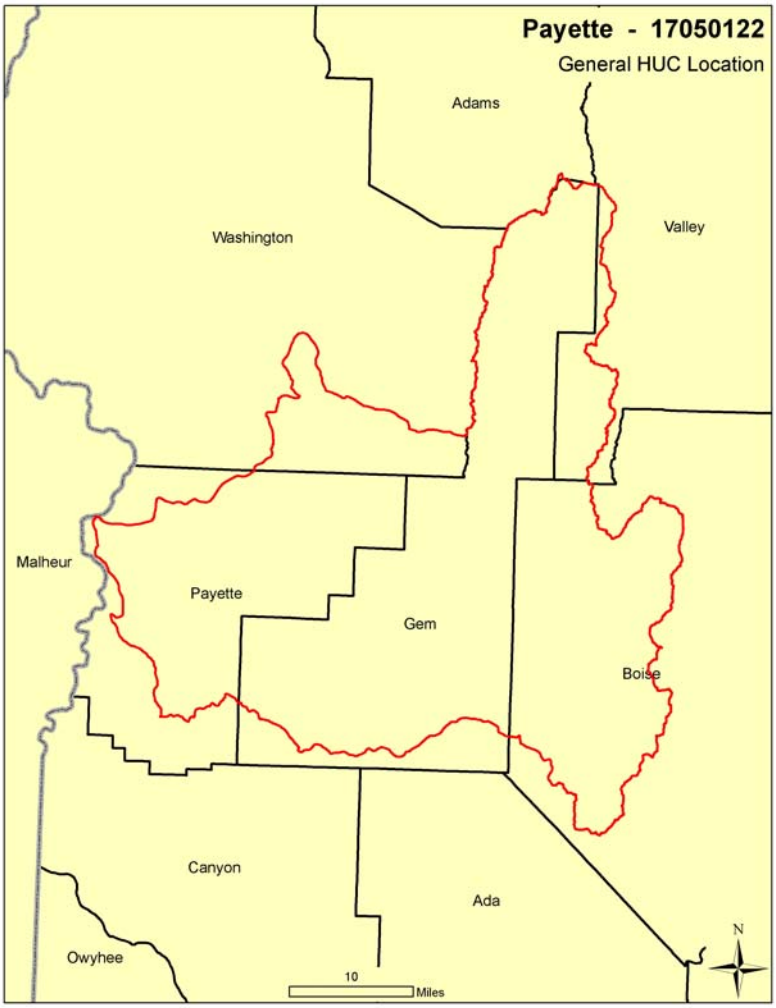
NRCS Natural Resources Conservation Service

Payette – 17050122

Idaho | 8 Digit Hydrologic Unit Profile | July 2007



Introduction

The Payette 8-Digit Hydrologic Unit Code (HUC) subbasin contains 787,100 acres. Forty-one percent of the subbasin is in Gem County, twenty-three percent in Payette County, twenty-three percent in Boise County, eight percent in Washington County, five percent in Valley County and less than one percent is in Adams County. Fifty-nine percent of the basin is privately owned and forty-one percent is publicly owned.

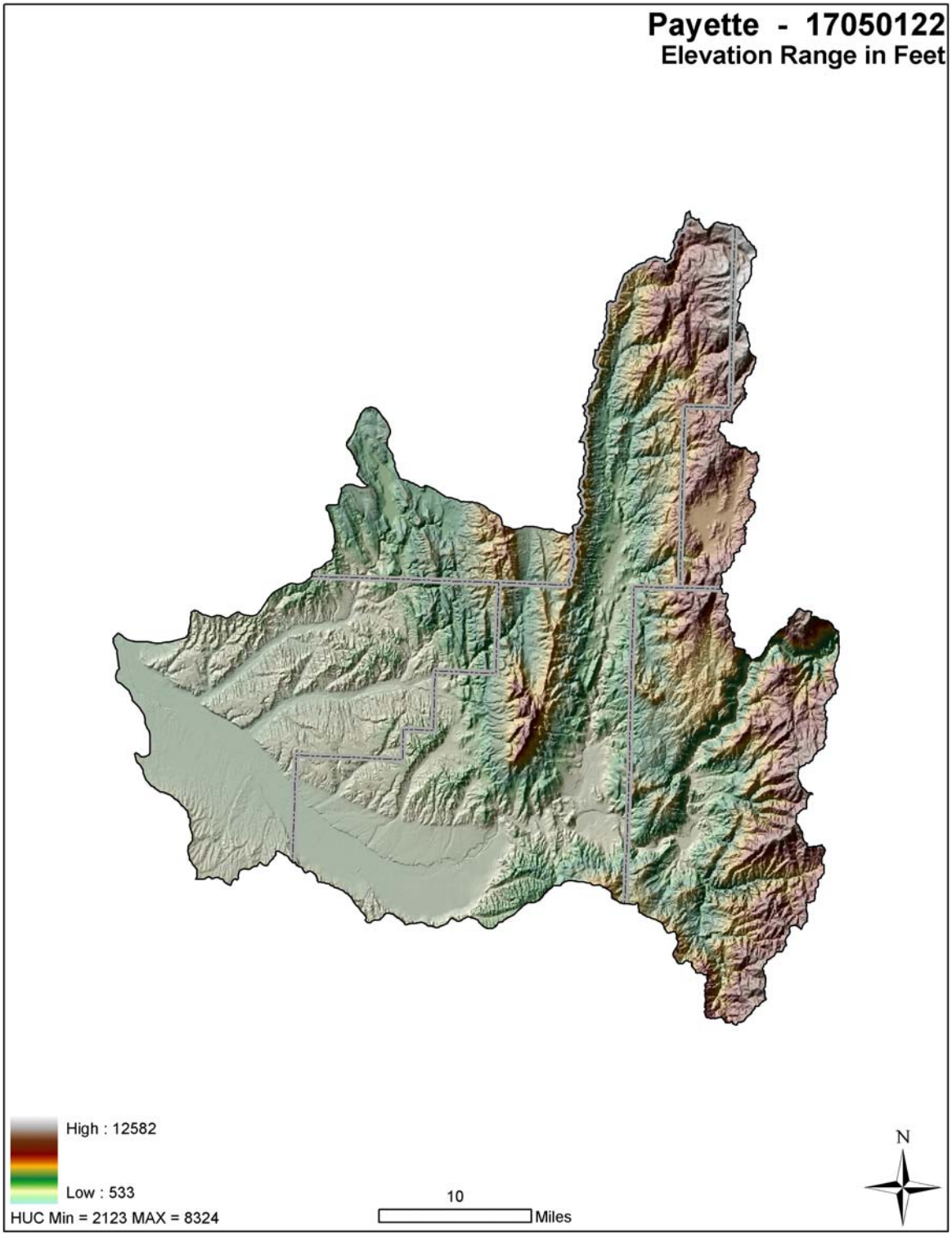
Seventy percent of the basin is in shrubland, rangeland, grass, pasture or hayland. Twenty-one percent is forest. Seven percent is cropland, and the remainder is water, wetlands, developed or barren.

Elevations range from 8,324 feet in the northeastern portion of the HUC to 2,123 feet at the basin outlet on the west.

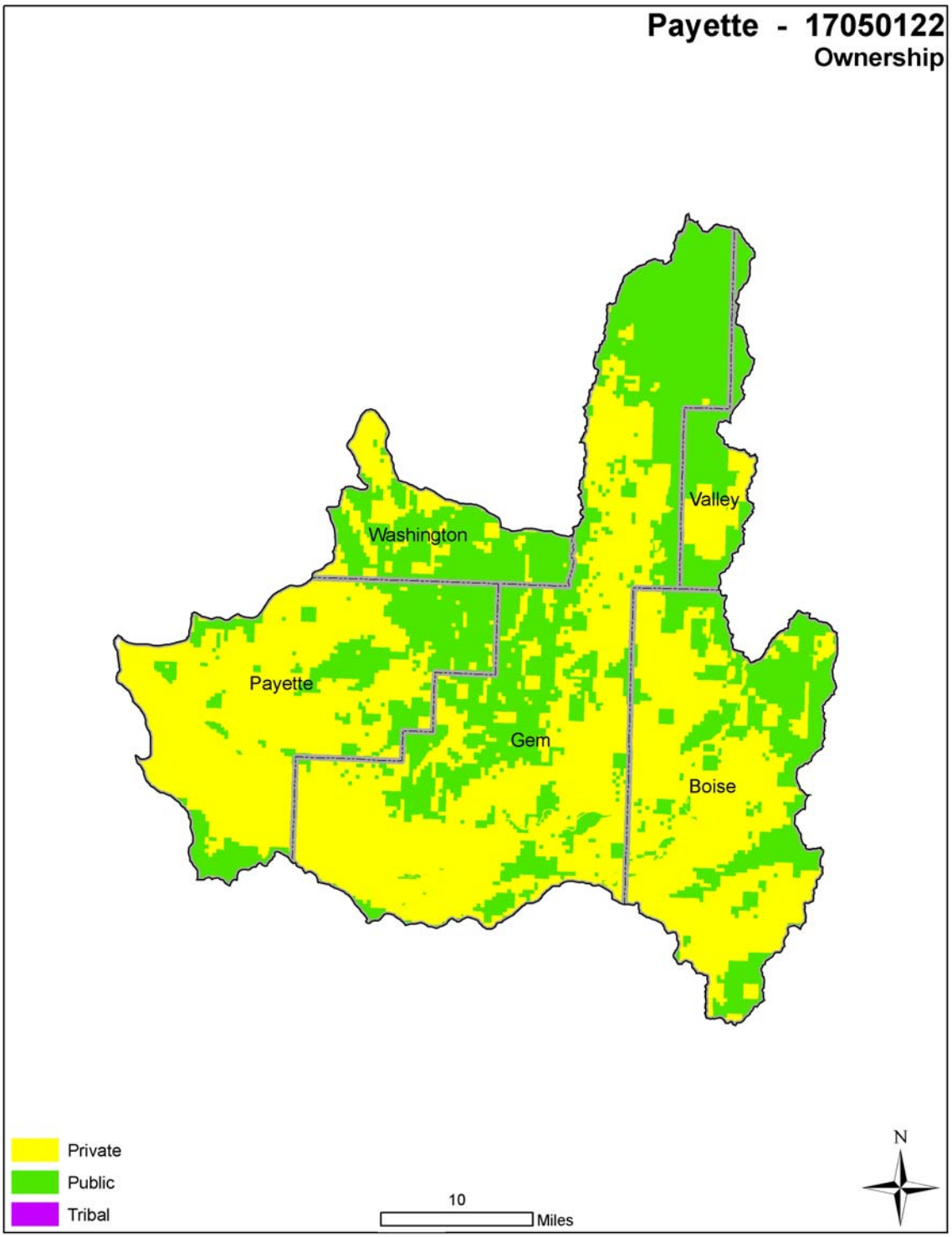
Conservation assistance is provided by three Soil Conservation Districts, four Soil and Water Conservation Districts and one Resource Conservation and Development office.

Profile Contents

Relief Map


Payette - 17050122
Elevation Range in Feet
High : 12582
Low : 533
HUC Min = 2123 MAX = 8324
10
Miles
N

General Ownership[/1]



Physical Description

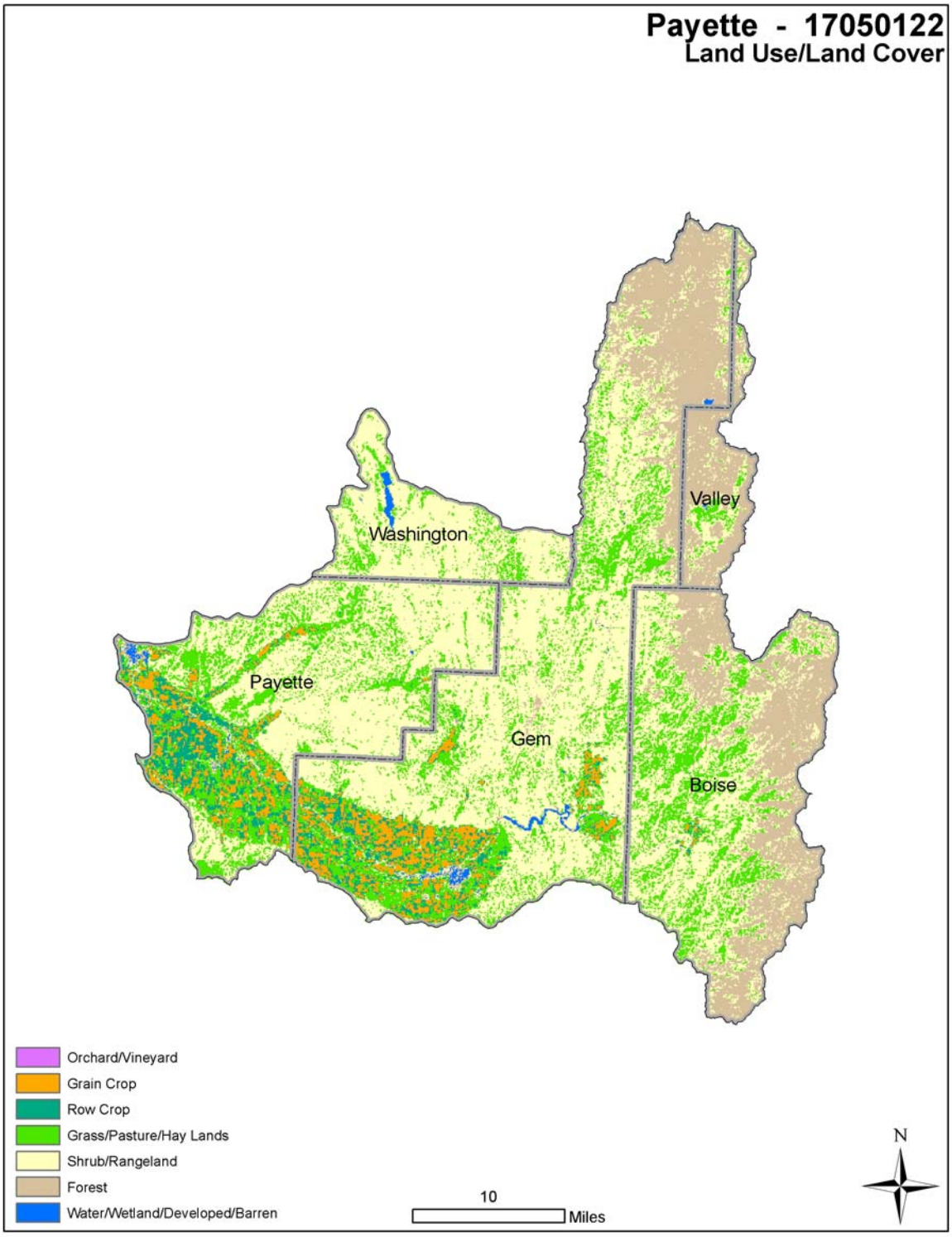
Land Cover / Land Use (NLCD[12])	Ownership - (2003 Draft BLM Surface Map Set[1])							
	Public		Private		Tribal		Totals	% of HUC
	Acres	%	Acres	%		%		
Forest	114,800	15	48,400	6	-	-	**163,200**	**21**
Grain Crops	-	-	40,140	5	-	-	**40,140**	**5**
Conservation Reserve Program (CRP) Land[13]	-	-	160	<1	-	-	**160**	**<1**
Grass/Pasture/Hay Lands	35,200	5	104,400	13	-	-	**139,600**	**18**
Orchards/Vineyards/Berries	-	-	-	-	-	-	**-**	**-**
Row Crops	-	-	18,200	2	-	-	**18,200**	**2**
Shrub/Rangelands	167,500	21	245,500	31	-	-	**413,000**	**52**
Water/Wetlands/ Developed/Barren	1,900	<1	10,900	1	-	-	**12,800**	**<2**
Idaho HUC Totals	**319,400**	**41**	**467,700**	**59**	**-**	**-**	**787,100**	**100**

Irrigated Lands[14]	Type of Land	ACRES	% of Irrigated Lands	% of HUC
	Cultivated Cropland	34,400	51	4.4
	Non-Cultivated Cropland *	13,400	20	1.7
	Pastureland	19,700	29	2.5
	Total Irrigated Lands	**67,500**	**100**	**8.6**

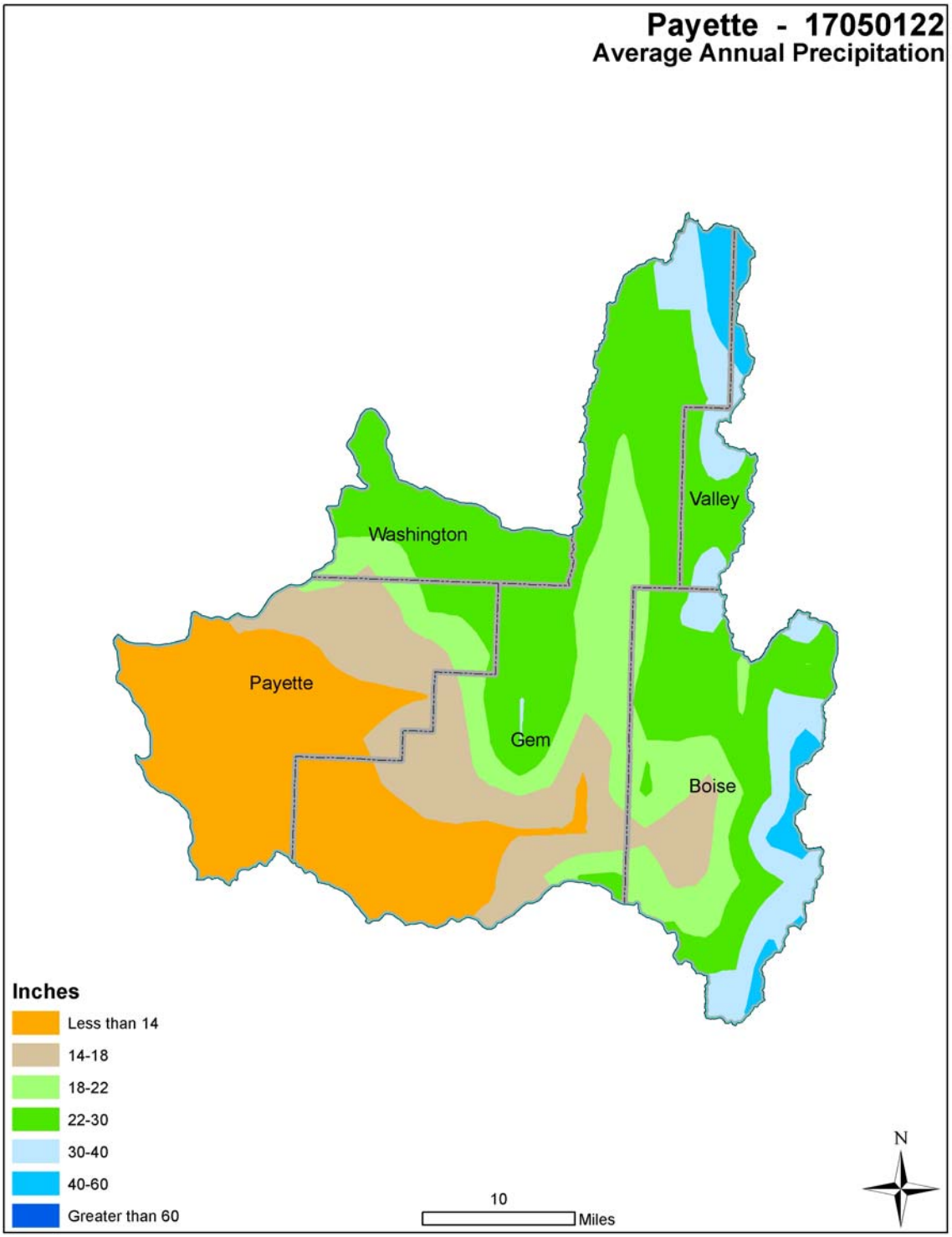
***** Includes permanent hayland and horticultural cropland.

* Any differences between the acres in the above Table and the Future Conservation Needs Tables in the back of this document are 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]

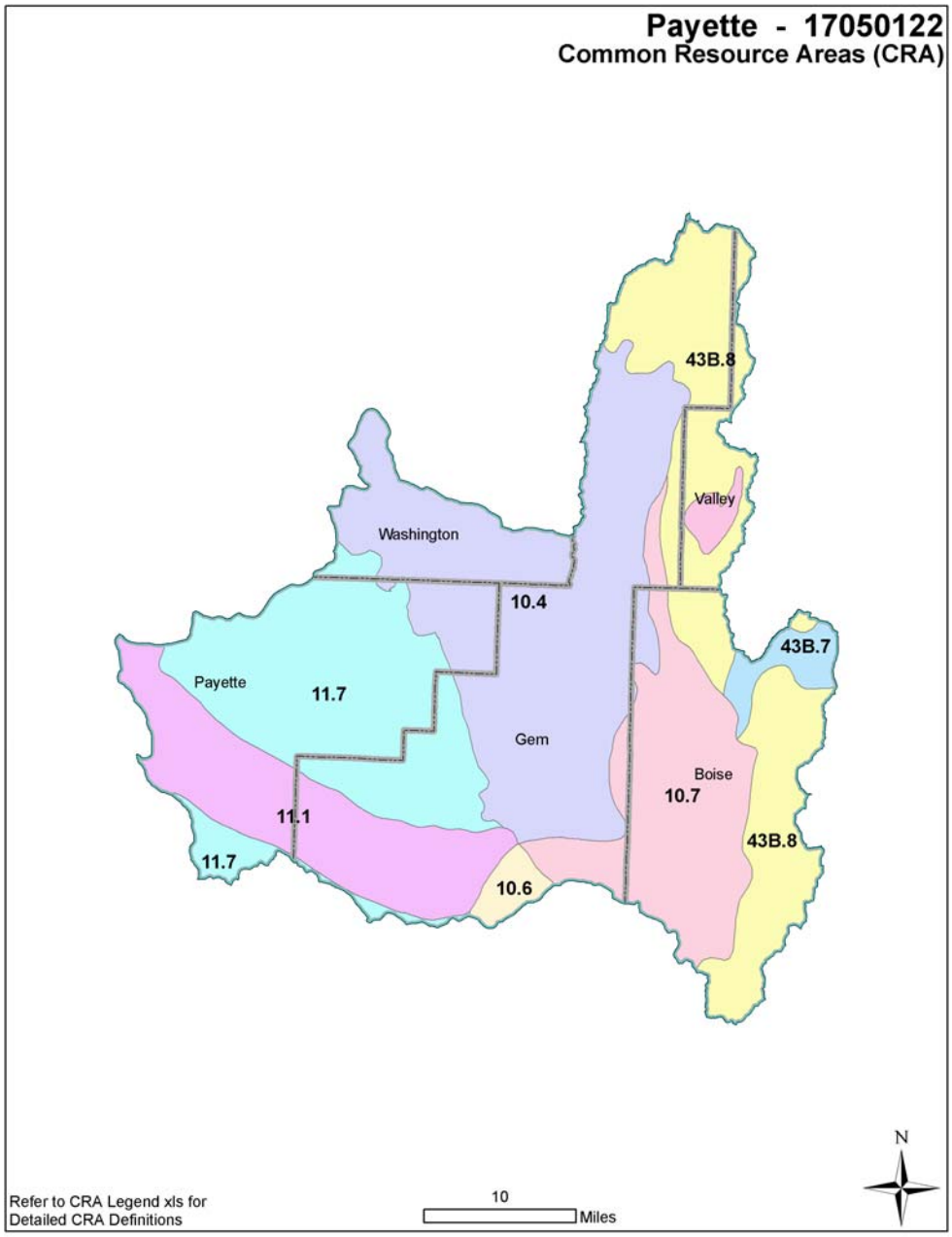


Average Annual Precipitation[/5]



Common Resource Area Map

The Common Resource Areas (CRA) delineated below for the Payette 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.

10.4 Central Rocky and Blue Mountain Foothills - Semiarid Foothills: The shrub- and grass-covered foothill unit is higher and more rugged than nearby CRA units. A few perennial streams flow across the unit but are absent on the lacustrine deposits of the unwooded Alkaline Foothills CRA. Shallow, clayey soils are common and often support medusahead, wild rye, cheatgrass, and scattered shrubs. Wildfire frequency is high. Land use is primarily livestock grazing and is distinct from the irrigated agriculture of the Treasure Valley.

10.6 Central Rocky and Blue Mountain Foothills – Unwooded Alkaline Foothill: The shrub- and grass-covered foothill unit is higher and more rugged than adjacent valleys. Sandy, alkaline lacustrine deposits occur unlike in other units and support a unique flora. Potential natural vegetation is saltbush-greasewood and sagebrush steppe. Today, cheatgrass and crested wheatgrass are also common and the unit is used for livestock grazing. The soil temperature regime is dominantly mesic and the soil moisture regime is aridic bordering on xeric. Perennial streams are rare.

10.7 Central Rocky and Blue Mountain Foothills – Foothill Shrublands-Grassland: This unit consists of grass- and shrub- covered foothills in the rain shadow of high mountains. Its hills and benches are dry, treeless, and covered by shrubs and grasses. The vegetation mosaic is unlike open forests. Land use is mostly grazing but rural residential development is expanding near the city of Boise.

11.1 Snake River Plains – Treasure Valley: This unit is characterized by irrigated cropland, pastureland, and rapidly growing cities, suburbs, and industries. Many canals, reservoirs, and diversions are present. Aridic soils predominate and require irrigation to grow commercial crops. Surface water quality has been significantly affected by channel alteration, dams, irrigation return flow, and urban, industrial, and agricultural pollution. Crops include wheat, barley, alfalfa, sugar beets, potatoes, and beans. Crop diversity is greater, temperatures are warmer, and the mean frost free season is longer than in other CRA units. Population density is much greater than in nearby, rangeland-dominated units.

11.7 Snake River Plains – Dry Unwooded Alkaline Foothills: The shrub- and grass-covered foothill unit is higher and more rugged than adjacent valley CRAs. Alkaline lacustrine terrace deposits characterize the soil and support a unique flora. Shallow and moderately deep soils over cemented pans are common. Potential natural vegetation is saltbush-greasewood and sagebrush steppe. Today, cheatgrass and crested wheatgrass are also common and the unit is used for livestock grazing. The soil temperature regime is mesic and the soil moisture regime is aridic.

Common Resource Area Descriptions - Continued

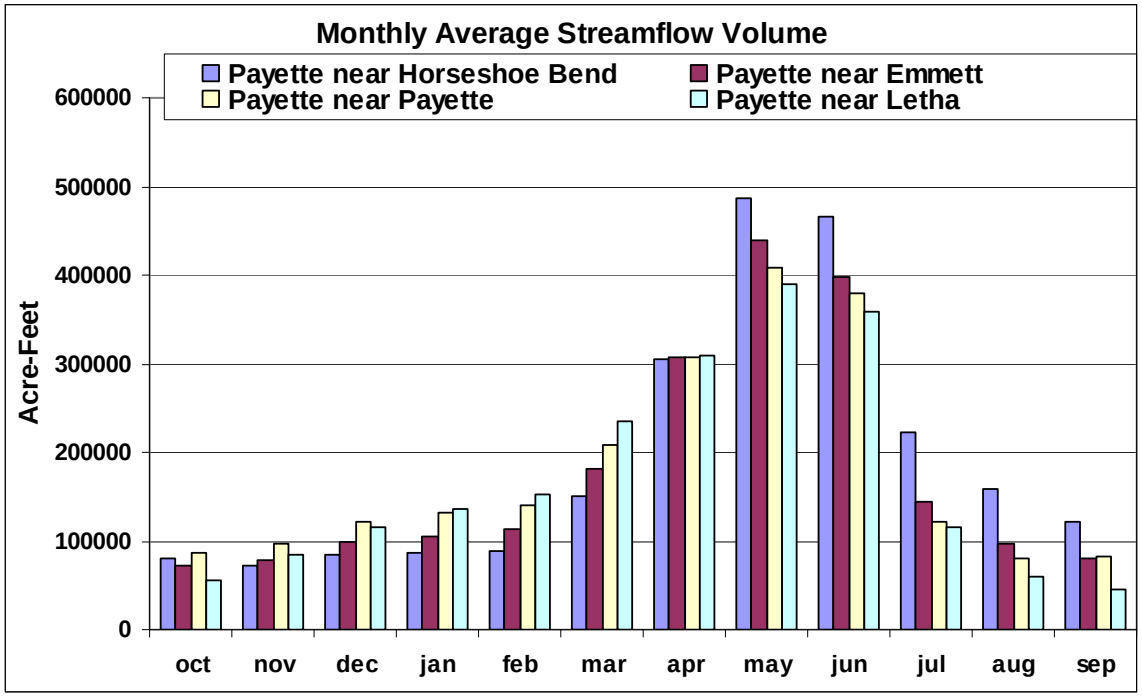
43B.7 Central Rocky Mountains--Hot Dry Canyons: The Hot Dry Canyons ecoregion is deeply dissected. Local relief can approach 5,000 feet and canyons become warmer and drier with increasing depth. There is little winter snowfall. Ponderosa pine, mountain sagebrush, and grasses are widespread; Douglas-fir also occurs but is less common than in the Lochsa-Selway-Clearwater Canyons. South-facing slopes are drier and less wooded than north-facing slopes. Mining has affected canyon bottoms some of which now serve as transportation corridors

43B.8 Central Rocky Mountains – Southern Forested Mountains: The Southern Forested Mountains ecoregion is mantled by droughty soils derived from granitic rocks and is only marginally affected by maritime influence. Open Douglas-fir is common, grand fir and subalpine fir occur at higher elevations, and ponderosa pine grows in canyons. Mountain sagebrush and forest are found in the south. Streams are subject to high sediment loading when soils are disturbed.

Streamflow Summary[7]

The main stem of the Payette River is controlled primarily by Deadwood, Cascade and Black Canyon Reservoirs and to a lesser degree other smaller reservoirs and diversions for irrigation. The Payette River headwaters contain eight SNOTEL sites that measure snow water content, precipitation and other climatic conditions. These sites measure critical data for water supply forecasts and for reservoir operation. There are four USGS stream gages on the main stem of the Payette River below the confluence of the North and South Fork of the Payette. The Payette River near Horseshoe Bend gage is approximately 15 river miles downstream from where the two forks join. Not only is this stretch of river very popular for river sports and recreation, but demands for consumptive water use result in 56,100 acres of diverted water for irrigation above the gaging station. The average annual flow of the Payette near Horseshoe Bend is 2,321,794 AF. The streamflow from April through July accounts for 64% of the average annual flow. The Payette River near Emmett is the next station downstream and the drainage area is approximately 2,680 square miles. Continuing downstream lies the Payette River near Letha gage and the drainage area is about 2,760 square miles. Lastly, just before the Payette River empties into the Snake River, sits the Payette River near Payette gaging station and the drainage area is approximately 3,240 square miles. 196,000 acres above this station and adjacent basins depend on surface and ground water supplies from the Payette River. Annually, close to 160 KAF of water passes through the Payette near Horseshoe Bend but does not make it to the mouth of the River owing mainly to irrigation. The chart below shows that the Payette near Horseshoe Bend measures higher volumes of water than the downstream stations from May through September. The April through July streamflow at the Payette River near Payette is 56% of the average annual flow of 2,164,137 AF. Over half of the annual flow occurs in this 4 month window, which illustrates the typical flow regime for snowmelt dominated river systems.

Streamflow Summary - continued



Irrigated Adjudicated Water Rights[6])		**CFS**	
	Surface Water	1,849	
	Groundwater	65	
	Total Irrigated Adjudicated Water Rights	1,914	
Stream Flow Data[7]	USGS 13247500 Payette River near Horseshoe Bend; years 1907-2006		**ACRE-FEET**
		Average Annual	2,321,794
		April - July Average	1,478,114
		Percent of Average Annual	64
Stream Data **Percent of Total Miles of streams in HUC*		**MILES**	**PERCENT**
	Total Stream Miles[8]	3,715	
	Water quality impaired streams[9,10]	367	10
	Anadromous Fish Presence (Streamnet)[11]	--	--
	Bull Trout Presence (Streamnet)[11]	21	<1
Land Cover/Use[2] based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer		**ACRES**	**PERCENT**
	Forest	21,310	16
	Grain Crops	9,410	7
	Grass/Pasture/Hay Lands	29,620	23
	Row Crops	4,020	3
	Shrub/Rangelands – Includes CRP Lands	61,950	48
	Water/Wetlands/Developed/Barren	4,140	3
	Total Acres of 100 ft stream buffers	**130,450**	100
Land Capability Class[4]	**I** – slight limitations	6,100	7
	II – moderate limitations	19,700	23
	III – severe limitations	31,400	38
	IV – very severe limitations	16,600	20
	V – no erosion hazard, but other limitations	1,700	2
	VI – severe limitations, unsuited for cultivation, limited to pasture, range, forest	6,700	8
	VII – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	1,200	1
	VIII – misc areas have limitations, limited to recreation, wildlife, and water supply	0	0
	Total Crop & Pasture Lands	**83,400**	100

Confined Animal Feeding Operations – Dairies/Feedlots[12,13, 26]						
	Number	<200	200-500	500-750	750-1000	>1000
Dairy	37	23	13	1	0	0
	Number	<300	300-999	1,000-4,999	5,000-9,000	>10,000
Feedlots	9	3	1	5	0	0

Resource Settings

Pasture
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 but are often impacted by livestock.

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 onions, sugar beets, silage corn, grain corn, mint, specialty crops, and winter wheat. Alfalfa may be included in the rotation and is typically maintained for three to four years. Irrigation-induced erosion exceeds the threshold and contributes to water quality concerns. Fertilizers and pesticides are applied. Nutrient, pest, and/or irrigation water management may be less than desirable. Impacted surface and/or ground water quality is common.

Sprinkler Irrigated Cropland
Cropland is conventionally tilled and often planted to row crops. Typical crops grown include beans, potatoes, sugar beets, mint, silage corn, grain corn, specialty crops, small grains and alfalfa. Crop rotations may contain less than 50 percent high residue crops. Sprinkler-irrigation induced erosion may be a concern, especially on steeper slopes. Typical soils are sandy loams to loams with slopes from zero to eight percent. Precipitation is eight to 12 inches per year. The irrigation water source is groundwater and surface water from irrigation districts. Hand-lines, wheel-lines and pivots, as well as micro-irrigation with drip-tape, are commonly used to irrigate crops. Irrigation water management and maintenance of sprinkler systems may be less than desirable. Fertilizers and pesticides and manure are commonly applied. Nutrient and pest management are less than desirable. Wildlife habitat is often inadequate with limited permanent cover.

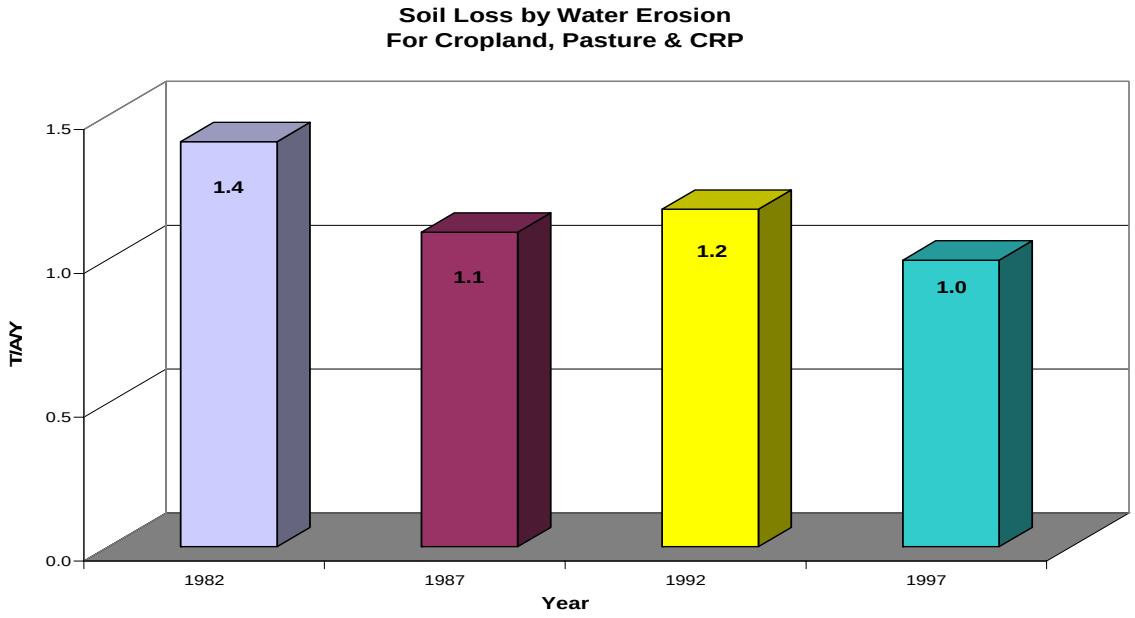
Resource Settings - continued

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. Precipitation is 10 to 20 inches per year with a growing season ranging from 80 to 160 days. Typical soils are loamy sands or finer with slopes of zero to seven percent. Fertilizers and pesticides are applied. Nutrient, pest or irrigation water management may be less than desirable.

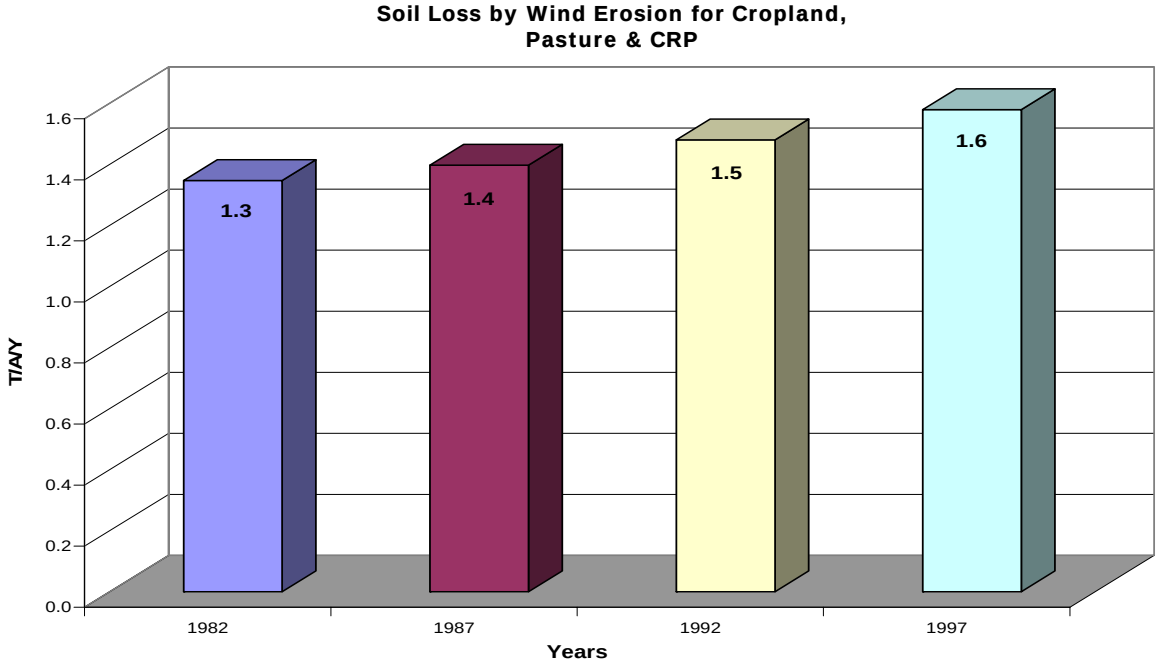
Rangeland
Low elevation desert to high elevation, steep rangeland. Low elevation desert characterized by sagebrush and perennial bunchgrasses, with annual precipitation ranging from 8-12 inches. Frequent fires have eliminated some areas of sagebrush, with annual cheatgrass and other invaders dominant. 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. High elevation range includes forested areas that are typically managed for grazing with incidental wood production. Access to riparian areas on all rangeland types is not typically managed, and temperature, nutrients, and sediment may be an associated water quality concern.

Urban Land
Urban development has created land use conflicts with agriculture and natural areas as residential and commercial development and ranchettes expand into rural areas. Ranchettes and small acreage lots may be overstocked for the resource. Specialty crops for the urban market (grass seed, vegetable crops, nursery stock) are common. Most towns and cities have regulations and ordinances addressing water management and erosion control. Impacted urban lands include multiple use lands ranging from parks, school grounds, construction sites, golf courses, drainage ways, and other public access areas. Most areas need stormwater control or treatment, erosion control, or heavy use area protection. Applications of nutrients and/or pesticides may pose a resource concern. Invasive and noxious plants and weeds may impact land and water resources. Surface and ground water quality degradation from petrochemicals and heavy metals (oil, antifreeze, asbestos, mercury) from automobile and industrial emissions are resource concerns. Mercury buildup in downstream water bodies has been documented (Brownlee Reservoir on the Snake River). Air quality degradation is rapidly increasing due to automobile emissions and creation of dust at construction sites.

Resource Concerns



Sheet and rill erosion by water on the sub basin croplands, pasturelands and CRP has been essentially static since 1982. Sheet and rill erosion is not a major issue on cropland in this sub basin. Susceptibility to sheet and rill erosion is low in this sub basin because the natural precipitation is low and the cropland is relatively flat.



Wind erosion on the sub basin's croplands, pasturelands and CRP has been very slightly increasing 1982.

Resource Concerns – Continued

Impacted Water Bodies[9,10] (ID17050122)	Stream Miles	Sediment, Siltation or TSS	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow Alteration[1]	Other or Unknown
Black Canyon Reservoir (SW002_06)	7.5	x	x					x
Big Willow Creek (SW017_02,04,06)	193.9				x[3]		x[3]	x[2]
Bissel Creek (SW015_02)	28.8	x[2]						
Bissel Creek (SW015_03)	9.6	x		x				
Payette River (SW001_06)	66.8			x				x[2]
Payette River (SW003_06)	38.2	x	x					x
Soldier Creek (SW012_02)	20.5	x						
Soldier Creek (SW012_03)	2.0							x
TOTAL STREAM MILES:	367.3							

[1] Flow alteration is not considered a pollutant by the Idaho Department of Environmental Quality, and is not addressed by the TMDL.
[2] Assessment proposes to delist on the next Integrated Report.
[3] Assessment documented exceedances, and recommends listing for the specified pollutant on the next Integrated Report.
Shading indicates approved TMDL in place.

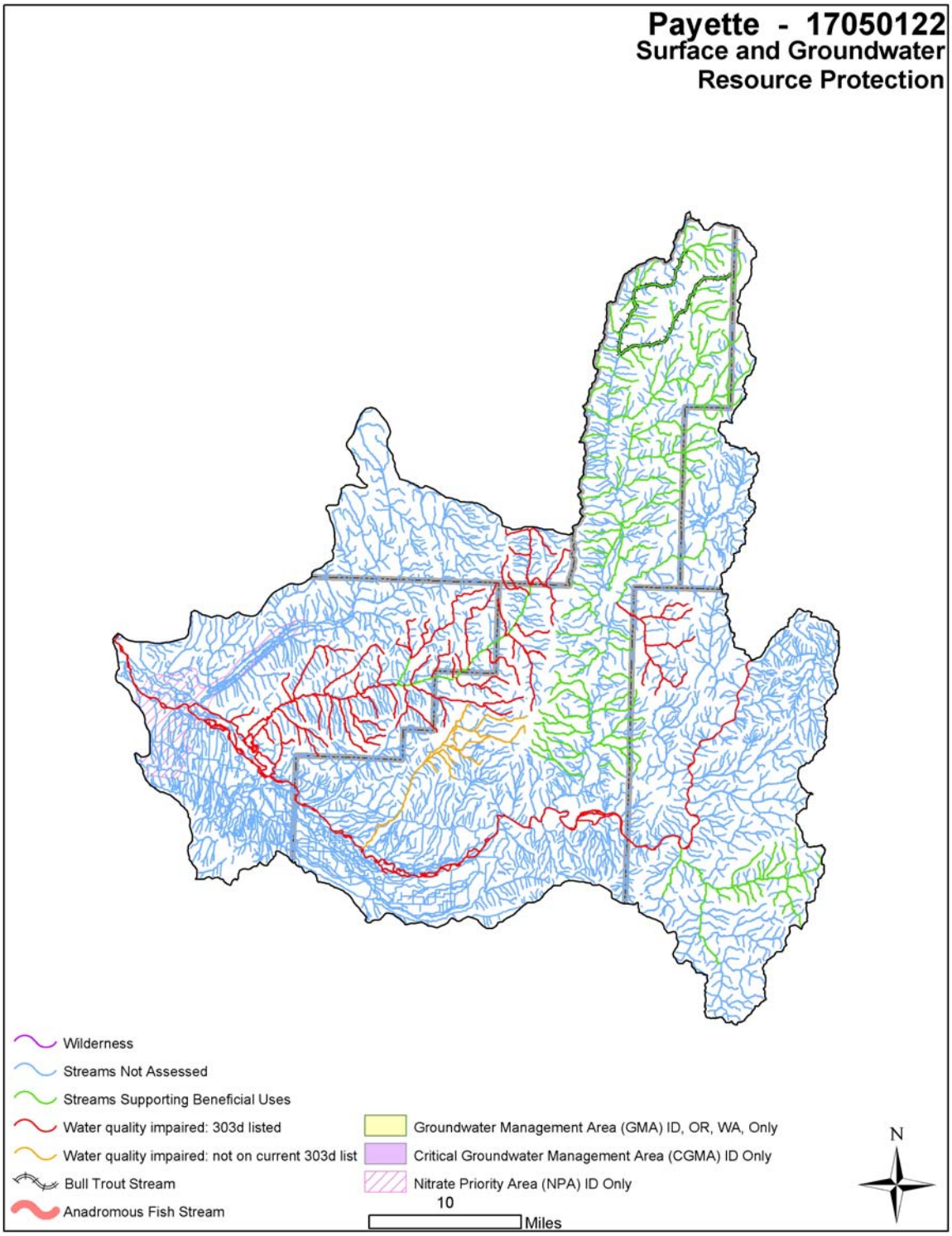
Land use in the watershed is primarily agriculture, including irrigated cropland and pasture, and upland grazing. Several municipal treatment plants and confined animal feeding operations are located in the watershed. Non-point sources contributing to impairment include irrigated agriculture, grazing, faulty septic systems, sludge disposal, industrial land application, animal waste land application, and stormwater runoff. Nutrients have not been shown to cause impairment to the beneficial uses at this time, but a load allocation has been made for the Payette River through the Snake River-Hells Canyon TMDL. Bacteria levels exceed the water quality standards for both primary and secondary contact recreation. Hydrology of the river is complex, with numerous irrigation water withdrawal and return drains dominating both flow and quality of the river and tributaries. A portion of the Payette Nitrate Priority Area is located in the western part of the watershed. The average nitrate concentration of wells tested in this area exceeds 5 mg/L. Well testing data has also shown low-level detections of various pesticides.

Conservation practices that can be used to address these water quality issues include erosion control, grazing management, irrigation water management, residue management, nutrient and pest management, animal waste management, streambank enhancement/restoration, and riparian buffers. With the expansion of subdivisions and urban development in areas of the watershed, storm water management will become increasingly important.

Watershed Projects, Plans, Studies, and Assessments*	
Federal:	***State:***
NRCS Watershed Plans/Studies/Assessments[14,15]	**IDEQ TMDLs**[16]
Lower Payette River Water Quality Planning Report (1993) – SWCD Lower Payette Ditch Diversion Replacement Environmental Assessment (2005) – contract with Watershed Professionals Network, LLC	Lower Payette River Subbasin Assessment and TMDL (2000) Big Willow Creek Addendum – Draft (2007) Bissel Creek Subbasin Assessment and TMDL (2003)
	IDEQ 319 Projects/[17]
	Lower Payette River TMDL Implementation (2003) Gem County Stormwater Management Demonstration (2004)
NWPCC Subbasin Plans and Assessments[18]	**SCC Plans/Projects**[19]
Middle Snake Subbasin Assessment (2004)	Lower Payette Agricultural TMDL Implementation Plan (2003)
	ISDA Regional Water Quality Projects[20]
	Regional Ground Water Quality Monitoring Project for Payette and Gem Counties (on-going) Lower Payette, Buckingham Subwatershed Monitoring Project (2002) Payette Ditch Water Quality Monitoring Project (2003)
	IDWR Comprehensive Basin Plans[21]
	Payette River Comprehensive Basin Plan (1999)

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

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

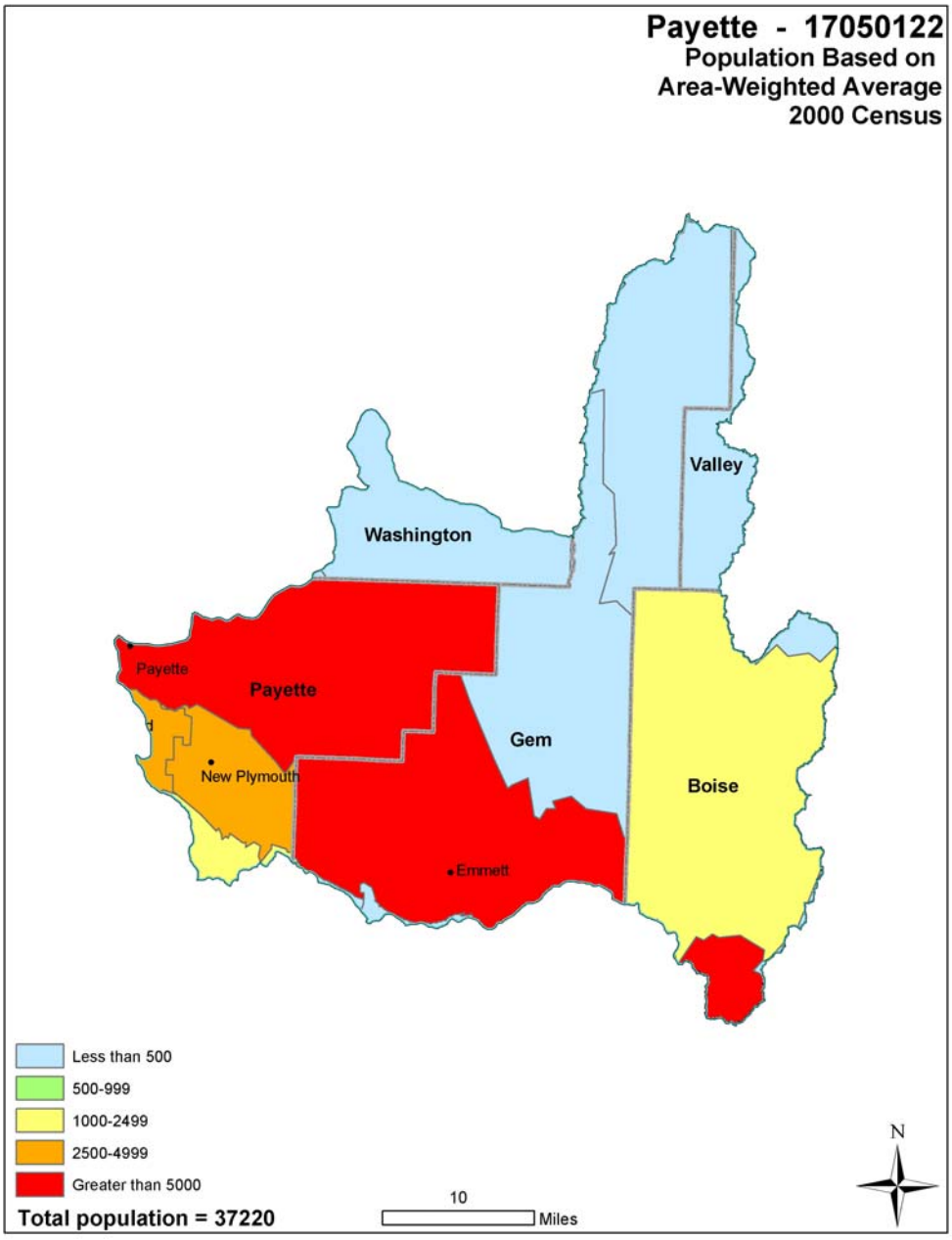
Human considerations: Implementation of conservation practices and enhancement has the potential for change in management and cost of production. Installation of practices will have an upfront cost and require maintenance. In the short run increased management may be required as new techniques are learned. 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 – Gray wolf **Birds –** None **Fish –** Bull trout **Invertebrates –** None **Plants –** None	**Plants** – None **Vertebrates** – Southern Idaho Ground Squirrel **PROPOSED SPECIES** - None
ESSENTIAL FISH HABITAT – None	**CRITICAL FISH HABITAT –** Proposed

Census and Social Data[126]

Population: 37,200

Number of Farms: 490



Census and Social Data - continued

Fifty-five 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 14.1 percent of the total. Ninety-six 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 490 acres. Agricultural land in the watershed is a mix of cropland, range, pasture and hay land. Land users in the watershed utilize EQIP, CRP, Continuous CRP and other programs to implement conservation plans.

Farm size is up 8.9 percent. The market value of production is also up, increasing by 31.1 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. Eight-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	460	490	$54.900	$3,700
2002	490	450	$72,000	$5,200
Change	6.5%	8.9%	31.1%	39.1%

Economic Profile:

	Watershed	Idaho	United States
Population (2000)	37,200	1,294,000	281,422,000
Per Capita Personal Income (2001)	$20,100	$24,500	$30,400
Median Home Value (2000)	$104,400	$106,600	$119,600
Percent Unemployment (2002)	9.1%	5.8%	5.4%
Percent Below Poverty Level (2003)	12.0%	11.8%	12.5%

Progress / Status

PRS Data						
Conservation Treatment Acres	FY04	FY05	FY06	FY07	Avg/Year	Total
Conservation Crop Rotation (328) (acres)	869	120	910	96	498.8	1995
Diversion (362) (ft)	0	0	6055	0	1513.8	6055
Nutrient Management (590) (acres)	1734	660	1264	130	947.0	3788
Pasture and Hay Planting (512) (acres)	35	76	24	57	48.0	192
Prescribed Grazing (528&528A) (acres)	8206	1933	433	19743	7578.8	30315
Pest Management (595) (acres)	4820	2925	5592	1154	3622.8	14491
Residue Management Seasonal (344) (acres)	0	0	0	0	0.0	0
Fence (382) (ft)	13389	23420	36870	68900	35644.8	142579
Spring Development (574) (no.)	0	2	0	0	0.5	2
Pipeline (516) (ft)	0	42605	1550	3680	11958.8	47835
PAM erosion control (450 (acres)	74	18	248	0	85.0	340
Irrigation Land Leveling (464) (acres)	97	110	94	25	81.5	326
Irrigation System, Microirrigation (441) (acres)	42	0	37	0	19.8	79
Irrigation System, Sprinkler (442) (acres)	309	117	522	276	306.0	1224
Irrigation System, Surface (443) (acres)	113	136	120	80	112.3	449
Irrigation Water Management (449)	1324	421	1077	621	860.8	3443
Structure For Water Control (587) (no.)	10	9	13	7	9.8	39
IWC Concrete canal lining 428A)	11345	3505	2408	15124	8095.5	32382
IWC High & Low Pressure Pipeline (430DD) & (430EE) (ft)	3939	5825	10241	14545	8637.5	34550
IWC Gated Pipeline (430HH) (ft)	4770	1740	0	870	1845.0	7380
Waste Storage Facility (313) (no.)	0	0	6	0	1.5	6
Comprehensive Nutrient Management Plan (100) (no.)	0	1	4		1.7	5
Upland Wildlife Management (645)(acres)	122	2145	201	20469	5734.3	22937
Wetland Enhancement (659) (acres)	0	0	0	88	22.0	88
Wetland Restoration (657) (acres)	0	0	10	0	2.5	10
Wetland Wildlife Management (644)(acres)	3	0	53	87	35.8	143
Windbreak/Shelterbelt Estab. (380)(ft)	0	0	0	0	0.0	0

Progress / Status, continued

Progress in the last seven years has been focused on:

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

Resource concerns that require ongoing attention:

~ erosion control
~ water quality
~ water conservation/quantity
~ native plant community health and restoration
~ wildlife habitat improvement
~ noxious and invasive plant species control/management
~ rangeland health

Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): 159 acres
- Wetland Reserve Program (WRP): 162 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/programs/streamstats.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).
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. Lower Payette River Subbasin Assessment and TMDL. http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/payette_river_lower/payette_river_lower.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-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

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.state.id.us/water/data reports/surface water.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. http://www.nwcouncil.org/fw/subbasinplanning/.

19. Idaho Soil Conservation Commission (SCC), TMDL watershed implementation plans: agricultural component, http://www.scc.state.id.us/PDF/Ag%20Component%20Status%20Report%20-%202004.pdf, and Water Quality Program, http://www.scc.state.id.us/Docs/WQPA%20FACT%20SHEET.doc

20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects. http://www.agri.idaho.gov/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.nass.usda.gov/Census_of_Agriculture/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 PRMS and 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.

4. Urban development of land that was open space as farmland or rangeland presents its own type of resource problems that will require treatment as well as reduce the projected needs for traditional conservation associated with existing cropland and rangeland that is converted to urban use.

NRCS Natural Resources Conservation Service

Idaho

Payette - 17050122

8 Digit Hydrologic Unit Profile

July 2007

Conservation Activities for Irrigated Cropland / Hayland

Current Conditions		Total acres
Total Irrigated Cropland/Hayland		71,900
Typical Management Unit/Ownership		60
Surface Irrigated Cropland/Hayland		53,925
Sprinkler Irrigated Cropland/Hayland		17,975
Current Farm Bill participation		8%

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.				-3	-/+	-2	-3				
Anionic Polyacrylamide, (PAM) (450)	Ac.	340	$ -	$ 5,100					X			X
Conservation Crop Rotation (328)	Ac.	946	-	-					X			X
Filter Strip (393)	Ac.	31	-	100					X			X
Irrigation Land Leveling (464)	Ac.	289	-	1,700					X			X
Irrigation System, Surface (443)	Ac.	369	-	1,700					X			X
Irrigation Water Conveyance (431)	Ft.	6,180	-	300					X			X
Irrigation Water Conveyance Canal (428A)	Ft.	15,037	-	500					X			X
Irrigation Water Management (449)	Ac.	1,165	-	8,700					X			X
Nutrient Management (590)	Ac.	1,358	-	6,800					X			X
Pasture and Hayland Planting (512)	Ac.	56	-	100					X			X
Pest Management (595)	Ac.	688	-	6,900					X			X

Conservation Activities for Irrigated Cropland / Hayland - continued

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
Pumping Plant (533)	No.	5	-	300					X			X
Riparian Herbaceous Cover (390)	Ac.	117	-	400					X			X
Structure for Water Control (587)	No.	17	-	200					X			X
Wetland Enhancement (659)	Ac.	43	-	900					X			X
Wetland Wildlife Management (644)	Ac.	66	-	300					X			X

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.				-/+	-/+	-/+	-/+				
Conservation Crop Rotation (328)	Ac.	984	$ -	$ -					X			X
Critical Area Planting (342)	Ac.	2	-	-								
Irrigation System, Micro (441)	Ac.	79	-	5,900					X			X
Irrigation System, Sprinkler (442)	Ac.	1,247	-	13,700					X			X
Irrigation Water Conveyance (430DD)	Ft.	14,000	-	400					X			X
Irrigation Water Conveyance (430EE)	Ft.	14,625	-	300					X			X
Irrigation Water Management (449)	Ac.	1,563	-	11,700					X			X
Nutrient Management (590)	Ac.	2,170	-	10,900					X			X
Pest Management (595)	Ac.	1,376	-	13,800					X			X
Pumping Plant (533)	No.	3	-	200					X			X
Structure for Water Control (587)	No.	15	-	200					X			X
Upland Wildlife Habitat Management (645)	Ac.	562	-	2,800					X	X		X
Use Exclusion (472)	Ac.	126	-	100					X			X

Conservation Activities for Irrigated Cropland / Hayland - continued

Future Conditions			Total Acres
Surface Irrigated Cropland/Hayland			47,550
Sprinkler Irrigated Cropland/Hayland			15,850
Total Irrigated Cropland/Hayland Acres			63,400

Projected Additional Treament 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
Surface Irrigation	Ac.				+1	+1	+3	+1				
Anionic Polyacrylamide, (PAM) (450)	Ac.	25,700	$ 1,156,500	$ 385,500					X			X
Conservation Crop Rotation (328)	Ac.	42,800	-	-					X			X
Constructed Wetland (656)	No.	2	34,000	300					X			X
Irrig. System, Micro Irrigation (Drip) (441)	No/Ac	4,280	6,420,000	321,000					X			X
Irrigation System, Gated Pipe/Surge (443)	Ac.	4,280	898,800	27,000					X			X
Irrigation System, Surface (443)	Ac.	21,400	3,210,000	96,300					X			X
Irrigation Tailwater Recovery (447)	No.	90	1,359,000	40,800					X			X
Irrigation Water Conveyance (430 EE)	Ft.	706,100	2,803,200	14,000					X	X		X
Irrigation Water Conveyance (431)	Ft.	169,500	691,600	6,900					X	X		X
Irrigation Water Management (449) - Low Level	Ac.	42,800	642,000	214,000					X			X
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	430	12,900	4,300					X			X
Land Leveling/Smoothing (466 & 464)	Ac.	860	172,000	5,200					X			X
Nutrient Management (590)	Ac.	42,800	642,000	214,000					X			X
Pest Management (595)	Ac.	42,800	1,284,000	428,000					X			X
Residue Management Mulch Till (345)	Ac.	6,400	288,000	96,000					X			X
Residue Management Seasonal (344)	Ac.	30,000	675,000	225,000					X			X
Sediment Basin (350)	No.	60	112,500	3,400					X			X

Conservation Activities for Irrigated Cropland / Hayland - continued

Projected Additional Treament Needs for Irrigated Cropland/Hayland (continued):

Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
Surface Irrigation Continued	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Surface Roughening (609)	Ac.	1,500	$ 33,800	$ 11,300					X			X
Upland Wildlife Habitat Management (645)	Ac.	860	12,900	4,300					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	9,600	14,400	100					X	X		X
									X	X		X
Sprinkler Irrigation	Ac.				+3	+2	+2	+3				
Conservation Crop Rotation (328)	Ac.	14,300	$ -	$ -					X			X
Constructed Wetland (656)	No.	8	80,000	800					X	X		X
Irrigation System, Sprinkler (442)	Ac.	1,430	786,500	15,700					X			X
Irrigation Water Conveyance (430DD)	Ft.	71,300	386,400	1,900					X			X
Irrigation Water Management (449) - Low level	Ac.	14,300	214,500	71,500					X			X
Irrigation Water Management (449) -Meters and Moisture Sensors	Ac.	145	4,400	1,500					X			X
Nutrient Management (590)	Ac.	14,300	214,500	71,500					X			X
Pest Management (595)	Ac.	14,300	429,000	143,000					X			X
Residue Management Seasonal (344)	Ac.	10,000	225,000	75,000					X			X
Residue Mngt, Mulch Till (345)	Ac.	2,140	96,300	32,100					X			X
Residue Mngt, No Till/Strip Till (329)	Ac.	1,070	96,300	32,100					X			X
Upland Wildlife Habitat Management (645)	Ac.	290	4,400	1,500					X	X		X
Windbreak/Shelterbelt Establishment (380)	Ft.	3,200	4,800	-					X	X		X
Total RMS Costs			$23,004,700	$2,544,000								

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	$ 1,150,200	$ 127,200
Potential Farm Bill Programs	$ 21,854,500	$2,416,800
Operator O&M and Management Cost		$2,544,000
Annual Management Incentives (3 yrs - Incentive Payments)	$ 6,144,000	
Operator Investment	$ 5,077,800	
Federal Costshare	$ 11,782,900	
Total RMS Costs	$ 23,004,700	$2,544,000
Estimated Level of Participation		50%
Total Acres in RMS System		31,700
Anticipated Cost at Estimated Level of Participation	$	11,502,400
Total Acre Feet of Water Saved Annually		*29,700
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		
Reduces impact to ground and surface water quality		

* adjusted for urban development, savings related to participation in NRCS Program.

Conservation Activities for Irrigated Pasture

Current Conditions		Total Acres	Riparian/ Wetland Potential
Surface Irrigated Pasture		18,120	1,340
Sprinkler Irrigated Pasture		1,580	116
Total Irrigated Pasture		19,700	1,456
Typical Management Unit/Ownership		15	
Current Farm Bill participation		6%	

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.				-3	-/+	-2	-3				
Fence (382)	Ft.	38,314	$ -	$ 1,300					X	X		X
Heavy Use Area Protection (561)	Ac.	1	-	2,300					X			
Irrigation System Surface (443)	Ac.	267	-	1,200					X			
Irrigation Water Conveyance (431)	Ft.	1,512	-	60					X			
Irrigation Water Conveyance Canal (428A)	Ft.	18,345	-	630								
Irrigation Water Management (449)	Ac.	248	-	1,900					X			
Nutrient Management (590)	Ac.	143	-	700					X			
Pasture and Hayland Planting (512)	Ac.	52	-	100.00					X			X
Pest Management (595)	Ac.	443	-	4,400					X			
Pipeline (516)	Ft.	3,680	-	200					X			
Pond (378)	No.	1	-	70					X	X		
Prescribed Grazing (528)	Ac.	153	-	800					X			X
Pumping Plant (533)	No.	7	-	400					X			X

Conservation Activities for Irrigated Pasture - continued

Current Level of Treatment for Irrigated Pasture - continued:

	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
Riparian Forest Buffer (391)	Ac.	3	-	-					X	X		
Riparian Herbaceous Cover (390)	Ac.	58	-	200					X	X		
Wetland Creation (658)	Ac.	1	-	100					X			X
Wetland Enhancement (659)	Ac.	43	-	900					X			X
Wetland Restoration (657)	Ac.	10	-	500					X			X
Wetland Wildlife Management (644)	Ac.	76	-	400					X	X		X
Sprinkler Irrigation	Ac.				+2	+1	+1	+3				
Fence (382)	Ft.	37,721	$ -	$ 1,300.00					X	X		X
Irrigation System Sprinkler (442)	Ac.	129	-	1,400					X			
Irrigation Water Conveyance (430DD)	Ft.	1,020	-	30					X			
Irrigation Water Conveyance (430EE)	Ft.	4,395	-	90								
Irrigation Water Management (449)	Ac.	315	-	2,400					X			
Nutrient Management (590)	Ac.	142	-	700					X			
Pasture and Hayland Planting (512)	Ac.	85	-	90					X			X
Pest Management (595)	Ac.	522	-	5,200					X			
Pipeline (516)	Ft.	2,260	-	120								
Prescribed Grazing (528)	Ac.	446	-	2,200					X			X
Upland Wildlife Management (645)	Ac.	410	-	2,100					X	X		
Use Exclusion (472)	Ac.	126	$ -	$ 100					X			
Water Well (642)	No.	1	-	40					X			

Conservation Activities for Irrigated Pasture - continued

Future Conditions		Total Acres
Surface Irrigated Pasture		16,016
Sprinkler Irrigated Pasture		1,394
Total Conversion to Riparian Pasture RMS		1,390
Total Acres		18,800

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
Surface Irrigation	Ac.				+/-	+/-	+1	+1				
Fence (382)	Ft.	360,400	$ 630,700.00	$12,600.00					X	X		X
Heavy Use Area Protection (561)	Ac.	10	150,000	22,500					X			X
Irrigation System Surface (443)	Ac.	5,800	870,000	26,100					X	X	X	X
Irrigation Water Conveyance (430EE)	Ft.	47,600	189,000	900					X			X
Irrigation Water Conveyance (431)	Ft.	115,300	470,400	4,700					X			X
Irrigation Water Conveyance Canal (428A)	Ft.	216,200	1,491,800	7,500					X			X
Irrigation Water Management (449)	Ac.	14,400	324,000	108,000					X			X
Nutrient Management (590)	Ac.	14,400	216,000	72,000					X			X
Pasture & Hayland Planting (512)	Ac.	1,440	144,000	1,400					X			X
Pest Management (595)	Ac.	14,400	432,000	144,000					X			X
Pipeline (516)	Ft.	43,200	116,600	2,300					X			
Pond (378)	No.	10	68,000	700					X	X		
Prescribed Grazing (528)	Ac.	14,400	216,000	72,000					X			X
Pumping Plant ((533)	No.	70	448,000	4,500					X			X
Upland Wildlife Management (645)	Ac.	1,440	21,600	7,200					X	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
Surface Irrigation	Ac.				+/-	+/-	+1	+1				
Watering Facility (614)	No.	360	378,000	3,800					X			X
Wetland Creation (658)	Ac.	10	50,000	500					X			X
Wetland Enhancement (659)	Ac.	120	240,000	2,400					X			X
Wetland Restoration (657)	Ac.	120	600,000	6,000					X			X
Wetland Wildlife Management (644)	Ac.	120	1,800	600					X			X
Windbreak/Shelterbelt Establish(380)	Ft.	112,800	169,200	1,700					X	X		X
Sprinkler Irrigated	Ac.				+3	+3	+2	+3				
Fence (382)	Ft.	31,300	$ 54,800.00	$ 1,100.00					X	X		X
Irrigation System Sprinkler (442)	No.	500	275,000	5,500					X			X
Irrigation Water Conveyance (430DD)	Ft.	7,500	40,700	200					X			X
Irrigation Water Management (449)	Ac.	1,250	28,100	9,400					X			X
Nutrient Management (590)	Ac.	1,250	18,800	6,300					X			X
Pasture & Hayland Planting (512)	Ac.	130	13,000	100					X			X
Pest Management (595)	Ac.	1,250	37,500	12,500					X			X
Pipeline (516)	Ft.	22,500	60,800	1,200								
Prescribed Grazing (528)	Ac.	1,250	18,800	6,300					X			X
Upland Wildlife Management (645)	Ac.	130	2,000	700					X			X
Use Exclusion (472)	Ac.	310	10,900	300					X			X
Water Well ((642)	No.	5	20,000	200					X			
Watering Facility (614)	No.	30	31,500	300					X			X
Windbreak/Shelterbelt Establish(380)	Ft.	12,400	18,600	200					X			X

Conservation Activities for Irrigated Pasture – continued

Projected 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.				+1	+1	+3	+3				
Channel Bank Vegetation (322)	Ac.	5	$ 25,900.00	$ 500.00					X			X
Channel Stabilization (584)	Ft.	3,400	68,000	300					X			X
Fence (382)	Ft.	31,300	54,800	1,100					X	X	X	X
Nutrient Management (590)	Ac.	1,250	18,800	6,300					X			X
Pasture & Hayland Planting (512)	Ac.	130	13,000	100					X			X
Pest Management (595)	Ac.	1,250	37,500	12,500					X			X
Pipeline (516)	Ft.	12,400	33,500	700					X			X
Prescribed Grazing (528)	Ac.	1,250	18,800	6,300					X			X
Riparian Forest Buffer (391)	Ac.	15	22,500	200					X			X
Riparian Herbaceous Cover (390)	Ac.	15	4,500	-					X	X	X	X
Streambank & Shoreline Prot (580)	Ft.	1,310	62,200	6,200					X			X
Tree/Shrub Establishment (612)	Ac.	40	18,600	200					X	X		X
Upland Wildlife Management (645)	Ac.	130	2,000	700					X	X		X
Use Exclusion (472)	Ac.	130	4,600	100					X	X	X	X
Watering Facility (614)	No.	30	31,500	300					X		X	X
Wetland Wildlife Management (644)	Ac.	12,500	187,500	62,500					X			X
Total RMS Costs			$ 8,461,300	$ 643,700								

Conservation Activities for Irrigated Pasture – continued

RMS Cost Summary for Irrigated Pasture:

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs (5 percent of total)	$ 423,100	$ 32,200
Potential Farm Bill Programs 95 percent of total	$ 8,038,200	$ 611,500
Operator O&M and Management Cost		$ 643,700
Annual Management Incentives (3 yrs - Incentive Payments)	$ 1,581,200	
Operator Investment	$ 2,037,400	
Federal Costshare	$ 4,842,700	
Total RMS Farm Bill Costs	$ 8,461,300	
Estimated Level of Participation		50%
Total Acres in RMS System		9,400
Anticipated Cost at Estimated Level of Participation	$	4,230,700
Total Acre Feet of Water Saved Annually		14,400
Total Annual Forage Production Benefits (animal unit months)		39,100
Improves ground water and surface water quality by minimizing off-site transport		
Improves riparian habitat for ESA endangered & threatened species		

NRCS Natural Resources Conservation Service

Idaho

Payette - 17050122

8 Digit Hydrologic Unit Profile

July 2007

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland

Current Conditions	Grazed	Ungrazed	Riparian/Wetland/Potential	Total Acres
Private Rangeland and Dry Pasture	365,200		20,027	365,200
Typical Range Management Unit				2,000
Current Farm Bill participation				8%

Current Level of Treatment for Rangeland and Dry Pasture:

	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.				+/-	+/-	+/-	+/-					
Animal Trails and Walkways (575)	Ft.	4,760	$ -	$ 600									
Diversion (362)	Ft.	3,055	-	200									
Fence (382)	Ft.	52,024	-	1,800					X				X
Forest Stand Improvement (666)	Ac.	13	-	-					X				X
Prescribed Grazing (528)	Ac.	29,515	-	59,000					X				X
Pest Management (595)	Ac.	11,391	-	113,900					X				X
Pipeline (516)	Ft.	40,345	-	2,200					X				X
Pond (378)	No.	4	-	300					X	X			X
Riparian Herbaceous Cover (390)	Ac.	58	-	200					X	X			X
Spring Development (574)	No.	2	-	-					X	X			X
Watering Facility (614)	No.	10	-	100					X				X
Upland Wildlife Management (645)	Ac.	21,963	-	109,800					X	X			X

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland – continued

Future Conditions	Rangeland / Pasture	Riparian	Total Acres
	343,200	19,900	363,100

Projected Additional Treatment Needs for Rangeland and Dry Pasture:

		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
Rangeland and Dry Pastureland	Ac.				+3	+2	+3	+3					
Animal Trails and Walkways (575)	Ft.	59,400	$ 297,000	$ 14,900					X				X
Diversion (362)	Ft.	24,600	67,700	1,400					X				X
Fence (382)	Ft.	4,620,000	8,085,000	161,700					X				X
Forest Stand Improvement (666)	Ac.	2,360	1,062,000	5,300					X				X
Pest Management (595)	Ac.	308,900	9,267,000	3,089,000					X				X
Pipeline (516)	Ft.	1,540,000	4,158,000	83,200					X	X			X
Pond (378)	No.	310	2,108,000	21,100					X				X
Prescribed Grazing (528)	Ac.	308,900	1,853,400	617,800					X				X
Range Planting (550)	Ac.	12,300	1,107,000	11,100					X	X			X
Spring Development (574)	No.	310	728,500	3,600					X	X			X
Upland Wildlife Management (645)	Ac.	154,400	2,316,000	772,000					X	X			X
Watering Facility (614)	No.	610	640,500	6,400					X				X
Well (642)	No.	155	620,000	6,200					X				X

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland – continued

Projected Additional Treatment Needs for Rangeland and Dry Pasture (Continued):

	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.				+3	+2	+3	+3					
Channel Bank Vegetation (322)	Ac.	30	$ 155,300	$ 3,100					X	X			X
Channel Stabilization (584)	Ft.	23,300	466,000	2,300					X				X
Fence (382)	Ft.	270,000	472,500	9,500					X	X	X		X
Pest Management (595)	Ac.	17,900	537,000	179,000					X				X
Pipeline (516)	Ft.	90,000	243,000	4,900					X				X
Prescribed Grazing (528)	Ac.	17,900	107,400	35,800					X				X
Riparian Forest Buffer (391)	Ac.	900	1,350,000	13,500					X	X			X
Riparian Herbaceous Cover (390)	Ac.	900	270,000	2,700					X	X	X		X
Streambank & Shoreline Prot (580)	Ft.	18,100	859,800	86,000					X	X			X
Tree/Shrub Establishment (612)	Ac.	360	167,400	1,700					X	X			X
Upland Wildlife Management (645)	Ac.	1,800	27,000	9,000					X	X			X
Use Exclusion (472)	Ac.	1,800	63,000	1,900					X	X	X		X
Watering Facility (614)	No.	20	21,000	200					X		X		X
Wetland Wildlife Management (644)	Ac.	1,800	27,000	9,000					X		X		X
Total RMS Costs			$37,076,500	$5,152,300									

Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland – continued

RMS Cost Summary for Rangeland:

Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs (5 percent of total)	$ 1,853,800	$ 257,600
Potential Farm Bill Programs 95 percent of total	$35,222,700	$4,894,700
Operator O&M and Management Cost		$5,152,300
Annual Management Incentives (3 yrs - Incentive Payments)	$14,134,800	
Operator Investment	$ 7,125,800	
Federal Costshare	$15,815,900	
Total RMS Farm Bill Costs	$37,076,500	
Estimated Level of Participation		20%
Total Acres in RMS System		72,600
Anticipated Cost at Estimated Level of Participation	$	7,415,300
Total Annual Forage Production Benefits (acre unit months)		9,800
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

<u>Confined Animal Feed Operations</u> (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		Total
CAFOs		5
AFOs		41
Current Farm Bill participation	24%	
Total CAFOs and AFOs		46

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.				+/-	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.	-	$ -	$ -					X				
Waste Storage Facility (313) AFO	No.	11	-	9,900					X				
Feed Lot	No.				+/-	+/-	+/-	+/-					
Waste Storage Facility (313) CAFO	No.	-	$ -	$ -					X				
Waste Storage Facility (313) AFO	No.	-	-	-					X				

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

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.	26	1,170,000	23,400					X				X
Feed Lot	No.				+3	+1	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	-	$ -	$ -					X				X
Waste Storage Facility (313) AFO	No.	4	180,000	3,600					X				X
Total RMS Costs		30	$1,350,000	$ 27,000									

Conservation Activities for Headquarters – continued

RMS Cost Summary for Headquarters		
Cost Items and Programs	Costs	O&M Costs
Non Farm Bill Programs	$ 67,500	$ 1,400
Potential Farm Bill Programs	$1,282,500	$ 25,600
Operator O&M and Management Cost		$ 27,000
Annual Management Incentives (3 yrs - Incentive Payments)	$ 135,000	
Operator Investment	$ 354,400	
Federal Costshare	$ 860,600	
Total RMS Costs	$1,350,000	
Estimated Level of Participation		35%
Total CAFO/AFO in RMS System		11
Anticipated Cost at Estimated Level of Participation	$	472,500
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		