

## Introduction

The Blackfoot 8-Digit Hydrologic Unit Code (HUC) subbasin contains 690,770 acres. Fifty nine percent of the subbasin is in Caribou County, 40 percent in Bingham County, and 1 percent in Bonneville County. Thirty seven percent of the basin is privately owned and 44 percent is publicly owned.

Sixty nine percent of the basin is in shrubland, rangeland, grass, pasture, or hayland. Eight percent is cropland, and the remainder is forest, water, wetlands, developed or barren.

Elevations range from 4,406 feet in the northwestern portion of the HUC to over 8,965 feet in the southeastern portion of the HUC.

Conservation assistance is provided by 5 Soil and Water Conservation Districts, and 3 Resource Conservation and Development offices.

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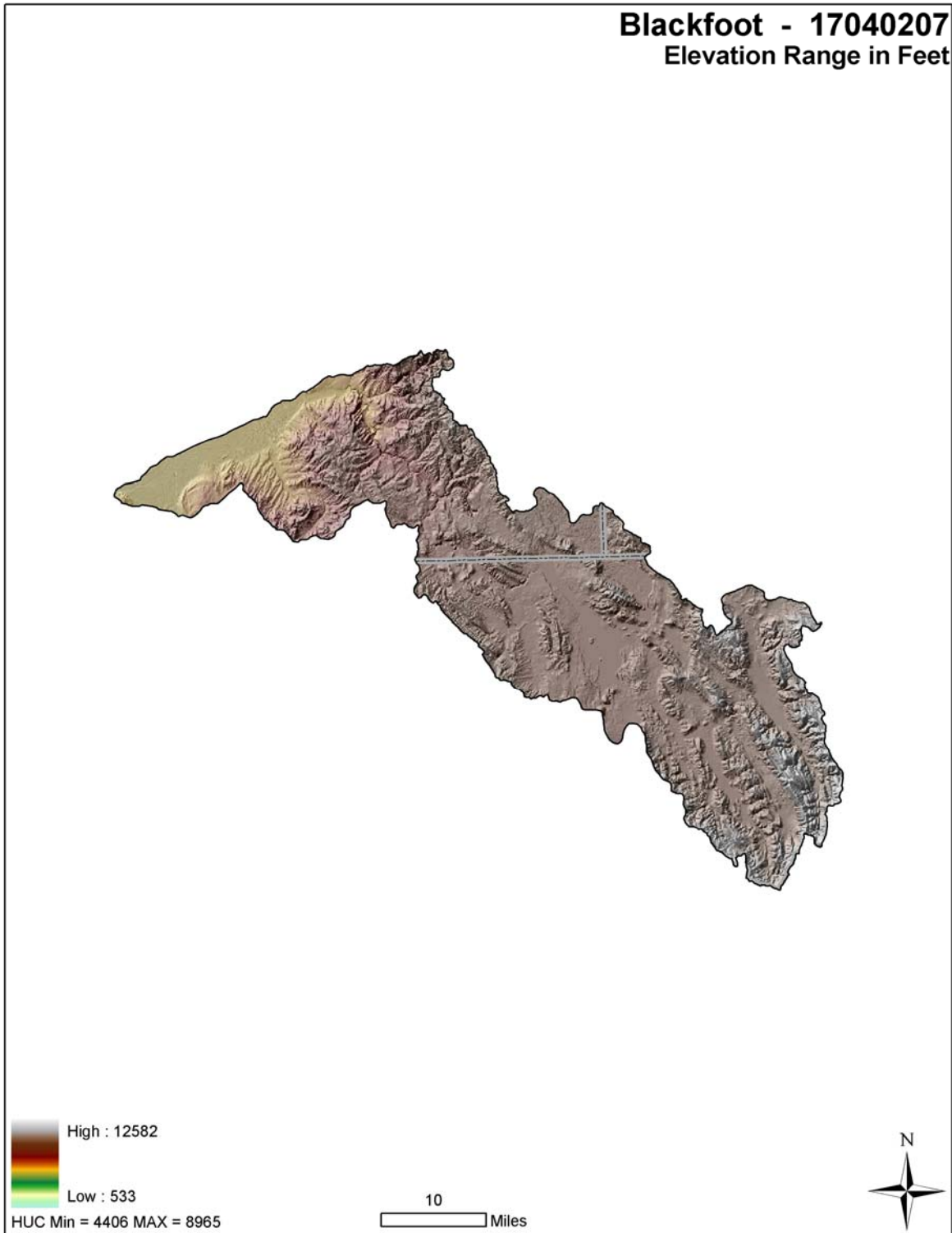
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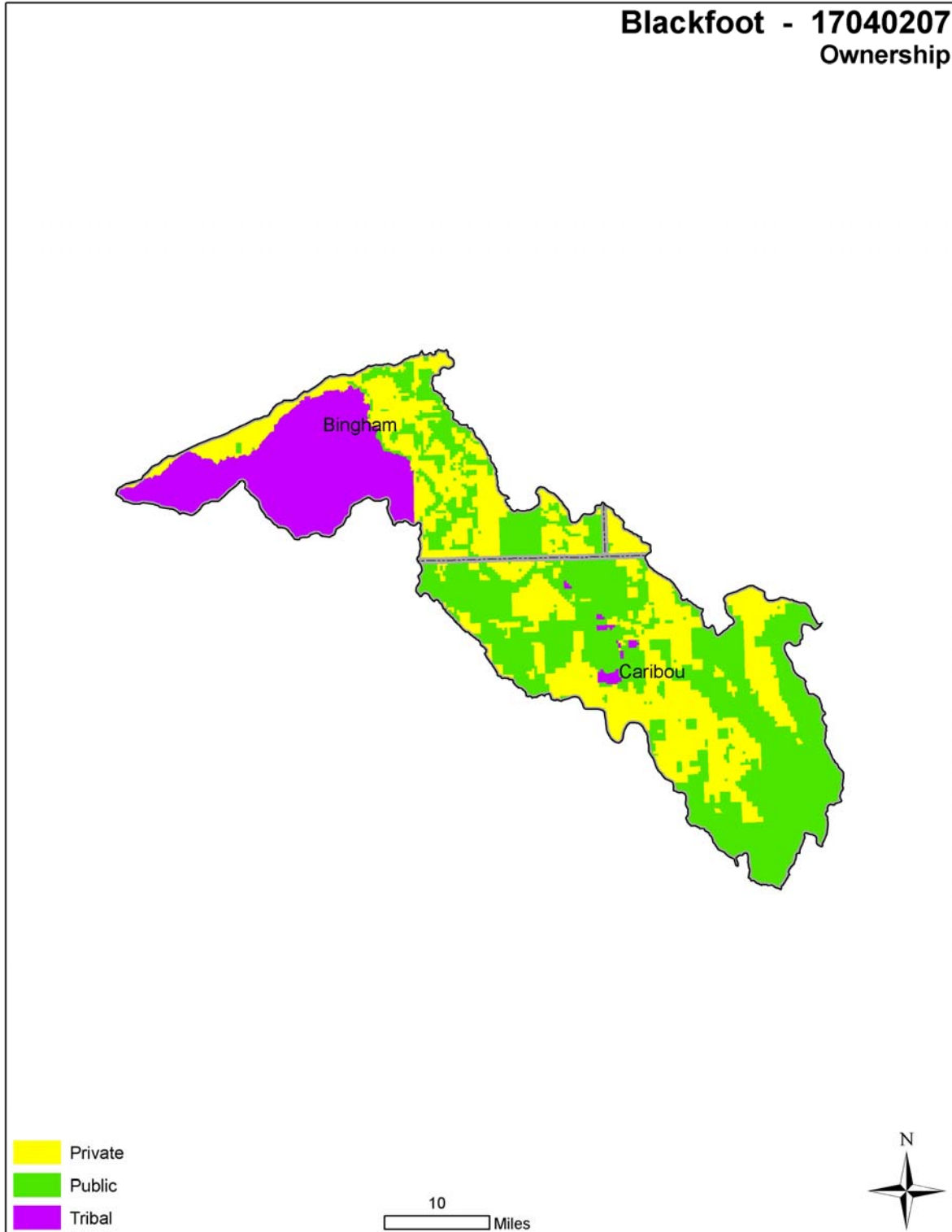
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**Relief Map**



**General Ownership<sup>1</sup>**



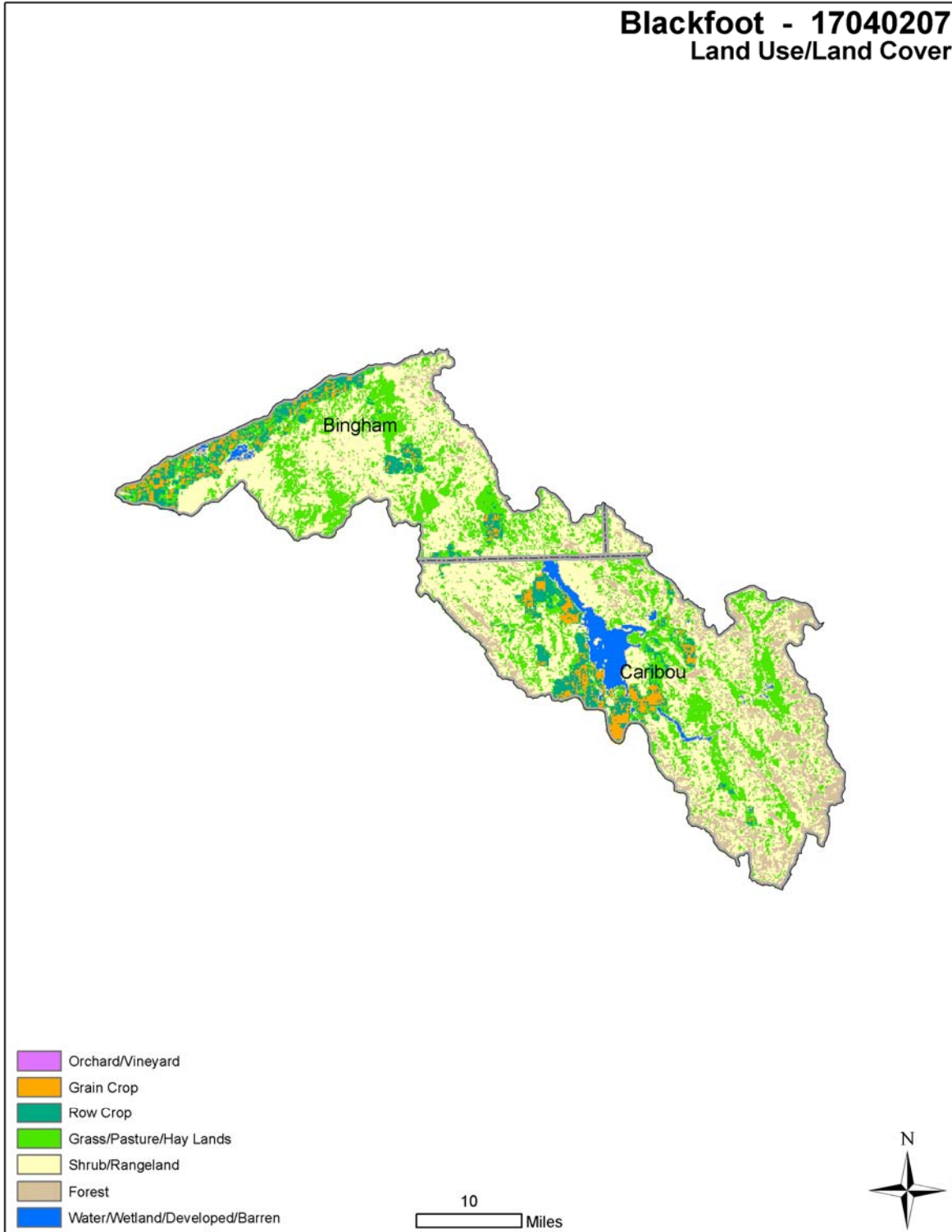
## Physical Description

Land Cover/ Land Use (NLCD <sup>2</sup> )	Ownership - (2003 Draft BLM Surface Map Set <sup>1</sup> )							
	Public		Private		Tribal		Totals	% of HUC
	Acres	%	Acres	%	Acres	%		
Forest	95,990	77%	24,810	20%	3,550	3%	124,350	18%
Grain Crops		--	22,790	80%	5,640	20%	28,410	4%
Conservation Reserve <sup>3</sup> Program (CRP) Land		--	11,150	82%	2,400	18%	13,550	2%
Grass/Pasture/Hay Lands	43,570	33%	63,200	48%	24,470	19%	131,240	20%
Orchards/Vineyards/Berries		--		--		--		0%
Row Crops		--	24,500	81%	5,770	19%	30,270	4%
Shrub/Rangelands	146,020	45%	98,830	30%	82,010	25%	326,860	47%
Water/Wetlands/ Developed/Barren	18,680	52%	13,260	37%	4,150	11%	36,090	5%
<b>Idaho HUC Totals</b>	<b>304,260</b>	<b>44%</b>	<b>258,520</b>	<b>37%</b>	<b>127,990</b>	<b>19%</b>	<b>690,770</b>	<b>100%</b>
<b>Irrigated Lands<sup>4</sup></b>	<b>Type of Land</b>		<b>ACRES</b>		<b>% of Irrigated Lands</b>		<b>% of HUC</b>	
	Cultivated Cropland		32,400		76%		4.7%	
	Non-Cultivated Cropland *		800		2%		0.1%	
	Pastureland		9,600		22%		1.4%	
	<b>Total Irrigated Lands</b>		<b>42,800</b>		<b>100%</b>		<b>6.2%</b>	

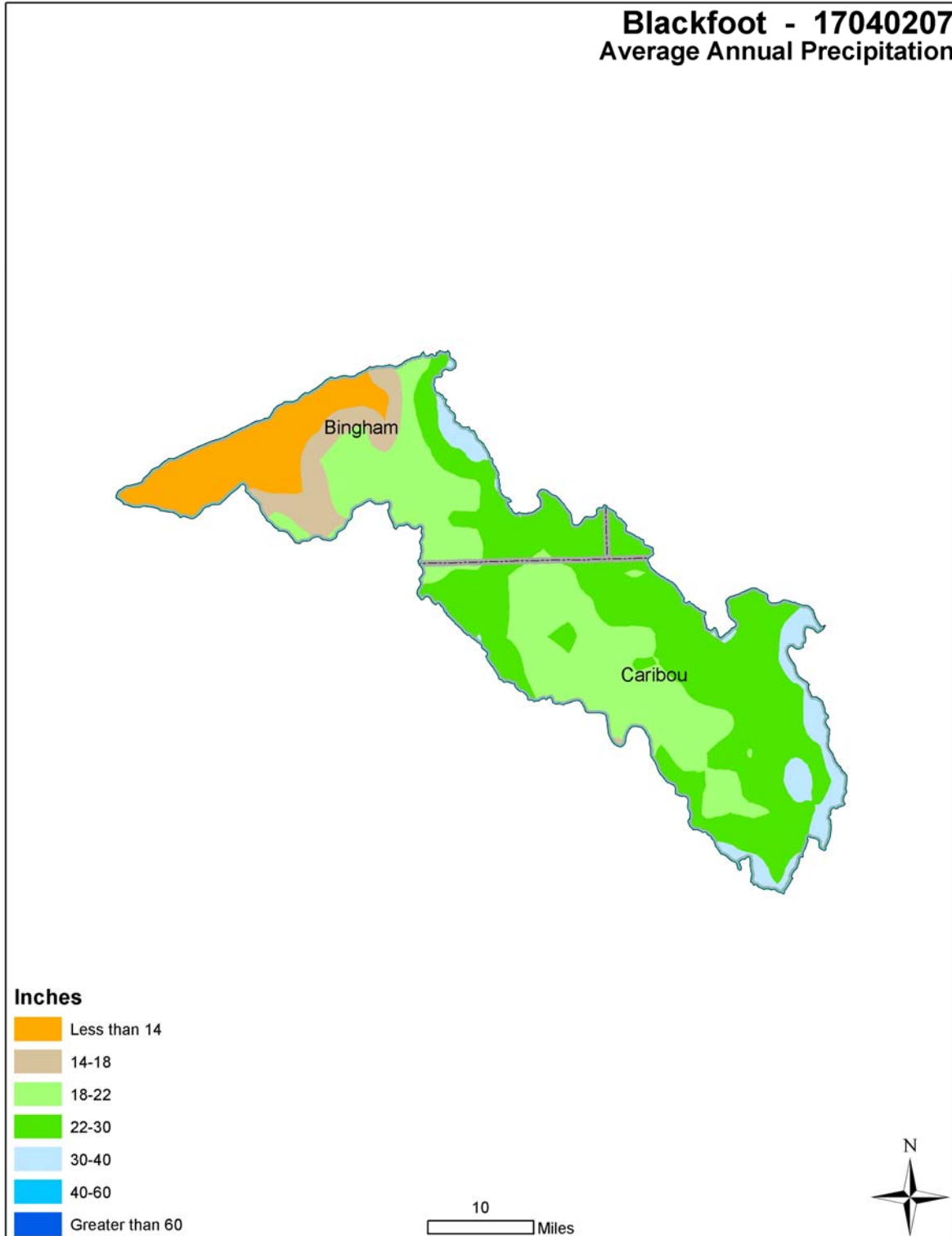
\* Includes permanent hayland and horticultural cropland.

\* 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<sup>2</sup>**

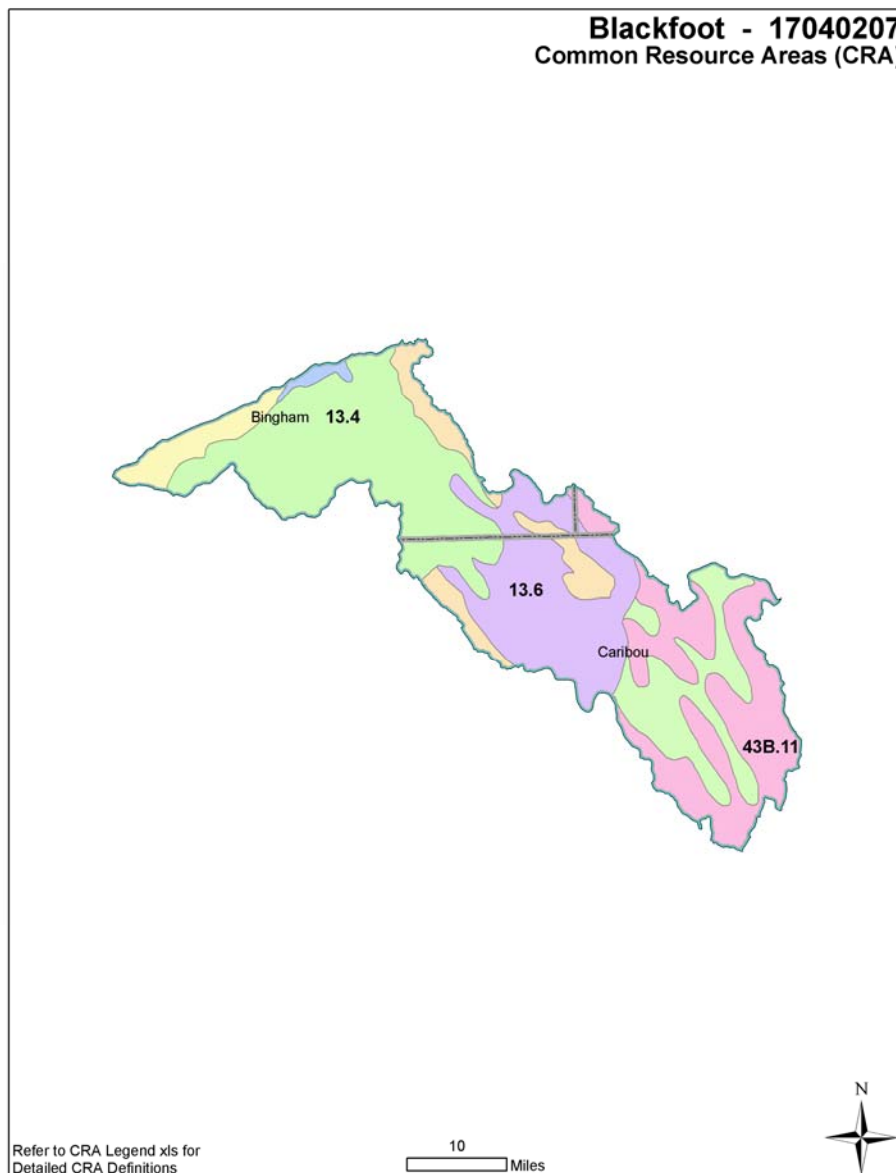


**Average Annual Precipitation<sup>15</sup>**



## Common Resource Area Map

The Common Resource Areas (CRA) delineated below for the Blackfoot HUC are described in the next section (for additional information, see [http://www.id.nrcs.usda.gov/technical/soils/common\\_res\\_areas.html](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.

**13.1 Eastern Idaho Plateaus – Dissected Plateaus and Teton Basin:** This unit is used for cropland and rangeland. Potatoes are an important cash crop. Sprinkler irrigated land supports potatoes, alfalfa, and pasture. Non-irrigated land supports small grains. Mollisols developed in thick loess deposits or alluvium and are subject to wind erosion. Potential natural vegetation is sagebrush steppe and is unlike the forests of the higher, more rugged mountains. Wet meadows occur in the poorly-drained soils of the Teton Basin.

**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).



## Common Resource Area Descriptions - Continued

**43B.10 Central Rocky Mountains--Cold Valleys:** The Cold Valleys contain bottomlands, terraces, marshlands, alluvial fans, and foothills that are nestled below the Partly Forested Mountains. Mean annual frost-free season is brief, 40 to 90 days, and shorter than in the Sagebrush Steppe Valleys. Potential natural vegetation is mostly sagebrush steppe. Wet bottomlands support sedges, rushes, and willows. Pastureland, rangeland, and small grain, alfalfa, and potato farming occur. Fields, streams, and marshes are important habitat for both nesting and migratory birds.

**43B.11 Central Rocky Mountains – Partly Forested Mountains:** The steep, dry Partly Forested Mountains vary in elevation from about 6,000 to over 9,000 feet. Mean annual precipitation is 500 to 750 mm. Mean annual air temperature is 2 to 7 °C. Average frost-free period is 30 to 60 days. Frost occurs every month of the year on high mountains. Soils have a cryic temperature regime and are rocky and shallow. They support open-canopied forests, shrublands, and grasslands; Douglas-fir, lodgepole pine, and aspen are most common on north-facing slopes and gently sloping uplands while mountain big sagebrush and mountain brush dominate south-facing slopes. Its vegetation is distinct from surrounding ecoregions. It is used as summer range and for timber production.

## Streamflow Summary<sup>1</sup>

The Blackfoot River is a major tributary to the Snake River in eastern Idaho. Central to the basin and overall flow regime is the Blackfoot Reservoir with a storage capacity of 349 thousand acre-feet, nearly one and a half times the average annual natural flow of the river. This large storage to yield ratio allows more consistent downstream flows in low snowmelt runoff years and the drier summer months, mitigating some of the impacts to irrigators and other water users during the dry times. Irrigation is the major water use in this basin. The average annual flow near the lower end of the basin is approximately 258,000 acre-feet, with about 55% of the flow occurring April through July (USGS Station 13066000, Blackfoot River near Shelley, ID, 1909 – 2005). This gaging station is still about 30 miles from the outlet into the main Snake River. Adding to the complexity is water diverted into the reservoir from outside the basin via canals from Gray's Lake. This inflow varies year to year depending on the winter snowpack and other factors, but averages about 39,000 acre-feet annually. Also, approximately 9,000 acre-feet of water is diverted out of the Blackfoot River into the Little Indian canal between the reservoir and the USGS gage (verbal communication, Alan Oliver, USBIA, Blackfoot, ID, April, 2007). Many other diversions above and below the reservoir also account for an unknown amount of water above the stream gage. Below the station 13066000 much of the streamflow is diverted for irrigation.

In addition, Sand Creek (USGS Station 13058510, Sand Creek near Ucon, ID, 1978 – 2004) drains into the Blackfoot below the Shelley gage, and provides an average annual flow of about 137,000 acre-feet, with about 62% of the flow occurring April through July. Some amount of the flow in the Sand Creek is diverted from the Willow Creek basin (outside the Blackfoot basin). Most of this water is also used for irrigation.



# Blackfoot - 17040207

## 8 Digit Hydrologic Unit Profile

Idaho

April 2007

		CFS	
<b>Irrigated Adjudicated Water Rights<sup>/6)</sup></b>	Surface Water	1,200	
	Groundwater	200	
	<b>Total Irrigated Adjudicated Water Rights</b>	<b>1,400</b>	
<b>Stream Flow Data<sup>/7)</sup></b>	USGS Station 13066000 Blackfoot River near Shelley, ID. Based on data from July 1909 through September 2005.	Average Annual	257,780
		April - July Average	141,973
		Percent of Average Annual	55%
<b>Stream Data</b>			<b>MILES</b>
	Total Stream Miles <sup>/8)</sup>	2,699	
	Water quality impaired streams <sup>/9,10)</sup>	791	29%
	Anadromous Fish Presence (Streamnet) <sup>/11)</sup>	0	
	Bull Trout Presence (Streamnet) <sup>/11)</sup>	0	
<b>Land Cover/Use<sup>/2)</sup></b> based on a 100 ft. stretch on both sides of all streams in the 100K Hydro Layer			<b>ACRES</b>
	Forest	10,730	11%
	Grain Crops	4,360	5%
	Grass/Pasture/Hay Lands	24,470	26%
	Row Crops	4,050	4%
	Shrub/Rangelands – Includes CRP Lands	43,170	46%
	Water/Wetlands/Developed/Barren	7,690	8%
	<b>Total Acres of 100 ft stream buffers</b>	<b>94,470</b>	<b>100%</b>
<b>Land Capability Class<sup>/4)</sup></b>	<b>I</b> – slight limitations	0	0
	<b>II</b> – moderate limitations	29,100	32%
	<b>III</b> – severe limitations	28,900	32%
	<b>IV</b> – very severe limitations	27,700	31%
	<b>V</b> – no erosion hazard, but other limitations	500	1%
	<b>VI</b> – severe limitations, unsuited for cultivation, limited to pasture, range, forest	4,600	5%
	<b>VII</b> – very severe limitations, unsuited for cultivation, limited to grazing, forest, wildlife	0	0
	<b>VIII</b> – misc areas have limitations, limited to recreation, wildlife, and water supply	0	0
	<b>Total Crop &amp; Pasture Lands</b>	<b>90,800</b>	<b>100%</b>

Confined Animal Feeding Operations – Dairies/Feedlots <sup>/12,13, 26</sup>						
	Number	<200	200-500	500-750	750-1000	>1000
Dairy	4	4	0	0	0	0
	Number	<300	300-999	1,000-4,999	5,000-9,000	>10,000
Feedlots	6	4	1	0	1	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 is 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. Potato 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.

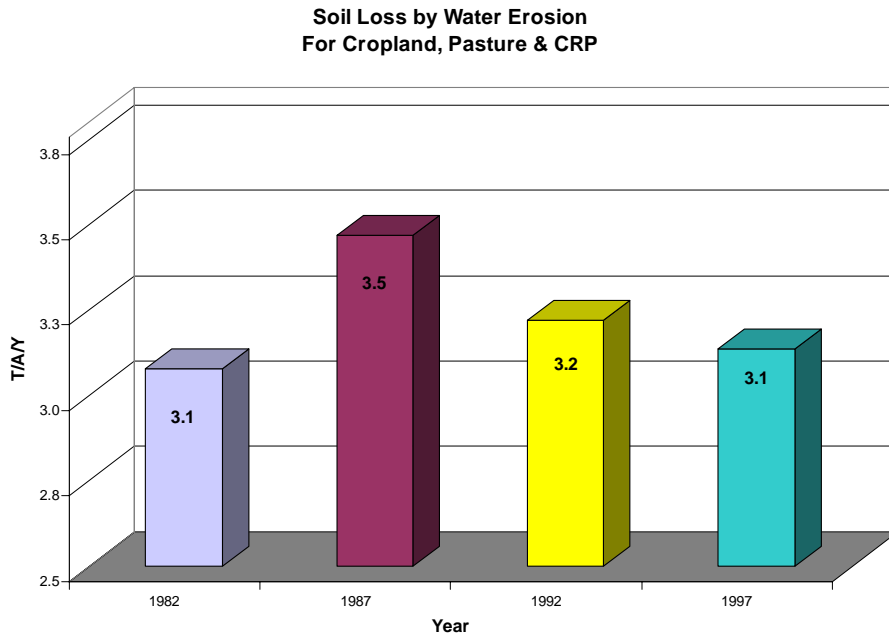
### **Hayland**

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.

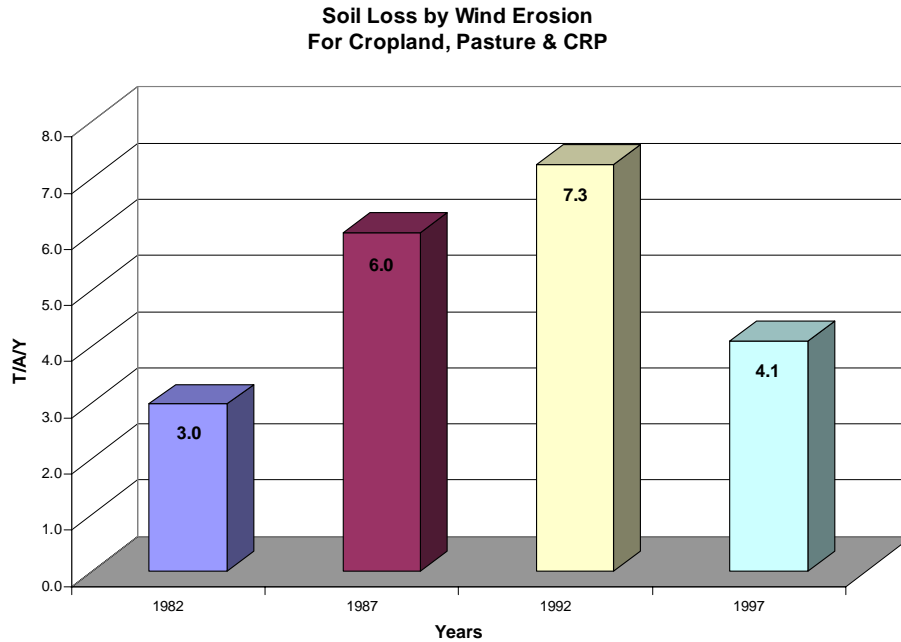
## Resource Concerns



Sheet and rill erosion is a moderate issue on cropland in this subbasin, especially in the dryland areas.

The dryland areas in Caribou and Bingham Counties have annual barley and wheat/fallow dryland rotations. Sheet and rill ephemeral erosion are considered a moderate to severe problem in these areas.<sup>4</sup>

**Resource Concerns - Continued**



Wind erosion has increased by about 1 ton per acre in this sub basin between 1982 and 1997. A spike of 3 to 4 tons per acre was recorded in both the 1987 and 1992 inventory years. This spike can probably be attributed to an increase in potato acres in the basin during that time. Wind erosion in the northern irrigated cropland areas is a moderate to severe problem especially after low residue crops. The higher end wind erosion I values of the soils in these areas range from 134-220.

**Resource Concerns - Continued**

Impacted Water Bodies <sup>4,9,10</sup> (ID17040207)	Stream Miles	Sediment, Siltation or TSS	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow Alteration <sup>1</sup>	Other or Unknown
Collett Creek (SK009_02a) (reservoir)	4.0	X						X
Little Blackfoot River (SK009_03) (reservoir)	7.7	X					X	X
Angus Creek (SK023_02b, 04)	11.2	X						X
Angus Creek (SK023_02a)	6.3							X
Bacon Creek (SK019_02)	18.9	X						
Bacon Creek (SK019_02b, 04, 03)	10.2	X						X
Bear Creek (SK006_02b)	3.8	X						X
Blackfoot River (SK010_04)	13.8	X						X
Blackfoot River (SK010_03)	2.7	X						
Blackfoot River (SK010_05)	20.7	X						
Blackfoot River (SK002_05)	65.5	X	X				X	
Brush Creek (SK026_02)	54.5	X						X
Brush Creek (SK026_03)	13.4	X		X				X
Chicken Creek (SK006_2a)	6.6	X						
Chicken Creek (SK013_02a)	2.9							X
Chippy Creek (SK021_03)	1.0	X						X
Clark's Cut (SK025_02a)	1.5	X						X
Corral Creek (SK006_03, 04)	49.8	X						X
Crooked Creek (SK025_03b)	2.1	X						X
Daves Creek (SK018_02b)	3.0	X						
Deadman Creek (SK002_02b)	5.2	X						
Diamond Creek (SK016_03a)	10.7	X		X				
Diamond Creek (SK016_02e, 03)	23.7	X						
Dry Valley Creek (SK013_03)	5.0	X						X
Dry Valley Creek (SK013_02)	21.3	X						
Goodheart Creek (SK012_02b)	7.5	X						X
Grave Creek (SK005_03)	5.5	X						X
Grizzly Creek (SK007_04)	2.8							X
Grizzly Creek (SK007_02, 03)	21.1	X						X
Jones Creek (SK031_02)	4.5	X	X					X
Lanes Creek (SK018_02e, 03, 04)	16.2	X						X
Lanes Creek (SK018_02, 02a)	25.9	X						
Maybe Creek (SK014_02)	5.2	X						X
Meadow Creek (SK025_02, 03, 04)	92.4	X						X
Mill Canyon (SK015_02b)	1.0							X
Mill Canyon (SK015_02a, 04)	2.8	X						X
Rasmussen Creek SK023_02a)	6.3	X						X
Rawlins Creek (SK027_03)	1.9			X				

(Table Continued on Next Page)



**Resource Concerns – Continued**

Impacted Water Bodies <sup>1</sup> (ID17040207)	Stream Miles	Sediment, Siltation or TSS	Nutrients	Bacteria	Temperature	Dissolved Oxygen	Flow Alteration <sup>1</sup>	Other or Unknown
Sawmill Creek (SK007_02a)	7.4	X						X
Sheep Creek (SK022_03)	1.3	X						X
Sheep Creek (SK022_02, 03a)	17.0	X						
Slug Creek (SK012_03, 04)	22.9	X						X
Slug Creek (SK012_02)	101.6	X						
Spring Creek (SK015_02, 03)	1.5							X
State Land Creek (SK010_02a)	9.1	X						X
Thompson Creek (SK008_02)	10.7	X						X
Trail Creek (SK011_03, 03a)	6.6	X						
Warbonnet Creek (SK005_02a)	6.2	X						X
Wham Creek (SK025_02c)	12.3	X						X
Wolverine Creek (SK030_03)	2.5	X	X				X	X
Wolverine Creek (SK030_02)	32.9	X	X					
Unclassified Waters (SK000_05)	0.1	X						
<b>TOTAL STREAM MILES:</b>	790.6							

<sup>1</sup> 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.

Human impacts, such as timber harvesting, roads, recreation, farming, ranching, livestock grazing, and mining have impacted the Blackfoot River. Sediment input has been caused by agricultural and livestock practices; changes in the natural hydrograph; roads; mining activities; and mass wasting (e.g., landslides). Agriculture, grazing, and recreation (human wastes linked to camping areas) have been associated with nutrient input into Blackfoot River subbasin streams.

Flow alteration can have substantial impacts on water quality and aquatic biota. For example, water quality in lower Blackfoot River is a function of supply water from the reservoir, Snake River (via irrigation canals), and irrigation return flows. Flow alteration occurs both as a result of the Blackfoot Dam and irrigation withdrawals. Substantial habitat alteration within the watershed has occurred as well.

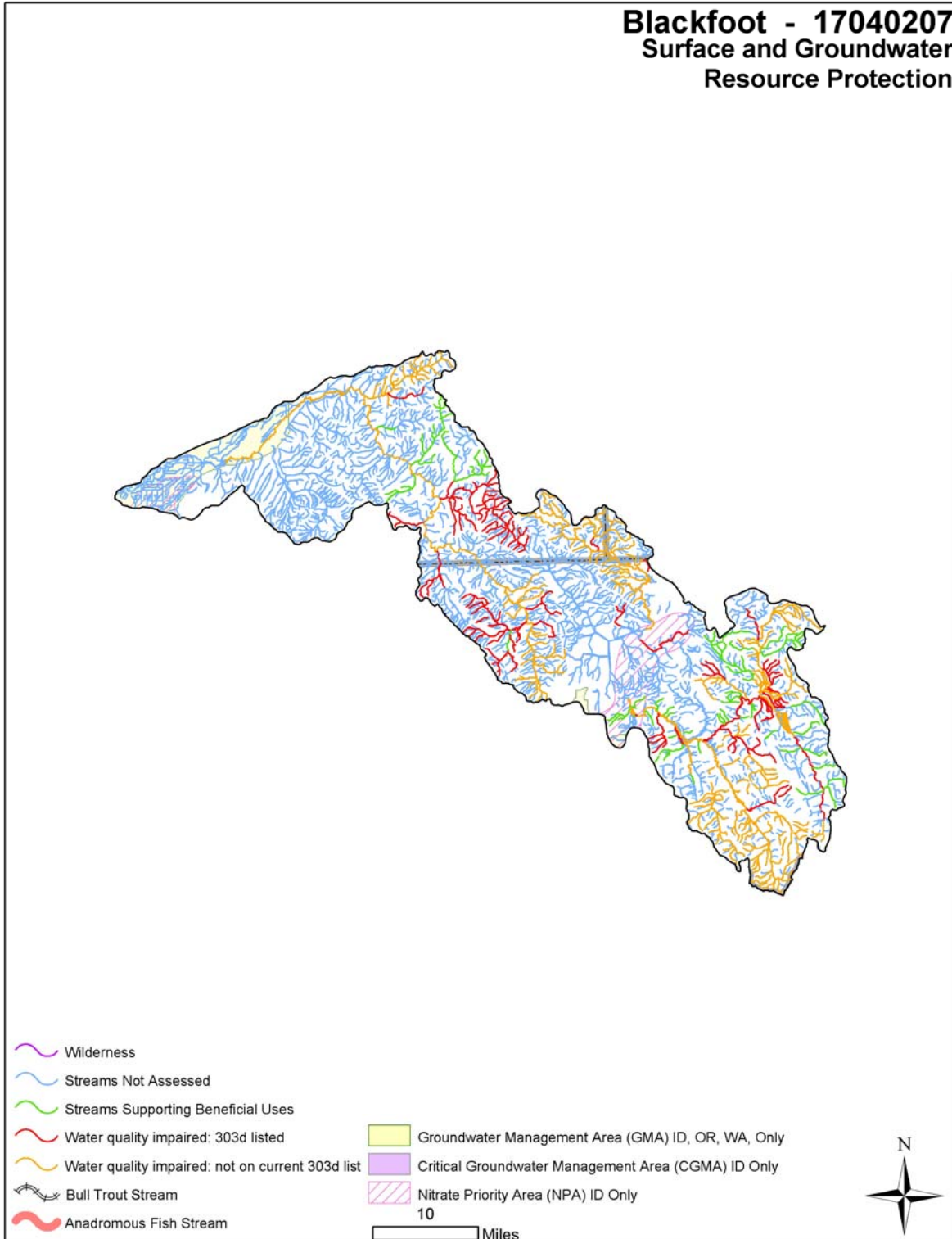
Conservation practices that can be used to address these water quality issues include erosion control, grazing management, irrigation water management, residue management, nutrient management, streambank enhancement/restoration, and riparian buffers.

**Resource Concerns** - continued

Watershed Projects, Plans, Studies, and Assessments*	
Federal:	State:
NRCS Watershed Plans/Studies/Assessments <sup>/14,15</sup>	IDEQ TMDLs <sup>/18</sup>
	Blackfoot Subbasin Assessment and TMDL (2002)
	IDEQ 319 Projects <sup>/17</sup>
	None
NWPPC Subbasin Plans and Assessments <sup>/18</sup>	SCC Plans/Projects <sup>/19</sup>
Upper Snake Province Assessment (2004)	Blackfoot River TMDL Agricultural Implementation Plan (2006)
	ISDA Regional Water Quality Projects <sup>/20</sup>
	Eastern Snake River Plain Regional Groundwater Study (on-going)
	Blackfoot River and Tributary Monitoring (2002)
	IDWR Comprehensive Basin Plans <sup>/21</sup>
	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			
	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	x
	Nutrients and organics	x	x	x	x	x		
Water Quality, Ground	Nutrients and organics		x	x	x	x		
	Pesticides		x	x	x	x		
Soil Condition	Organic matter depletion			x		x		
	Compaction	x		x		x		
Plant Condition	Productivity, health and vigor	x	x	x			x	x
	Noxious and invasive plants	x			x		x	x
	Wildfire hazard						x	x
Domestic Animals	Inadequate feed or water	x					x	x
Fish and Wildlife	Inadequate water						x	x
	Inadequate cover/shelter	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.

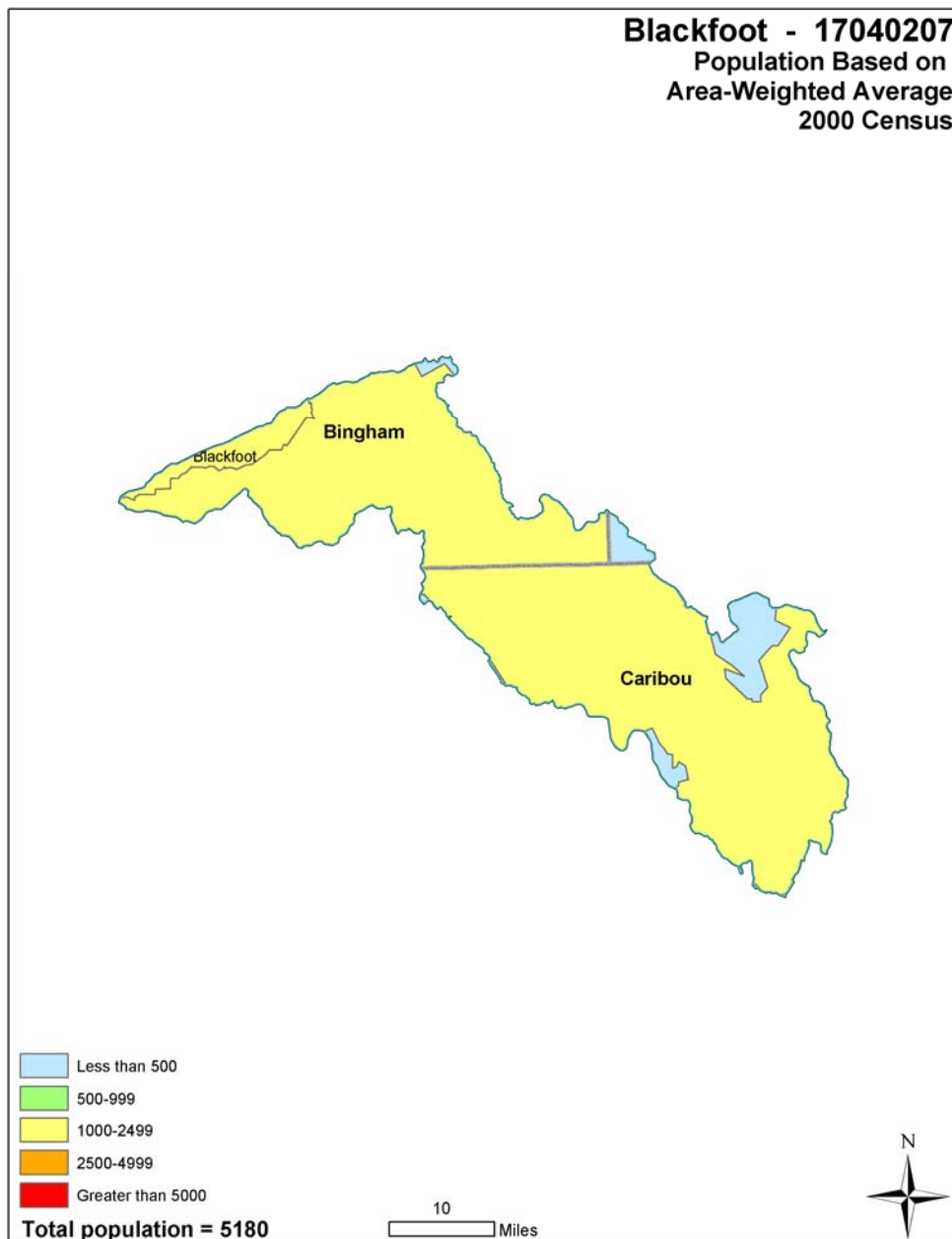
FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES <sup>/25</sup>	
Threatened and Endangered Species	Candidate Species
<b>Mammals</b> – Lynx <b>Birds</b> – Bald Eagle <b>Fish</b> – None <b>Invertebrates</b> – None <b>Plants</b> – None	<b>Birds</b> – Yellow Billed Cuckoo
	<b>PROPOSED SPECIES</b>
<b>ESSENTIAL FISH HABITAT</b> – None	<b>CRITICAL FISH HABITAT</b> – None

**Census and Social Data** [/26](#)

Population: 5,200

Number of Farms: 201

	0-49 acres	50-999 acres	1000+ acres
<b>Number of Farms</b>	95	67	39





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### Census and Social Data - continued

Fifty-nine 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 8.5 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 810 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 down while market value of production is up over the past several years. Government payments to farmers are also up for the period. Farm sales range from less than \$1,000 to more than \$500,000 per year. Seventy-two 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	690	930	\$109,200	\$14,400
2002	680	810	\$115,300	\$17,000
Change	- 1.4%	- 12.9%	5.6%	18.1%

#### Economic Profile:

	Watershed	Idaho	United States
Population (2000)	5,200	1,294,000	281,422,000
Per Capita Personal Income (2001)	\$20,900	\$24,500	\$30,400
Median Home Value (2000)	\$81,600	\$106,600	\$119,600
Percent Unemployment (2002)	6.8%	5.8%	5.4%
Percent Below Poverty Level (2003)	10.7%	11.8%	12.5%



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## Progress/Status

PRS Data						
Conservation Treatment Acres	FY04	FY05	FY06	FY07	Avg/Year	Total
Conservation Cover (327) (acres)	3015	605	602	662	1221.0	4884
Use Exclusion (472) (acres)	1	0	439	41	120.3	481
Upland Wildlife Habitat (645) (acres)	1	389	557	664	402.8	1611
Prescribed Grazing (528&528A) (acres)	781	1850	273	621	881.3	3525
Pest Management (595) (acres)	0	827	1222	1226	818.8	3275
Brush Management (314) (acres)	0	0	0	400	100.0	400
Fence (382) (ft)	0	15109	9442	2360	6727.8	26911
Spring Development (574) (no.)	0		1	4	1.7	5
Pipeline (516) (ft)	0	9551	6759	12112	7105.5	28422
Watering Facility (614) (no.)	0	7	9	18	8.5	34
Irrigation System, Sprinkler (442) (acres)	0	70	0	0	17.5	70
IWC High Pressure Pipeline (430DD) (ft)	370	3795	0	0	1041.3	4165

### Progress in the last three years has been focused on:

- ~ grazing management-
- ~ wildlife habitat management-
- ~ livestock water availability-
- ~ erosion control-

### Resource concerns that require ongoing attention:

- ~ rangeland health-
- ~ water quality & water quantity-
- ~ prescribed grazing-
- ~ pest management-
- ~ wildlife habitat improvements-
- ~ nutrient management-
- ~ irrigation water management-
- ~ erosion control-

### Lands Removed from Production through Farm Bill Programs

- Conservation Reserve Program (CRP): **13,550 acres**
- Wetland Reserve Program (WRP): **None**



## Footnotes/Bibliography

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

1. Ownership Layer – Source: This spatial data contains surface management land status (sometimes known as "ownership") and Public Land Survey System (PLSS) information for Idaho. The Bureau of Land Management (BLM) in Idaho creates and maintains these spatial data layers. The primary source of the spatial features is the BLM Geographic Coordinate Database (GCDB), which contains official survey records and corresponding geodetic control information maintained by the BLM Cadastral program. In areas where GCDB records are unavailable, the spatial features are taken from a variety of sources including the BLM Idaho Resource Base Data collection, US Geological Survey Digital Line Graphs (DLGs), and US Forest Service Cartographic Feature Files (CFFs), among others. The source of the attribute information is the BLM Master Title Plats (MTPs) and careful cooperation with other government agencies that own or manage land parcels. The layer is available from the Inside Idaho (Interactive Numeric & Spatial Information Data Engine): <http://inside.uidaho.edu> For current ownership status, consult official records at appropriate federal, state or county offices. Ownership classes grouped to calculate Public Ownership vs. Private Ownership.
2. National Land Cover Dataset (NLCD): NLCD 92 (National Land Cover Data 1992) is a 21-category land cover classification scheme that has been applied consistently over the conterminous U.S. It is based primarily on the unsupervised classification of Landsat TM (Thematic Mapper) 1992 imagery. Ancillary data sources included topography, census, agricultural statistics, soil characteristics, other land cover maps, and wetlands data. The NLCD 92 classification is provided as raster data with a spatial resolution of 30 meters. The layer is available from: <http://edcwww.cr.usgs.gov/products/landcover/nlcd.html>  
Description: Abstract: These data can be used in a geographic information system (GIS) for any number of purposes such as assessing wildlife habitat, water quality, pesticide runoff, land use change, etc. The State data sets are provided with a 300 meter buffer beyond the State border to facilitate combining the State files into larger regions.
3. Farm Services Agency, USDA, 2005. CRP acres from GIS (CLU) database.
4. ESTIMATES FROM THE 1997 NRI DATABASE (REVISED DECEMBER 2000) REPLACE ALL PREVIOUS REPORTS AND ESTIMATES. Comparisons made using data published for the 1982, 1987, or 1992 NRI may produce erroneous results. This is due to changes in statistical estimation protocols, and because all data collected prior to 1997 were simultaneously reviewed (edited) as 1997 NRI data were collected. All definitions are available in the glossary. In addition, this December 2000 revision of the 1997 NRI data updates information released in December 1999 and corrects a computer error discovered in March 2000. For more information: <http://www.nrcs.usda.gov/technical/NRI/>
5. PRISM Climate Mapping Project. Annual precipitation data. See [http://www.ocs.orst.edu/prism\\_new.html](http://www.ocs.orst.edu/prism_new.html) for further information.
6. Irrigated Adjudicated Water Rights – Idaho Department of Water Resources  
<http://www.idwr.idaho.gov/water/srba/mainpage/>
7. USGS Idaho Streamflows, gaging station data (<http://waterdata.usgs.gov/id/nwis/sw/>) and estimates for ungaged streams based on statistical data (<http://streamstats.usgs.gov/html/idaho.html>).
8. National Hydrology Dataset (NHD). Developed by the US Geological Survey in cooperation with U.S. Environmental Protection Agency and other state and local partners (<http://nhd.usgs.gov>).
9. IDEQ. 2002 Integrated Report (approved December 2005).  
[http://www.deq.idaho.gov/water/data\\_reports/surface\\_water/monitoring/integrated\\_report.cfm](http://www.deq.idaho.gov/water/data_reports/surface_water/monitoring/integrated_report.cfm).
10. IDEQ. 2002. Blackfoot River Subbasin Assessment and TMDL.  
[http://www.deq.state.id.us/water/data\\_reports/surface\\_water/tmdls/blackfoot\\_river/blackfoot\\_river.cfm](http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/blackfoot_river/blackfoot_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-new.htm](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](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](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](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/WOPA%20FACT%20SHEET.doc>
20. Idaho State Department of Agriculture (ISDA). Groundwater water quality regional projects. <http://www.agri.idaho.gov/gw/gwdatasummary.htm>
21. Idaho Department of Water Resources (IDWR). State Comprehensive Water Plans. [http://www.idwr.idaho.gov/waterboard/planning/Comp\\_Basin\\_Plans.htm](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](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](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](http://www.nass.usda.gov/Census_of_Agriculture/Census_by_State/Idaho/index.asp)

**Future Conservation Needs**

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

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

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



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### 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 PRMS and PRS Reporting system for the years 2004 through 2006.

Current Conditions	Total acres	Riparian Potential
Total Dry Cropland	26,280	3,150
Typical Management Unit/Ownership	810	
Current Farm Bill participation	15%	

Current Level of Treatment for Dry Cropland:												
Dry Cropland	Quantity		Costs		Effects				Implementation			
	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.	26,280			-3	-/+	-2	-3				
Conservation Crop Rotation (328)	Ac.	164	\$ -	\$ -					X			X
Conservation Cover (327)	Ac.	4,177	\$ -	\$ 15,000					X			X
Pest management (595)	Ac.	270	\$ -	\$ 2,700					X			X
Upland Wildlife Habitat Management (645)	Ac.	1,555	\$ -	\$ 7,800					X			X
Use Exclusion (472)	Ac.	270	\$ -	\$ 300					X			X



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### Conservation Activities for Dry Cropland/Hayland\* - Continued

Future Conditions	Riparian Potential	Total Acres
Dry Cropland Acres		23,130
Conversion to Riparian RMS	3,150	3,150
Total Acres		26,280

Project Future 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	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Dry Cropland</b>	Ac.	23,130			+3	+2	+2	+3				
Conservation Crop Rotation (328)	Ac.	23,130	\$ -	\$ -					X			X
Contour Farming (330)	Ac.	23,130	\$ 173,500	\$ 57,800					X			X
Deep Tillage (324)	Ac.	23,130	\$ 1,040,900	\$ 347,000					X			X
Diversion (362)	Ft.	47,520	\$ 130,700	\$ 2,600					X			X
Forage Harvest Management (511)	Ac.	9,250	\$ -	\$ -					X			X
Grassed Waterway (412)	Ac.	130	\$ 234,000	\$ 4,700					X	X		X
Nutrient Management (590)	Ac.	23,130	\$ 347,000	\$ 115,700					X			X
Pasture & Hayland Planting (512)	Ac.	9,250	\$ 925,000	\$ 9,300					X		X	X
Pest Management (595)	Ac.	23,130	\$ 685,800	\$ 228,600					X			X
Residue and Tillage Management Mulch Till (345)	Ac.	11,565	\$ 520,400	\$ 173,500					X			X
Residue and Tillage Management No Till / Strip Till / Direct Seed (329)	Ac.	11,565	\$ 1,040,900	\$ 347,000					X			X
Sediment Basin (350)	No.	140	\$ 262,500	\$ 7,900					X		X	X
Stripcropping (585)	Ac.	11,570	\$ 289,300	\$ 2,900					X			X
Terrace (600)	Ft.	1,140,480	\$ 2,509,100	\$ 25,100					X			X
Upland Wildlife Habitat Management (645)	Ac.	3,470	\$ 28,700	\$ 9,600					X			X
Water and Sediment Control Basin (638)	No.	1,150	\$ 1,150,000	\$ 34,500					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	95,040	\$ 142,600	\$ 1,400					X			X



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**Conservation Activities for Dry Cropland/Hayland\* - Continued**

<b>Project Future Level of Treatment for Dry Cropland (Continued):</b>												
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
<b>Dry Cropland Riparian</b>	Ac.	3,150			+3	+2	+3	+3				
Channel Bank Vegetation (322)	Ac.	320	\$ 1,656,000	\$ 33,100					X			X
Channel Stabilization (584)	Ft.	9,120	\$ 182,400	\$ 900					X			X
Fence (382)	Ft.	52,800	\$ 92,400	\$ 1,800					X	X		X
Nutrient Management (590)	Ac.	3,150	\$ 47,300	\$ 15,800					X	X		X
Pest Management (595)	Ac.	3,150	\$ 94,500	\$ 31,500					X			X
Pipeline (516)	Ft.	52,800	\$ 142,600	\$ 2,900					X			X
Prescribed Grazing (528)	Ac.	3,150	\$ 47,300	\$ 15,800					X			X
Pumping Plant (533)	No.	20	\$ 35,000	\$ 400					X			X
Riparian Forest Buffer (391)	Ac.	105	\$ 157,500	\$ 1,600					X			X
Riparian Herbaceous Cover (390)	Ac.	105	\$ 31,500	\$ 300					X	X		X
Streambank & Shoreline Prot (580)	Ft.	22,810	\$ 1,083,500	\$ 108,400					X	X		X
Tree/Shrub Establishment (612)	Ac.	26	\$ 12,100	\$ 100					X			X
Upland Wildlife Management (645)	Ac.	470	\$ 7,100	\$ 2,400					X	X		X
Use Exclusion (472)	Ac.	160	\$ 5,600	\$ 200					X	X		X
Watering Facility (614)	No.	40	\$ 42,000	\$ 400					X			X
Wetland Wildlife Management (644)	Ac.	320	\$ 4,800	\$ 1,600					X			X
<b>Total RMS Costs</b>			<b>\$ 13,122,000</b>	<b>\$1,584,800</b>								



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**Conservation Activities for Dry Cropland/Hayland\* - Continued**

<b>Potential RMS Effects Summary for Dry Cropland</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$ 655,400	\$ 79,000
Potential Farm Bill Programs	\$ 12,452,400	\$1,501,300
Operator O&M and Management Cost		\$1,580,300
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 4,024,000	
Operator Investment	\$ 2,762,500	
Federal Costshare	\$ 6,321,300	
<b>Total RMS Costs</b>	<b>\$ 13,107,800</b>	<b>\$1,580,300</b>
Estimated Level of Participation		75%
Total Acres in RMS System		19,710
Anticipated Cost at Estimated Level of Participation	\$	9,830,900
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		





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### Conservation Activities for Irrigated Cropland/Hayland

Current Conditions		Total acres
Total Irrigated Cropland/Hayland		33,200
Typical Management Unit/Ownership		810
Surface Irrigated Cropland/Hayland		16,600
Sprinkler Irrigated Cropland/Hayland		16,600
Current Farm Bill participation		15%

Current Level of Treatment for Irrigated Cropland/Hayland:												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
	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.	16,600			-3	-/+	-2	-3				
Sprinkler Irrigation	Ac.	16,600			+1	-/+	+1	+3				
Conservation Cover (327)	Ac.	45	\$ -	\$ 200					X			X
Irrigation System, Sprinkler (442)	Ac.	70	\$ -	\$ 770					X			X
Irrigation Water Conveyance (430DD)	Ft.	4,165	\$ -	\$ 100					X			X
Pest Management (595)	Ac.	60	\$ -	\$ 600					X			X
Irrigation System, Microirrigation (441)	Ac.	1	\$ -	\$ 75					X			X
Upland Wildlife Habitat Management (645)	Ac.	56	\$ -	\$ 300					X			X
Use Exclusion (472)	Ac.	100	\$ -	\$ 100					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	2,550	\$ -	\$ 3,800					X			X



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### Conservation Activities for Irrigated Cropland/Hayland - Continued

Future Conditions		Total Acres
Sprinkler Irrigated Cropland/Hayland		33,200
Total Irrigated Cropland/Hayland Acres		33,200

Project Future Level of Treatment for Irrigated Cropland/Hayland:												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Sprinkler Irrigation	Ac.	33,200			+3	+2	+2	+3				
Cover Crop (340)	Ac.	8,300	\$ 415,000	\$ 12,500					X			X
Conservation Crop Rotation (328)	Ac.	33,200	\$ -	\$ -					X			X
Constructed Wetland (656)	No.	30	\$ 300,000	\$ 3,000					X			X
Forage Harvest Management (511)	Ac.	8,300	\$ -	\$ -					X			X
Irrigation System, Sprinkler (442)	Ac.	33,200	\$18,221,500	\$ 364,400					X			X
Irrigation Water Conveyance (430DD)	Ft.	274,560	\$ 1,465,500	\$ 7,300					X			X
Irrigation Water Management (449) - Low level	Ac.	23,240	\$ 348,600	\$ 116,200					X			X
Irrigation Water Management (449) - Meters and Moisture Sensors	Ac.	9,960	\$ 298,800	\$ 99,600					X			X
Nutrient Management (590)	Ac.	33,200	\$ 498,000	\$ 166,000					X			X
Pest Management (595)	Ac.	33,200	\$ 994,200	\$ 331,400					X			X
Residue Mngt, Mulch Till (345)	Ac.	33,200	\$ 1,494,000	\$ 498,000					X			X
Residue Management Seasonal (344)	Ac.	33,200	\$ 747,000	\$ 249,000					X			X
Residue Mngt, No Till/Strip Till (329)	Ac.	3,320	\$ 298,800	\$ 99,600					X			X
Sediment Basin (350)	No.	52	\$ 97,500	\$ 2,900					X			X
Structure for Water Control (587) -Fish Screen	No.	210	\$ 655,200	\$ 6,600					X			X
Surface Roughening (609)	Ac.	33,200	\$ 747,000	\$ 249,000					X			X



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**Conservation Activities for Irrigated Cropland/Hayland - Continued**

<b>Project Future Level of Treatment for Irrigated Cropland/Hayland (Continued):</b>												
Irrigated Cropland/Hayland	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Practices												
Upland Wildlife Habitat Management (645)	Ac.	4,980	\$ 73,900	\$ 24,600					X			X
Well Decommissioning (355)	No.	26	\$ 22,100	\$ -					X			X
Windbreak/Shelterbelt Establishment (380)	Ft.	549,120	\$ 2,776,600	\$ 27,800					X			X
<b>Total RMS Costs</b>			<b>\$29,453,700</b>	<b>\$2,257,900</b>								



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**Conservation Activities for Irrigated Cropland/Hayland - Continued**

<b>Potential RMS Effects Summary for Irrigated Cropland/Hayland</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$ 1,472,700	\$ 112,900
Potential Farm Bill Programs	\$27,981,000	\$2,145,000
Operator O&M and Management Cost		\$2,257,900
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 5,500,300	
Operator Investment	\$ 7,092,900	
Federal Costs	\$16,860,500	
<b>Total RMS Costs</b>	<b>\$29,453,700</b>	<b>\$2,257,900</b>
Estimated Level of Participation		75%
Total Acres in RMS System		24,900
Anticipated Cost at Estimated Level of Participation	\$	22,090,300
Total Acre Feet of Water Saved Annually		40,460
Increases infiltration and storage of water in soil profile		
Participating landowners will be in compliance with TMDLs		
Improves habitat for ESA endangered & threatened species		



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**Conservation Activities for Irrigated Pasture**

<b>Current Conditions</b>	Total Acres	Riparian/ Wetland Potential
Surface Irrigated Pasture	7,200	
Sprinkler Irrigated Pasture	2,400	
Total Irrigated Pasture	9,600	960
Typical Management Unit/Ownership	810	
Current Farm Bill participation	15%	

<b>Current Level of Treatment for Irrigated Pasture:</b>												
Practices	Quantity		Costs		Effects				Implementation			
	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.	7,200			-3	-/+	-2	-3				
Sprinkler Irrigation	Ac.	2,400			+2	+1	+1	+2				
Fence (382)	Ft.	11,489	\$ -	\$ 400								
Prescribed Grazing (528 & 528A)	Ac.	4	\$ -	\$ -								
Pest Management (595)	Ac.	26	\$ -	\$ 100								
Pipeline (516)	Ft.	6,907	\$ -	\$ 400								
Pumping Plant (533)	No.	2	\$ -	\$ 100								
Watering Facility (614) No	No.	4	\$ -	\$ -								



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## Blackfoot - 17040207

### 8 Digit Hydrologic Unit Profile

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### Conservation Activities for Irrigated Pasture – Continued

Future Conditions	Total Acres
Sprinkler Irrigated Pasture	8,640
Total Conversion to Riparian Pasture RMS	960
Total Acres	9,600

Project Future Level of Treatment for Irrigated Pasture:												
Practices	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
<b>Sprinkler Irrigation</b>	Ac.	8,640			+3	+3	+2	+3				
Fence (382)	Ft.	142,560	\$ 229,400	\$ 4,600					X			X
Irrigation Water Conveyance (430DD)	Ft.	205,920	\$ 1,116,100	\$ 5,600					X			X
Irrigation System Sprinkler (442)	Ac.	8,640	\$ 4,752,000	\$ 95,000					X			X
Irrigation Water Management (449)	Ac.	8,640	\$ 194,400	\$ 64,800					X			X
Nutrient Management (590)	Ac.	8,640	\$ 129,600	\$ 43,200					X			X
Pasture & Hayland Planting (512)	Ac.	3,460	\$ 346,000	\$ 3,500					X			X
Pest Management (595)	Ac.	8,640	\$ 258,400	\$ 86,100					X			X
Prescribed Grazing (528)	Ac.	8,640	\$ 129,500	\$ 43,200					X			X
Structure for Water Control (587)-Fish Screen	No.	54	\$ 168,500	\$ 1,700					X	X		X
Upland Wildlife Management (645)	Ac.	1,300	\$ 19,500	\$ 6,500					X			X
Watering Facility (614)	No.	54	\$ 52,500	\$ 500					X			X
Windbreak/Shelterbelt Establish(380)	Ft.	142,560	\$ 213,800	\$ 2,100					X			X
<b>Riparian Pastures</b>	Ac.	960			+3	+2	+3	+3				
Channel Bank Vegetation (322)	Ac.	100	\$ 517,500	\$ 10,400					X			X
Channel Stabilization (584)	Ft.	1,960	\$ 39,200	\$ 200					X			X
Fence (382)	Ft.	63,360	\$ 110,900	\$ 2,200					X	X	X	X



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**Conservation Activities for Irrigated Pasture – Continued**

Project Future Level of Treatment for Irrigated Pasture:												
Practices	Quantity		Costs		Effects				Implementation			
	Unit	Quantity	Additional Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	CREP	Other
Nutrient Management (590)	Ac.	960	\$ 14,400	\$ 4,800					X			X
Pasture & Hayland Planting (512)	Ac.	380	\$ 38,000	\$ 400					X			X
Pest Management (595)	Ac.	960	\$ 28,800	\$ 9,600					X			X
Pipeline (516)	Ft.	15,840	\$ 42,800	\$ 900					X			X
Prescribed Grazing (528)	Ac.	960	\$ 10,100	\$ 3,400					X			X
Riparian Forest Buffer (391)	Ac.	50	\$ 75,000	\$ 800					X			X
Riparian Herbaceous Cover (390)	Ac.	50	\$ 15,000	\$ 200					X	X	X	X
Streambank & Shoreline Prot (580)	Ft.	4,890	\$ 232,300	\$ 23,200					X			X
Tree/Shrub Establishment (612)	Ac.	20	\$ 9,300	\$ 100					X	X		X
Upland Wildlife Management (645)	Ac.	140	\$ 2,100	\$ 700					X			X
Use Exclusion (472)	Ac.	50	\$ 1,800	\$ 100					X	X	X	X
Watering Facility (614)	No.	6	\$ 6,300	\$ 100					X		X	X
Wetland Wildlife Management (644)	Ac.	100	\$ 1,500	\$ 500					X			X
<b>Total RMS Costs</b>			<b>\$ 8,754,700</b>	<b>\$ 414,400</b>								



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**Conservation Activities for Irrigated Pasture – Continued**

<b>RMS Cost Summary for Irrigated Pasture:</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$ 437,700	\$ 20,700
Potential Farm Bill Programs	\$ 8,317,000	\$393,700
Operator O&M and Management Cost		\$414,400
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 788,300	
Operator Investment	\$ 2,319,900	
Federal Costshare	\$ 5,646,500	
<b>Total RMS Farm Bill Costs</b>	<b>\$ 8,754,700</b>	
Estimated Level of Participation		60%
Total Acres in RMS System		5,760
Anticipated Cost at Estimated Level of Participation	\$	5,252,800
Total Acre Feet of Water Saved Annually		11,890
Total Annual Forage Production Benefits (animal unit months)		27,300
Improves ground water and surface water quality by minimizing off-site transport		
Improves riparian habitat for ESA endangered & threatened species		





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### 8 Digit Hydrologic Unit Profile

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### Conservation Activities for Grazed Rangeland, Dry Pasture and Forestland

Current Conditions	Grazed	Ungrazed	Riparian/Wetland/Potential	Total Acres
Private Rangeland and Dry Pasture	257,820		28,650	286,470
Typical Management Unit/Ownership	810			
Current Farm Bill participation	15%			

Current Level of Treatment for Grazed Rangeland, Dry Pasture and Forestland:													
Practices	Quantity		Costs		Effects				Implementation				
	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.	286,470			+/-	+/-	+/-	+/-					
Brush Management (314)	Ac.	400	\$ -	\$ 100					X				X
Fence (382)	Ft.	15,422	\$ -	\$ 500					X				X
Pest Management (595)	Ac.	2,918	\$ -	\$ 29,200					X				X
Pipeline (516)	Ft.	21,515	\$ -	\$ 1,200					X				X
Spring Development (574)	No.	5	\$ -	\$ 100					X				X
Watering Facility (614)	No.	30	\$ -	\$ 300					X				X
Water Well (642)	No.	1	\$ -	\$ -					X				X



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

Future Conditions	Rangeland / Pasture	Riparian	Total Acres
	257,820	28,650	286,470

Future Level of Treatment for Grazed Rangeland, Dry Pasture and Forestland:													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
<b>Grazed Range, Pasture &amp; Forestland</b>	<b>Ac.</b>	<b>257,820</b>			<b>+3</b>	<b>+2</b>	<b>+3</b>	<b>+3</b>					
Brush Management (314)	Ac.	85,080	\$ 1,693,600	\$ 16,900					X				X
Fence (382)	Ft.	4,253,040	\$ 7,415,800	\$ 148,300					X				X
Firebreak (394)	Ft.	1,063,920	\$ 2,053,400	\$ 410,700					X				X
Pest Management (595)	Ac.	257,820	\$ 7,647,100	\$2,549,000					X				X
Pipeline (516)	Ft.	1,063,920	\$ 2,814,500	\$ 56,300					X				X
Pond (378)	No.	103	\$ 700,400	\$ 7,000					X				X
Prescribed Grazing (528)	Ac.	257,820	\$ 2,707,100	\$ 892,200					X				X
Range Planting (550)	Ac.	85,080	\$ 7,657,200	\$ 76,600					X				X
Spring Development (574)	No.	403	\$ 935,300	\$ 4,700					X	X			X
Upland Wildlife Management (645)	Ac.	51,560	\$ 773,400	\$ 257,800					X	X			X
Watering Facility (614)	No.	403	\$ 391,700	\$ 3,900					X				X
Water Well (642)	No.	201	\$ 800,000	\$ 8,000					X				X
<b>Range, Pasture &amp; Forest Riparian</b>	<b>Ac.</b>	<b>28,650</b>			<b>+3</b>	<b>+2</b>	<b>+3</b>	<b>+3</b>					
Channel Bank Vegetation (322)	Ac.	2,870	\$14,852,300	\$ 297,000					X				X
Channel Stabilization (584)	Ft.	52,780	\$ 1,055,600	\$ 5,300					X				X
Fence (382)	Ft.	118,270	\$ 207,000	\$ 4,100					X	X	X		X
Pest Management (595)	Ac.	28,650	\$ 859,500	\$ 286,500					X				X
Pipeline (516)	Ft.	118,270	\$ 319,300	\$ 6,400					X				X
Prescribed Grazing (528)	Ac.	28,650	\$ 300,800	\$ 100,300					X				X
Pumping Plant (533)	No.	11	\$ 19,300	\$ 400					X				X
Riparian Forest Buffer (391)	Ac.	610	\$ 915,000	\$ 9,200					X				X
Riparian Herbaceous Cover (390)	Ac.	610	\$ 183,000	\$ 1,800					X	X	X		X



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

<b>Future Level of Treatment for Grazed Rangeland, Dry Pasture and Forestland:</b>													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Range, Pasture & Forest Riparian (cont.)		28,650											
Streambank & Shoreline Prot (580)	Ft.	131,940	\$ 6,267,200	\$ 626,700					X	X			X
Tree/Shrub Establishment (612)	Ac.	300	\$ 135,000	\$ 1,400					X	X			X
Upland Wildlife Management (645)	Ac.	5,730	\$ 86,000	\$ 28,700					X	X			X
Use Exclusion (472)	Ac.	610	\$ 21,400	\$ 600					X	X	X		X
Watering Facility (614)	No.	45	\$ 47,300	\$ 500					X		X		X
Wetland Wildlife Management (644)	Ac.	2,870	\$ 43,100	\$ 14,400					X		X		X
<b>Total RMS Costs</b>			<b>\$60,901,300</b>	<b>\$5,814,700</b>									



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

<b>RMS Cost Summary for Grazed Rangeland, Pasture and Forestland:</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$ 3,045,100	\$ 290,700
Potential Farm Bill Programs	\$57,856,200	\$5,524,000
Operator O&M and Management Cost		\$5,814,700
Annual Management Incentives (3 yrs - Incentive Payments)	\$12,417,000	
Operator Investment	\$14,404,900	
Federal Costshare	\$34,079,400	
<b>Total RMS Farm Bill Costs</b>	<b>\$60,901,300</b>	
Estimated Level of Participation		35%
Total Acres in RMS System		90,200
Anticipated Cost at Estimated Level of Participation	\$	21,315,500
Total Annual Forage Production Benefits (acre unit months)		15,000
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 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), 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), 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 the following component practices of Waste Storage Facility (313).

<b>Current Conditions</b>		Total
CAFOs		1
AFOs		9
Current Farm Bill participation	15%	
Total CAFOs and AFOs		10



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**Conservation Activities for Headquarters - Continued**

Current Level of Treatment for Headquarters													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.	4			+/-	-1	-3	-3					
Waste Storage Facility (313) CAFO	No.	-	\$ -	-					X				X
Waste Storage Facility (313) AFO	No.	4	\$ -	3,600					X				X
Feed Lot	No.	6			+/-	+/-	-3	-3					
Waste Storage Facility (313) CAFO	No.	1	\$ -	1,800					X				X
Waste Storage Facility (313) AFO	No.	1	\$ -	900					X				X



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### Conservation Activities for Headquarters - Continued

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

Project Future Level of Treatment for Headquarters													
Practices	Quantity		Costs		Effects				Implementation				
	Unit	Quantity	Investment Cost	Annual O&M and Mngt. Cost	Water Conservation	Water Storage	Habitat	WQ	EQIP	WHIP	WRP	CREP	Other
Dairy	No.	4			+3	+2	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	-	\$ -	-					X				X
Waste Storage Facility (313) AFO	No.	4	\$ -	3,600					X				X
Feed Lot	No.	6			+3	+1	+3	+3					
Structural/Management Practices													
Waste Storage Facility (313) CAFO	No.	1	\$ -	1,800					X				X
Waste Storage Facility (313) AFO	No.	5	\$ 225,000	\$ 4,500					X				X
<b>Total RMS Costs</b>			<b>\$ 225,000</b>	<b>\$ 9,900</b>									



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**Conservation Activities for Headquarters - Continued**

<b>RMS Cost Summary for Headquarters</b>		
<b>Cost Items and Programs</b>	<b>Costs</b>	<b>O&amp;M Costs</b>
Non Farm Bill Programs	\$ 11,300	\$ 500
Potential Farm Bill Programs	\$ 213,700	\$ 9,400
Operator O&M and Management Cost		\$ 9,900
Annual Management Incentives (3 yrs - Incentive Payments)	\$ 22,500	
Operator Investment	\$ 59,100	
Federal Costshare	\$ 143,400	
<b>Total RMS Costs</b>	<b>\$ 225,000</b>	
Estimated Level of Participation		95%
Total CAFO/AFO in RMS System		-
Anticipated Cost at Estimated Level of Participation	\$	213,800
Reduces impact to ground and surface water quality		
90% participation reflects Local, State and Federal regulations		