDEQ TMDLs**[16]
Upper Portneuf River Channel SAWQP, Final Planning Report and Environmental Assessment (1993)	Portneuf Subbasin Assessment and TMDL (2001)
	IDEQ 319 Projects/[17]
	None
NWPCC Subbasin Plans and Assessments[18]	**SCC Plans/Projects**[19]
Upper Snake Province Assessment (2004)	Portneuf River TMDL Agricultural Implementation Plan (2003)
	Lower Portneuf River Agricultural Water Pollution Abatement Plan (1987)
	Upper Portneuf River Agricultural Water Pollution Abatement Plan (1986)
	Bancroft SAWQP (1986)
	Upper Rapid Creek SAWQP (1985)
	Upper Portneuf SAWQP (1994)
	Arkansas Basin SAWQP (1981)
	Lone Pine SAWQP (1982)
	ISDA Regional Water Quality Projects[20]
	Eastern Snake River Plain Regional Groundwater Study (on-going)
	IDWR Comprehensive Basin Plans[21]
	None

* Listing includes past efforts in the watershed, and on-going studies and assessments.

Surface and Groundwater Resource Protection[22,23,24]



Resource Concerns – Continued

Resource Concerns/ Issues by Land Use								
SWAPA*	**Specific Resource Concerns/Issues**	**Pasture**	**Hayland**	**Dry Crops**	**Surface Irrigated Crops**	**Sprinkler Irrigated Crops**	**Rangeland**	**Grazed and Ungrazed Forest**
Soil Erosion	Sheet and rill			x		x		
	Ephemeral or classic gully			x		x		
	Irrigation-induced				x	x		
	Wind				x	x		
	Streambank	x					x	x
Water Quantity	Inefficient use on irrigated lands	x	x		x	x		
Water Quality, Surface	Suspended sediment	x	x	x	x	x	x	
	Nutrients and organics	x	x	x	x	x		
Water Quality, Ground	Nutrients and organics	x	x	x	x	x		
	Pesticides	x	x	x	x	x		
Soil Condition	Organic matter depletion			x	x	x		
	Compaction	x	x	x	x	x		
Plant Condition	Productivity, health and vigor	x	x	x			x	x
	Noxious and invasive plants	x	x	x	x	x	x	x
	Wildfire hazard			x			x	x
Domestic Animals	Inadequate feed or water	x	x				x	x
Fish and Wildlife	Inadequate water			x			x	x
	Inadequate cover/shelter	x	x	x	x	x	x	x

*** SWAPA: - Soil, Water, Air, Plants and Animals**

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.

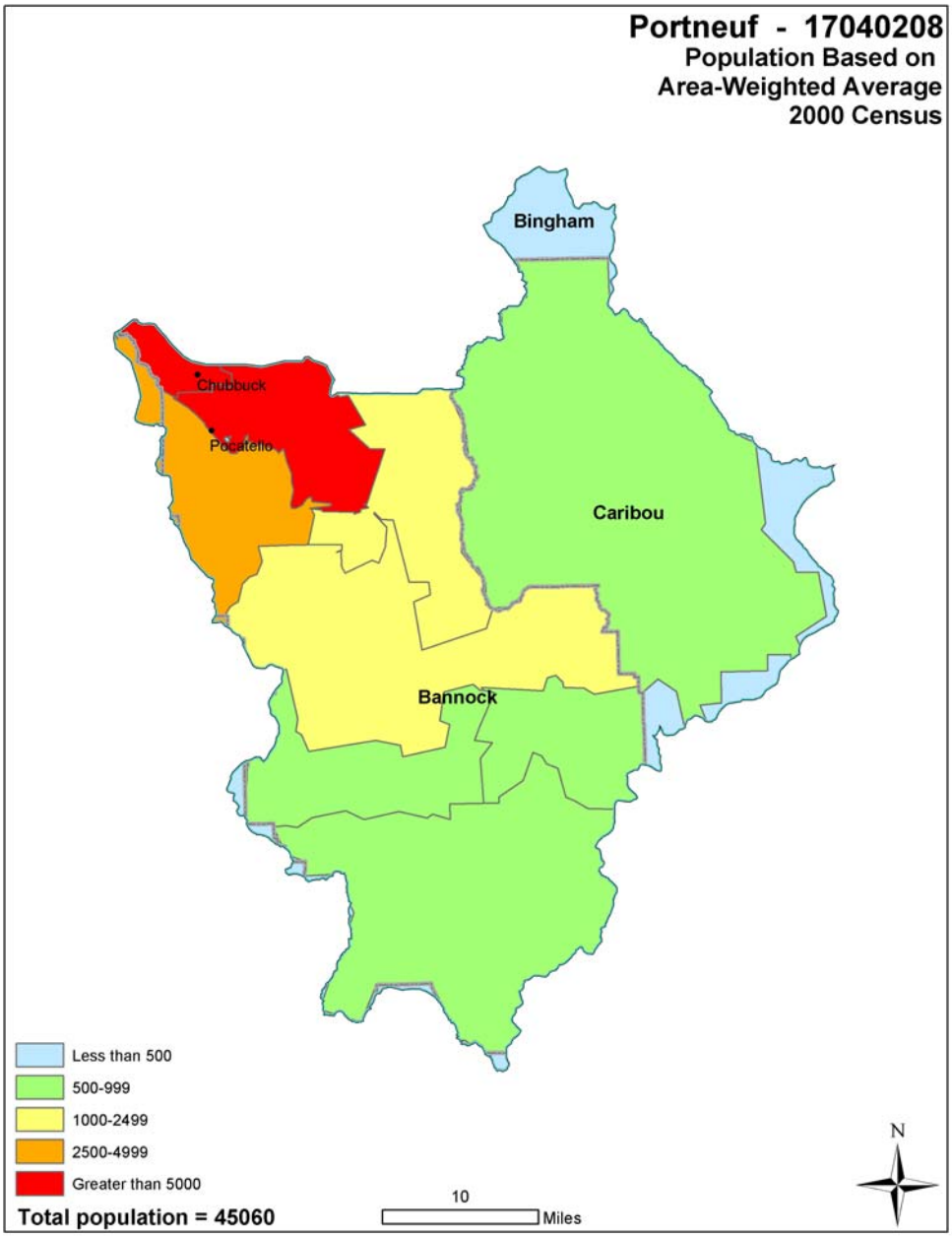
FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES[25]	
Threatened and Endangered Species	**Candidate Species**
Mammals – Lynx **Birds –** Bald Eagle **Fish –** None **Invertebrates –** None **Plants –** None	**Plants** –
	PROPOSED SPECIES
ESSENTIAL FISH HABITAT – None	**CRITICAL FISH HABITAT –** None

Census and Social Data[/26]

Population: 45,060

Number of Farms: 723

	0-49 acres	50-999 acres	1000+ acres
Number of Farms	333	289	101



Census and Social Data - continued

Fifty 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; women make up 10.8 percent of the total. Ninety-seven percent of all operators are white. Non-white operators are of Hispanic, American Indian and Asian background.

Farm size ranges from less than 10 acres to more than 1,000 acres with an average of 560 acres. Agricultural land in the watershed is a mix of cropland, range, pasture and hayland. Land users in the watershed utilize EQIP, CRP, Continuous CRP and other programs to implement conservation plans.

Farm size is down 13.8 percent. The market value of production is also down, decreasing by 3.1 percent for the period of 1997 through 2002. Government payments to farmers are up for the same period. Farm sales range from less than $1,000 to more than $500,000 per year. Eighty-four 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	680	650	$56,700	$14,200
2002	820	560	$55,000	$15,400
Change	20.6%	- 13.8%	- 3.1%	8.7%

Economic Profile:

	Watershed	Idaho	United States
Population (2000)	37,200	1,294,000	281,422,000
Per Capita Personal Income (2001)	$21,500	$24,500	$30,400
Median Home Value (2000)	$86,100	$106,600	$119,600
Percent Unemployment (2002)	6.8%	5.8%	5.4%
Percent Below Poverty Level (2003)	12.1%	11.8%	12.5%

Progress / Status

PRS Data						
Conservation Treatment Acres	FY04	FY05	FY06	FY07	Avg/Year	Total
Conservation Cover (327) (acres)	45480	504	7732	624	13585.0	54340
Use Exclusion (472) (acres)	0	27	7376	158	1890.3	7561
Wildlife Watering Facility (648) (no.)	0	0	0	0	0.0	0
Upland Wildlife Habitat (645) (acres)	910	370	7768	1032	2520.0	10080
Prescribed Grazing (528 or 528A) (acres)	2023	1794	281	473	1142.8	4571
Pest Management (595) (acres)	0	1263	7655	419	2334.3	9337
Brush Management (314) (acres)	0	80	0	0	20.0	80
Fence (382) (ft)	5475	41879	18371	18163	20972.0	83888
Spring Development (574) (no.)	2	2	4	2	2.5	10
Pipeline (516) (ft)	652	11484	32078	20734	16237.0	64948
Irrigation System, Sprinkler (442) acres)	35	30	354	0	104.8	419
IWC High Pressure Pipeline (430DD) (ft)	0	7280	8090	0	3842.5	15370
Irrigation Water Management (449) (acres)	0	18	346		121.3	364
Watering Facility (614) (no.)	2	8	22	18	12.5	50
Residue Management NoTill Direct Seed (329 or 329A) (acres)	0	0	0	806	201.5	806
Residue Management NoTill Direct Seed (345 or 329B) (acres)	432	578	759	0	442.3	1769
Terrace (600) (ft)	0	8095	11061	6634	6447.5	25790
Water & Sediment Control Basin (638) (no.)	0	21	0	21	10.5	42

Progress in the last three years has been focused on:

~ grazing management
~ wildlife habitat management
~ livestock water availability
~ pest management
~ irrigation water management
~ erosion control

Resource concerns that require ongoing attention:

~ erosion control
~ irrigation water management
~ rangeland health
~ water quality & water quantity
~ pest management
~ wildlife habitat improvements

Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **90,206 acres**
- Wetland Reserve Program (WRP): **0 acres**

Footnotes/Bibliography

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://water.usgs.gov/osw/streamstats/idaho.html).
8. National Hydrography 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).
9. IDEQ. 2002 Integrated Report (approved December 2005). http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm.
10. IDEQ. 2004. Portneuf River Subbasin Assessment and TMDL. http://www.deq.idaho.gov/water/data_reports/surface_water/tmdls/portneuf_river/portneuf_river.cfm

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.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

16. Idaho Department of Environmental Quality (IDEQ), Surface Water Quality: Subbasin Assessments, TMDLs, and Implementation Plans. http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/sba_tmdl_master_list.cfm

17. Idaho Department of Environmental Quality, Watershed protection: Nonpoint source management (319 grant), Reports and program resources. http://www.deq.idaho.gov/water/data_reports/surface_water/nps/reports.cfm/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. http://www.nwcouncil.org/fw/subbasinplanning

19. Idaho Soil Conservation Commission (SCC), TMDL watershed implementation plans: agricultural component, http://www.scc.state.id.us/waq.htm, and Water Quality Program, http://www.agri.state.id.us/Categories/Environment/water/swReports.php

20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects. http://www.agri.state.id.us/Categories/Environment/water/gwReports.php

21. Idaho Department of Water Resources (IDWR). State Comprehensive Water Plans. http://www.idwr.idaho.gov/waterboard/planning/Comp_Basin_Plans.htm

22. IDEQ. 2002 Integrated Report (approved December 2005). http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm.

23. Groundwater Management Areas and Critical Groundwater Management Areas designated by the Idaho Department of Water Resources. http://www.idwr.idaho.gov/hydrologic/projects/gwma/

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.deq.state.id.us/water/prog_issues/ground_water/nitrate.cfm#ranking

25. NRCS Field Office Technical Guide, Section II, Threatened and Endangered List and the Idaho Conservation Data Center, Idaho Department of Fish and Game http://fishandgame.idaho.gov/cms/tech/CDC/

26. Data were taken from the 2002 Agricultural Census and adjusted by percent of HUC in the county or by percent of zip code area in the HUC, depending on the level of data available. Data were also taken from the U.S. Census, 2000 by zip code and adjusted by percent of zip code in the HUC. http://www.agcensus.usda.gov/Publications/2002/Census_by_State/Idaho/index.asp

Conservation Activities and Future Conservation Needs

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 PRS reporting systems for the years 2004 through 2007.

The following Future Conditions Tables are estimates 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 additional conservation needs to reach “Resource Management System” level of treatment based on benchmark conditions in the watershed

2. Local knowledge of the area, past and ongoing project activities and professional judgment

3. 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.

Conservation Activities for Dry Cropland/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 PRS reporting systems for the years 2004 through 2007.)*

Current Conditions		Total acres	Riparian Potential
Total Dry Cropland		114,490	13,740
Typical Management Unit/Ownership		560	
Current Farm Bill participation		15%	

Current Level of Treatment for Dry Cropland:

Dry Cropland		Quantity	Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Cropland	Ac.	114,490			-3	-/+	-2	-3				
Conservation Cover (327)	Ac.	53,782	$ -	$ -					X			X
Pest management (595)	Ac.	7,199	-	72,000					X			X
Residue Management, Mulch Till (345)	Ac.	1,266	-	19,000					X			X
Residue Management, NoTill/Strip Till/Direct Seed (329)	Ac.	806	-	24,200					X			X
Upland Wildlife Habitat Management (645)	Ac.	9,547	-	47,700					X			X
Terrace (600)	Ft.	25,790	-	600					X			X
Water and Sediment Control Basin (638)	No.	42	-	1,300					X			X

Conservation Activities for Dry Cropland/Hayland – Continued

Future Conditions	Riparian Potential	Total Acres
Dry Cropland Acres		100,750
Conversion to Riparian RMS	13,740	13,740
Total Acres		114,490

Projected Additional Treatment Needs for Dry Cropland:

Dry Cropland		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
Dry Cropland	Ac.	100,750			+3	+2	+2	+3				
Conservation Crop Rotation (328)	Ac.	75,560	$ -	$ -					X			X
Contour / Cross Slope Farming (330)	Ac.	60,450	453,400	151,100					X			X
Deep Tillage (324)	Ac.	50,380	2,267,100	755,700					X			X
Diversion (362)	Ft.	207,240	569,900	11,400					X			X
Forage Harvest Management (511)	Ac.	30,220	-	-					X			X
Grassed Waterway (412)	Ac.	190	342,000	6,800					X	X		X
Nutrient Management (590)	Ac.	100,750	1,511,300	503,800					X			X
Pasture & Hayland Planting (512)	Ac.	40,300	4,030,000	40,300					X		X	X
Pest Management (595)	Ac.	93,550	2,806,500	935,500					X			X
Residue Management, Mulch Till (345)	Ac.	49,100	2,209,500	736,500					X			X
Residue Management, No Till/Strip Till/Direct Seed (329)	Ac.	49,560	4,460,400	1,486,800					X			X
Sediment Basin (350)	No.	630	1,181,300	35,400					X		X	X
Stripcropping (585)	Ac.	25,190	629,800	6,300					X			X
Terrace (600)	Ft.	2,476,930	5,449,200	54,500					X			X
Upland Wildlife Habitat Management (645)	Ac.	5,560	83,400	27,800					X			X
Water and Sediment Control Basin (638)	No.	4,990	4,990,000	149,700					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	414,480	621,700	6,200					X			X

Conservation Activities for Dry Cropland/Hayland – Continued

Projected Additional Treatment Needs for Dry Cropland												
Dry Cropland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Dry Cropland Riparian	Ac.	13,740			+3	+2	+3	+3				
Channel Bank Vegetation (322)	Ac.	510	$ 2,639,300	$ 52,800					X			X
Channel Stabilization (584)	Ft.	62,740	1,254,800	6,300					X			X
Fence (382)	Ft.	226,710	396,700	7,900					X	X		X
Nutrient Management (590)	Ac.	13,740	206,100	68,700					X	X		X
Pest Management (595)	Ac.	13,740	412,200	137,400					X			X
Pipeline (516)	Ft.	227,040	613,000	12,300					X			X
Prescribed Grazing (528)	Ac.	13,740	206,100	68,700					X			X
Pumping Plant (533)	No.	80	140,000	2,800					X			X
Riparian Forest Buffer (391)	Ac.	540	810,000	8,100					X			X
Riparian Herbaceous Cover (390)	Ac.	540	162,000	1,600					X	X		X
Streambank & Shoreline Prot (580)	Ft.	77,643	3,688,000	368,800					X	X		X
Tree/Shrub Establishment (612)	Ac.	360	167,400	1,700					X			X
Upland Wildlife Management (645)	Ac.	2,060	30,900	10,300					X	X		X
Use Exclusion (472)	Ac.	690	24,200	700					X	X		X
Watering Facility (614)	No.	170	178,500	1,800					X			X
Wetland Wildlife Management (644)	Ac.	1,370	20,600	6,900					X			X
Total RMS Costs			$ 42,555,300	$5,664,600								

Conservation Activities for Dry Cropland/Hayland – Continued

Potential RMS Effects Summary for Dry Cropland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 2,127,800	$ 283,200
Potential Farm Bill Programs	$ 40,427,500	$5,381,400
Operator O&M and Management Cost		$5,664,600
Annual Management Incentives (3 yrs – Incentive Payments)	$ 14,667,500	
Operator Investment	$ 8,567,800	
Federal Costshare	$ 19,320,000	
Total RMS Costs	$ 42,555,300	$5,664,600
Estimated Level of Participation		75%
Total Acres in RMS System		85,868
Anticipated Cost at Estimated Level of Participation	$	31,916,500
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		

Conservation Activities for Irrigated Cropland/Hayland

Current Conditions		Total acres
Total Irrigated Cropland/Hayland		46,900
Typical Management Unit/Ownership		560
Surface Irrigated Cropland/Hayland		14,070
Sprinkler Irrigated Cropland/Hayland		32,830
Current Farm Bill participation		15%

Current Level of Treatment for Irrigated Cropland/Hayland:

Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigation	Ac.	14,070			-3	-/+	-2	-3				
Fence (382)	Ft.	23,565	$ -	$ 800					X			X
Nutrient Management (590)	Ac.	138	-	700					X			X
Pest Management (595)	Ac.	800	-	8,000					X			X
Pipeline (516)	Ft.	18,889	-	1,000					X			X
Prescribed Grazing (528)	Ac.	3,889	-	19,400					X			X
Spring Development (574)	No.	1	-	-					X			X
Structure for Water Control (587)	No.	1	-	-					X			X
Water Well (642)	No.	1	-	-					X			X
Watering Facility (614)	No.	15	-	200					X			X

Conservation Activities for Irrigated Cropland/Hayland – Continued

Current Level of Treatment for Irrigated Cropland/Hayland (Continued):

Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigation	Ac.	32,830			+1	-/+	+1	+3				
Conservation Crop Rotation (328)	Ac.	1,436	$ -	$ -					X			X
Forage Harvest Management (511)	Ac.	781	-	-					X			X
Irrigation System, Sprinkler (442)	Ac.	128	-	1,400					X			X
Irrigation System, Microirrigation (441)	Ac.	4	-	100					X			X
Irrigation Water Conveyance (430DD)	Ft.	760	-	-					X			X
Irrigation Water Management (449)	Ac.	111	-	800					X			X
Nutrient Management (590)	Ac.	40	-	200					X			X
Pasture and Hayland Planting (512)	Ac.	563	-	600					X			X
Pest Management (595)	Ac.	502	-	5,000					X			X
Upland Wildlife Habitat Management (645)	Ac.	333	-	1,700					X			X
Use Exclusion (472)	Ac.	13	-	-					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	750	-	-					X			X

Conservation Activities for Irrigated Cropland/Hayland – Continued

Future Conditions			Total Acres
Sprinkler Irrigated Cropland/Hayland			46,900
Total Irrigated Cropland/Hayland Acres			46,900

Project Additional Treatment Needs for Irrigated Cropland/Hayland :

Irrigated Cropland/Hayland	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
Sprinkler Irrigation	Ac.	46,900			+3	+2	+2	+3				
Cover Crop (340)	Ac.	11,730	$ 1,407,600	$ 42,200					X			X
Conservation Crop Rotation (328)	Ac.	45,460	-	-					X			X
Constructed Wetland (656)	No.	45	450,000	4,500					X			X
Forage Harvest Management (511)	Ac.	10,950	-	-					X			X
Irrigation System, Microirrigation (441)	Ac.	3,750	5,625,000	281,300					X			X
Irrigation System, Sprinkler (442)	Ac.	14,070	7,738,500	154,800					X			X
Irrigation Water Conveyance (430DD)	Ft.	232,320	1,259,200	6,300					X			X
Irrigation Water Management (449) - Low level	Ac.	32,830	492,500	164,200					X			X
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	14,070	422,100	140,700					X			X
Nutrient Management (590)	Ac.	46,720	700,800	233,600					X			X
Pest Management (595)	Ac.	45,600	1,368,000	456,000					X			X
Residue Mngt, Mulch Till (345)	Ac.	44,550	2,004,800	668,300					X			X
Residue Management Seasonal (344)	Ac.	44,550	1,002,400	334,100					X			X
Residue Mngt, No Till/Strip Till (329)	Ac.	4,690	422,100	140,700					X			X
Sediment Basin (350)	No.	70	131,300	3,900					X			X

Conservation Activities for Irrigated Cropland/Hayland – Continued

Project Additional Treatment Needs for Irrigated Cropland/Hayland (Continued):												
Irrigated Cropland/Hayland	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
Structure for Water Control (587) -Fish Screen	No.	90	280,800	2,800					X			X
Surface Roughening (609)	Ac.	46,900	1,055,300	351,800					X			X
Upland Wildlife Habitat Management (645)	Ac.	7,040	105,600	35,200					X			X
Well Decommissioning (355)	No.	40	34,000	-					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	384,690	577,000	5,800					X			X
Total RMS Costs			$ 25,077,000	$ 3,026,200								

Conservation Activities for Irrigated Cropland/Hayland – Continued

Potential RMS Effects Summary for Irrigated Cropland/Hayland		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 1,253,900	$ 151,300
Potential Farm Bill Programs	$23,823,100	$2,874,900
Operator O&M and Management Cost		$3,026,200
Annual Management Incentives (3 yrs - Incentive Payments)	$ 7,573,600	
Operator Investment	$ 5,316,300	
Federal Costs	$12,187,100	
Total RMS Costs	$25,077,000	$3,026,200
Estimated Level of Participation		75%
Total Acres in RMS System		35,175
Anticipated Cost at Estimated Level of Participation	$	18,807,800
Total Acre Feet of Water Saved Annually		48,010
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		

Conservation Activities for Irrigated Pasture

Current Conditions	Total Acres	Riparian/ Wetland Potential
Surface Irrigated Pasture	6,420	
Sprinkler Irrigated Pasture	14,980	
Total Irrigated Pasture	21,400	2,780
Typical Management Unit/Ownership	560	
Current Farm Bill participation	15%	

Current Level of Treatment for Irrigated Pasture:

	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Irrigation	Ac.	6,420			-3	-/+	-2	-3				
Fence (382)	Ft.	14,192	$ -	500					X			X
Pasture and Hay Planting (512)	Ac.	134	-	100					X			X
Pest Management (595)	Ac.	212	-	2,100					X			X
Prescribed Grazing (528 / 528A)	Ac.	40	-	200					X			X
Riparian Forest Buffer (391)	Ac.	14	-	200					X			X
Upland Wildlife Management (645)	Ac.	67	-	300					X			X
Use Exclusion (472)	Ac.	155	-	200					X			X
Wetland Wildlife Management (644)	Ac.	36	-	200					X			X

Conservation Activities for Irrigated Pasture - Continued

Current Level of Treatment for Irrigated Pasture:												
	Quantity		Costs		Effects				Implementation			
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Fish Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigation	Ac.	14,980			+2	+1	+1	+3				
Fence (382)	Ft.	16,510	$ -	600					X			X
Irrigation System, Sprinkler (442)	Ac.	291	-	3,200					X			X
IWC, High Pressure Pipe (430DD	Ft.	15,370	-	400					X			X
Irrigation Water Management (449)	Ac.	252	-	1,300					X			X
Pest Management (595)	Ac.	175	-	1,800					X			X
Pipeline (516)	Ft.	12,237	-	700					X			X
Spring Development (574)	No.	3	-	-					X			X
Prescribed Grazing (528 / 528A)	Ac.	297	-	1,500					X			X
Water Well (642)	No.	2	-	100					X			X
Watering Facility (614)	No.	23	-	200					X			X

Conservation Activities for Irrigated Pasture - Continued

Future Conditions		Total Acres
Sprinkler Irrigated Pasture		18,620
Total Conversion to Riparian Pasture RMS		2,780
Total Acres		21,400

Project Additional Treatment Needs for Irrigated Pasture:

	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
Sprinkler Irrigation	Ac.	18,620			+3	+3	+2	+3				
Fence (382)	Ft.	306,240	$ 535,900	$ 10,700					X			X
Irrigation Water Conveyance (430DD)	Ft.	211,860	1,148,300	5,700					X			X
Irrigation System Sprinkler (442)	Ac.	6,420	3,531,000	70,600					X			X
Irrigation Water Management (449)	Ac.	18,370	413,300	137,800					X			X
Nutrient Management (590)	Ac.	18,620	279,300	93,100					X			X
Pasture & Hayland Planting (512)	Ac.	7,450	745,000	7,500					X			X
Pest Management (595)	Ac.	18,450	553,500	184,500					X			X
Pipeline (516)	Ft.	158,400	427,700	8,600					X			X
Prescribed Grazing (528)	Ac.	18,320	274,800	91,600					X			X
Structure for Water Control (587)-Fish Screen	No.	120	374,400	3,700					X	X		X
Upland Wildlife Management (645)	Ac.	2,790	41,900	14,000					X			X
Watering Facility (614)	No.	120	126,000	1,300					X			X
Windbreak/Shelterbelt Establish(380)	Ft.	306,240	459,400	4,600					X			X

Conservation Activities for Irrigated Pasture - Continued

Project Additional Treatment Needs for Irrigated Pasture (Continued):												
	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
Riparian Pastures	Ac.	2,780			+1	+1	+3	+3				
Channel Bank Vegetation (322)	Ac.	35	$ 181,100	$ 3,600					X			X
Channel Stabilization (584)	Ft.	30,800	616,000	3,100					X			X
Fence (382)	Ft.	183,480	321,100	6,400					X	X	X	X
Nutrient Management (590)	Ac.	2,780	41,700	13,900					X			X
Pasture & Hayland Planting (512)	Ac.	1,112	111,200	1,100					X			X
Pest Management (595)	Ac.	2,780	83,400	27,800					X			X
Pipeline (516)	Ft.	46,200	124,700	2,500					X			X
Prescribed Grazing (528)	Ac.	2,780	41,700	13,900					X			X
Riparian Forest Buffer (391)	Ac.	70	105,000	1,100					X			X
Riparian Herbaceous Cover (390)	Ac.	70	21,000	200					X	X	X	X
Streambank & Shoreline Prot (580)	Ft.	30,800	1,463,000	146,300					X			X
Tree/Shrub Establishment (612)	Ac.	35	$ 16,300	$ 200					X			X
Upland Wildlife Management (645)	Ac.	420	6,300	2,100					X			X
Use Exclusion (472)	Ac.	140	4,900	100					X	X	X	X
Watering Facility (614)	No.	35	36,800	400					X		X	X
Wetland Wildlife Management (644)	Ac.	280	4,200	1,400					X			X
Total RMS Costs			$ 12,088,900	$ 857,800								

Conservation Activities for Irrigated Pasture – Continued

RMS Cost Summary for Irrigated Pasture:

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 604,400	$ 42,900
Potential Farm Bill Programs	$ 11,484,500	$814,900
Operator O&M and Management Cost		857,800
Annual Management Incentives (3 yrs - Incentive Payments)	$ 1,740,100	
Operator Investment	$ 3,040,500	
Federal Costshare	$ 7,308,300	
Total RMS Farm Bill Costs	$ 12,088,900	
Estimated Level of Participation		60%
Total Acres in RMS System		12,840
Anticipated Cost at Estimated Level of Participation	$	7,253,300
Total Acre Feet of Water Saved Annually		20,135
Total Annual Forage Production Benefits (animal unit months)		61,900
Improves ground water and surface water quality by minimizing off-site transport		
Improves riparian habitat for ESA endangered & threatened species		

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland

Current Conditions	Grazed	Ungrazed	Riparian/Wetland/Potential	Total Acres
Private Rangeland and Dry Pasture	236,490		26,280	262,770
Typical Management Unit/Ownership	560			
Current Farm Bill participation	15%			

Current Level of Treatment for Grazed Rangeland, Dry Pasture and Forestland:

	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Range / Pasture (w/prescribed grazing)	Ac.	262,770			+/-	+/-	+/-	+/-					
Brush Management (314)	Ac.	80	$ -	$ -					X				X
Fence (382)	Ft.	28,169	-	1,000					X				X
Pest Management (595)	Ac.	402	-	4,000					X				X
Pipeline (516)	Ft.	33,262	-	1,800					X				X
Pond (378)	No.	1	-	100					X				X
Prescribed Grazing (528)	Ac.	331	-	700					X				X
Spring Development (574)	No.	5	-	100					X				X
Upland Wildlife Habitat Mgnt (645)	Ac.	79	-	400					X				X
Watering Facility (614)	No.	11	-	100					X				X
Water Well (642)	No.	2	-	100					X				X

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland - Continued

Future Conditions	Rangeland / Pasture	Riparian	Total Acres
	236,490	26,280	262,770

Project Additional Treatment Needs for Grazed Rangeland, Dry Pasture and Forestland:

	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Grazed Range, Pasture and Forestland	Ac.	236,490			+3	+2	+3	+3					
Brush Management (314)	Ac.	$ 77,960	$ 1,559,200	$ 15,600					X				X
Fence (382)	Ft.	3,873,750	6,779,100	135,600					X				X
Firebreak (394)	Ft.	976,800	1,885,200	377,000					X				X
Pest Management (595)	Ac.	236,090	7,082,700	,360,900					X				X
Pipeline (516)	Ft.	943,540	2,547,600	51,000					X				X
Pond (378)	No.	95	646,000	6,500					X				X
Prescribed Grazing (528)	Ac.	236,160	2,361,600	472,300					X				X
Range Planting (550)	Ac.	78,040	7,023,600	70,200					X				X
Spring Development (574)	No.	365	857,800	4,300					X	X			X
Upland Wildlife Management (645)	Ac.	47,220	708,300	236,100					X	X			X
Watering Facility (614)	No.	360	378,000	3,800					X				X
Well (642)	No.	180	720,000	7,200					X				X

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland - Continued

Project Additional Treatment Needs for Grazed Rangeland, Dry Pasture and Forestland:													
	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Range & Pasture Riparian	Ac.	26,280			+3	+2	+3	+3					
Channel Bank Vegetation (322)	Ac.	1,320	$ 6,831,000	$ 136,600					X				X
Channel Stabilization (584)	Ft.	145,170	2,903,400	14,500					X				X
Fence (382)	Ft.	108,240	189,400	3,800					X	X	X		X
Pest Management (595)	Ac.	26,280	788,400	262,800					X				X
Pipeline (516)	Ft.	216,480	584,500	11,700					X				X
Prescribed Grazing (528)	Ac.	26,280	157,700	52,600					X				X
Range & Pasture Riparian	Ac.	26,280			+3	+2	+3	+3					
Channel Bank Vegetation (322)	Ac.	1,320	$ 6,831,000	$ 136,600					X				X
Channel Stabilization (584)	Ft.	145,170	2,903,400	14,500					X				X
Fence (382)	Ft.	108,240	189,400	3,800					X	X	X		X
Pest Management (595)	Ac.	26,280	788,400	262,800					X				X
Pipeline (516)	Ft.	216,480	584,500	11,700					X				X
Prescribed Grazing (528)	Ac.	26,280	157,700	52,600					X				X
Pumping Plant (533)	No.	20	35,000	700					X				X
Riparian Forest Buffer (391)	Ac.	420	630,000	6,300					X				X
Riparian Herbaceous Cover (390)	Ac.	420	126,000	1,300					X	X	X		X
Streambank & Shoreline Prot (580)	Ft.	362,920	17,238,700	1,723,900					X	X			X
Tree/Shrub Establishment (612)	Ac.	210	97,700	1,000					X				X
Upland Wildlife Management (645)	Ac.	5,260	78,900	26,300					X	X			X
Use Exclusion (472)	Ac.	420	14,700	400					X	X	X		X
Watering Facility (614)	No.	40	42,000	400					X		X		X
Wetland Wildlife Management (644)	Ac.	2,630	39,500	13,200					X		X		X
Total RMS Costs			$62,306,000	$5,996,000									

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland - Continued

RMS Cost Summary for Grazed Rangeland, Pasture and Forestland:		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 3,115,300	$ 299,800
Potential Farm Bill Programs	$59,190,700	$5,696,200
Operator O&M and Management Cost		$5,996,000
Annual Management Incentives (3 yrs - Incentive Payments)	$ 8,697,800	
Operator Investment	$15,738,500	
Federal Costshare	$37,869,700	
Total RMS Farm Bill Costs	$62,306,000	
Estimated Level of Participation		35%
Total Acres in RMS System		82,800
Anticipated Cost at Estimated Level of Participation	$	21,807,100
Total Annual Forage Production Benefits (acre unit months)		13,800
Improves infiltration and storage of water in soil profile		
Improves upland wildlife habitat for deer, elk, antelope and other species		
Improves water quality by reducing erosion and sediment delivery to streams		

Conservation Activities for Headquarters

Confined Animal Feed Operations (CAFO - 700 Head Dairies or 1,000 Head Feeder Cattle) and Animal Feed Operations (AFO 200-700 Head of Dairy or 300 to 1,000 Head Feeder Cattle) are variable in complexity depending on size, number of cows and location of the waste storage facility. Kinds and amounts of component practices required for proper operation are site specific, but typically include the following practices. Note that an AFO can be designated as a CAFO regardless of number of animals if it is found to be a significant polluter.

Anaerobic Digester (366), Composting Facility (317), Access Road (560), Corral Dust Management (785), Dikes (356), Diversions (362), Fence (382), Heavy Use Area Protection (561), Irrigation Water Conveyance (430EE) (430DD), Pipeline (516), Pond (378), Pond Sealing or Lining (521), Pump Plant (533), Roof Runoff Structure (558), Separator, Structure for Water Control (587), Underground Outlet (620), Underground Outlet (620), Waste Treatment Lagoon (359), Watering Facility (614), Well Decommissioning (355), Windbreak/Shelterbelt Establishment (380), Dry Stack Areas and Ramps.

Management practices commonly used include. Critical Area Planting (342), Filter Strip (393), Manure Transfer (634), Nutrient Management (590), Pest Management (595) and Waste Utilization (633).

Current conditions and future needs for CAFOs and AFOs reflect these practices and are components of Waste Management Facilities (313).

Current Conditions		Total
CAFOs		
AFOs		269
Current Farm Bill participation	24%	
Total CAFOs and AFOs		269

Conservation Activities for Headquarters – Continued

Current Level of Treatment for Headquarters:													
	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.	14			+/-	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.	-	$ -	$ -					X				X
Waste Storage Facility (313) AFO	No.	14		12,600					X				X
Feed Lot	No.	255			+/-	+/-	+/-	+/-					
Waste Storage Facility (313) CAFO	No.	-	$ -	$ -					X				X
Waste Storage Facility (313) AFO	No.	51	-	45,900.00					X				X

Numbers of Dairies and Feedlots needing treatment were estimated based on input from Idaho Department of Agriculture and the local NRCS Field Offices.

Conservation Activities for Headquarters – Continued

Projected Additional Treatment Needs for Headquarters:													
	Quantity		Costs		Effects				Implementation				
Practices	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.				+3	+2	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	-	$ -	$ -					X				X
Waste Storage Facility (313) AFO	No.		-	-					X				X
Feed Lot	No.	204			+3	+1	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	-	$ -	$ -					X				X
Waste Storage Facility (313) AFO	No.	204	6,885,000	137,700					X				X
Total RMS Costs		204	$6,885,000	$ 137,700									

RMS Cost Summary for Headquarters

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 344,300	$ 6,900
Potential Farm Bill Programs	$6,540,700	$ 130,800
Operator O&M and Management Cost		$ 137,700
Annual Management Incentives (3 yrs - Incentive Payments)	$ 688,500	
Operator Investment	$1,807,400	
Federal Costshare	$4,389,100	
Total RMS Costs	$6,885,000	
Estimated Level of Participation		35%
Total CAFO/AFO in RMS System		71
Anticipated Cost at Estimated Level of Participation	$	2,409,800
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		